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EFFECTS OF DOMESTIC VIOLENCE EXPOSURE IN COLOMBIAN
ADOLESCENTS: PATHWAYS TO VIOLENT AND PROSOCIAL BEHAVIOR

A dissertation submitted in partial fulfillment of the requirements for the degree
of Doctor of Philosophy in Developmental Psychology at Virginia
Commonwealth University.

By

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Abstract

EFFECTS OF DOMESTIC VIOLENCE EXPOSURE IN COLOMBIAN ADOLESCENTS: PATHWAYS TO VIOLENT AND PROSOCIAL BEHAVIOR

By Roberto Mejia

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Developmental Psychology at Virginia Commonwealth University.

Virginia Commonwealth University, 2003.

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A multidimensional model of associations between domestic violence exposure and risk of violence and prosocial behavior was tested in a sample of Colombian adolescents, with attention to impulsivity and substance use problems as mediators of these associations. A representative sample of 1,152 school youths and a convenience group of 148 juvenile offenders aged 11-19 years was recruited from Medellin, the second largest city in this South American country. Assessment was carried out in classrooms in the school sample and in correctional institutions for juvenile offenders. Structural Equation Modeling (SEM) was utilized to test the conceptually derived models. Similarly, multisample analyses and nested model comparisons were used to explore mediator effects. Results showed strong associations between domestic violence exposure and

putative mediators and outcomes, especially among offenders. Though impulsivity and substance use problems mediated the relation between family violence (i.e., exposure to interparental violence) and adolescent maltreatment (i.e., harsh parenting) and violent and prosocial behavior in both groups, impulsivity exerted a greater effect on adjustment among juvenile offenders than their counterparts. Juveniles who reported less ability to inhibit their impulsive responses engaged in more problems related to illicit substance use, violent acts (e.g., carrying weapons at school and in the streets), and less prosocial activities with their peers. Nonetheless, the best model fit indexes were obtained when paths from impulsivity to substance use problems and violent behavior were added to model comparisons. Results are discussed within the framework of Information-Processing theory for understanding pathways to violent and prosocial behavior.

Introduction

The deleterious effects of violence exposure on children's development has become a serious public health concern in the United States as well as in developing countries, particularly since its prevalence has been escalating since 1990. Notoriously, prevalence of witnessing violence and victimization are alarming among inner-city youth in the United States. The cumulative effect of multiple risk factors from their families and communities places this population at heightened risk for developmental problems during their adolescence. Gorman-Smith and Tolan (1998) documented the seriousness of this problem among 245 African American and Latino adolescents ages 11 to 15 in Chicago. Results showed that 54% percent of youth had seen someone beaten up during the last year and 67% in their lifetime; moreover, 33% were exposed to attacks from a family member and 10% were victims of a violent crime in their lifetime. Overall, 65% of youth experienced some type of violence during the last year, of whom 30% reported exposure to three or more violent events.

Furthermore, both cross-sectional and longitudinal research has shown the direct effect of violence exposure (VE) by witnessing a violent event or being victimized on internalizing and externalizing symptoms. In this regard, the magnitude of the threat (e.g., being shot, stabbed, or mugged; witnessing someone being shot, stabbed, or mugged) may affect the magnitude of the

maladaptive outcomes observed. These outcomes include increased aggressive and violent antisocial behavior (Farrell & Bruce, 1997; Linares et al. 2001; Lynch & Cicchetti, 1998, Singer et al., 1999; Schwab-Stone, 1995; Schwartz & Proctor, 2000); depressive and anxious symptoms (Attar, Guerra, & Tolan, 1994; Durant et al. 1995; Farrell & Bruce, 1997; Fitzpatrick, 1993; Gorman-Smith, & Tolan, 1998; Kliwer, Lepore, Oskin, & Johnson, 1998; Lai, 1999; Mazza & Reynolds, 1999; Martinez & Richters, 1993; O'Keefe, 1997; Osofsky, Wewers, Hann, & Fick, 1993; Overstreet, Dempsey, Graham, & Moely, 1999; Pastore, Fisher, & Friedman, 1996; Schwab-Stone, 1995, 1999, Singer et al., 1995), and other internalizing symptoms (Durant et al. 1995; Fitzpatrick & Boldizar, 1993; McCoy & Finkelhor, 1995; Overstreet, et al.; Singer et al. 1995).

Since distal and proximal influences may interact to explain adolescent development in vulnerable populations (Wachs, 2000), domestic violence exposure also has been incorporated along with community violence in resilience research. As Garbarino, Dubrow, Kostelny, and Pardo (1992) explain, an unsafe and toxic proximal environment, such as the family, may debilitate the lives of youth who have to cope with cumulative stressors in order to succeed in life. The proximity of danger, therefore, becomes important in explaining the way children process threatening events and how it is associated with developmental outcomes (McKinsey-Crittenden, 1998). Though cumulative adverse environmental events affect the stability and safety of

children's homes (Richters & Martinez, 1993), an ecological-transactional view of the interplay between maltreatment within the family context and community violence may serve to explain the staggering consequences it has on children's and adolescent's development.

Lynch and Cicchetti (1998) described how ecological contexts are nested levels with different degrees of proximity to the child, from which many transactions from the macrosystem (e.g., community violence), and the micro system (family violence), place children and adolescents at risk for developmental problems. Lynch and Cicchetti studied this transactional effect on 322 children who attended an annual summer camp, specially prepared for maltreated and non-maltreated disadvantaged children. Interestingly, the authors found that after controlling for prior functioning at time 1 and concurrent exposure to community violence at time 2, maltreatment status at time 1 uniquely predicted time 2 functioning, (i.e., internalizing behavior, externalizing behavior, traumatic stress, depressive symptomatology, and self-esteem). Although these outcomes highlight the impact of violence exposure in the community and child maltreatment on adjustment problems in children, these two constructs are distinct environmental stressors.

The current investigation provided an opportunity to build upon the examination of dimension of domestic violence exposure in the country of Colombia-South America, as they relate to youth's risk of violence and prosocial behavior, with an emphasis on explaining impulsive behavior and substance

use problems as mediators of this relation. It was expected that juvenile offenders would have a greater impairment in prosocial and violent behavior than students due to escalating exposure to adverse stressors at home.

Review of the Literature

Definitions of Family Violence and Maltreatment as Measures of Domestic Violence

In order to understand the effects of family violence on adolescents, it is necessary to disentangle family violence from other forms of violence. As discussed earlier, community violence and direct experiences of victimization in the community may co-occur with exposure to interparental abuse. Furthermore, other studies have shown that children who witness family violence may be at risk for being the target of abuse (O'Keefe, 1994). Nonetheless, the lack of definitional consistency about domestic violence has been a major methodological flaw in domestic violence research. For example, family violence may describe maternal history of victimization (i.e., marital violence), which comprises physical and sexual abuse during the respondent's childhood, adolescence and adulthood (Dubowitz, Black; Kerr, Hussey, Morrel, Everson, & Starr, 2001). It also has been defined as the extent to which children or adolescents were exposed to violence towards the mother (Felitti et al. 1998). The types of violence included the frequency in which the father (or stepfather) or mother's boyfriend (1) push, grab, slap, or throw something at her, (2) kick, bite, hit her with a fist, or hit her with something hard, (3)

repeatedly hit her over at least a few minutes, or (4) threaten her with a knife or gun, or use a knife or gun to hurt her.

Definitions of child and adolescents maltreatment have also been problematic. A report of the consultation on child abuse prevention (World Health Organization, 1999), provided a broad definition of child abuse:

Child abuse or maltreatment constitutes all forms of physical, and/or emotional ill-treatment, sexual abuse, neglect or negligent treatment or commercial exploitation, resulting in actual or potential harm to the child's health, survival, development or dignity in the context of a relationship of responsibility, trust, or power. (p. 59)

Some definitions focus on the behaviors or actions of adults while others consider abuse to take place if there is harm or threat of harm to the child. Recently, Cicchetti and Manly (2001) described the difficulties when attempting to define maltreatment. For example, there is a lack of social consensus as to what constitutes maltreatment as well as the lack of agreement regarding whether it should be defined based on the actions of the perpetrator, the effects of the child, or a combination of the two. This issue raises methodological flaws such as measuring parental intent rather than parental behavior. Yet, when linking maltreatment to adolescents' outcomes, it is difficult to disentangle maltreatment from its consequences. Bolger and Patterson (2001) proposed a three-factor model based on confirmatory factor analyses and multiple model comparison. Three types of maltreatment were found to better fit the construct

of maltreatment: neglect, harsh/abusive parenting, and sexual abuse. Neglect was defined as failure to provide for a child's material needs and lack of supervision; harsh parenting encompassed physical abuse and emotional maltreatment; and sexual abuse constituted sexual contact involving pressure or force. The following section introduces the prevalence and effects of exposure to family violence and maltreatment.

Prevalence of Family violence and Maltreatment and Associated Developmental Outcomes in Children and Adolescents

Beginning 1980's, it was estimated that 3.3 million children in the United States each year see or hear at least one event of physical conflict between their parents (Carlson, 1984). In terms of victimization by domestic violence, it is estimated that 20 % to 30% of marriages in the United States have experienced at one point an episode of overt interpersonal aggression. In this regard, 1.8 to 4 million of US women are physically abused by their partners every year (Acierno, Resnick, & Kilpatrick, 1997), which places women at risk of exacerbated family violence. Indeed, one in five adult women have reported that during childhood they had witnessed physical aggression towards their mothers, mainly perpetrated by their fathers. This situation also places children at heightened risk of being physically abused during their childhood (Henning, Leitenberg, Coffey, Turner, & Bennet, 1996).

Studies examining the effects of exposure to family violence have found associations between marital violence and social competence in children

(Christopoulos et al. 1987), conduct problems, attention problems, anxiety-withdrawal, cognitive functioning, and prosocial functioning (Kempton, Thomas, & Forehand, 1989), and boys' aggression and hostility (Domas, Margolin, & John, 1994). Nonetheless, the great variability among studies with regard to what is meant by marital violence or marital conflict further complicates valid conclusions.

Child abuse, on the other hand, leads to greater deleterious consequences to normative development than family violence. Trickett and Putnam (1998) reviewed several research studies on the impact of sexual abuse from infancy to adulthood. During childhood, developmental findings from studies showed impaired socio-emotional and cognitive development such as depression and anxiety symptoms (Friedrich, Beilke, & Urquiza, 1987; White, Halpin, Strom, & Santilli, 1988), externalizing behavioral problems i.e., aggression and conduct disorder (Trickett & Putnam, 1991), small and unsatisfactory peer networks, and lower academic performance and lowered self-esteem (Grayston, De Luca, & Boyes, 1992; Helmer, Everett, & Trickett, 1991).

Studies also reported physical, motor, socio-emotional, and cognitive problems as a result of sexual abuse during adolescence. For example, in the physical domain, sexual abuse was associated with physiological abnormalities in cortisol as well as catecholamine dysfunction (DeBellis, Lefter, Trickett, & Putnam, 1994). Suicidal and self-injured behavior (Kendall-Tackett, Williams, & Filkelhor, 1993), classroom behavioral, and learning problems (Trickett,

McBride-Chang, & Putnam, 1994), earlier sexual activity (Wyatt, 1998), and lower IQ and school achievement (Tong, Oates, & McDowell, 1987), were outcomes in the socio-emotional and cognitive domains affected by sexual abuse.

From a developmental perspective, the pathways from maltreatment to serious delinquent behaviors can be overt in nature (e.g., minor aggression, physical fighting, rape), or covert (e.g., shoplifting, frequent lying, property damage, fraud, burglary). Stouthamer-Loeber, Loeber, Homish, and Wei (2001) explored possible pathways between maltreatment and the occurrence of disruptive and delinquent behavior in 506 male seventh graders. Two hundred and fifty children were classified as the risk group (i.e., they exhibited at least three antisocial or delinquent behaviors in their lifetime), and an equal number of non-risk boys were included in the follow-up sample. Furthermore, two additional groups were formed: victims of maltreatment and a matched control group were developed based on maltreatment data collected from Children and Youth Services (CYS); maltreatment classifications included physical abuse, sexual abuse, failure to provide-physical neglect, lack of supervision-physical neglect, emotional maltreatment, moral-legal maltreatment, educational maltreatment, and incorrigibility.

In this study, maltreatment was significantly related to a progression on three pathways of disruptive and delinquent behaviors: authority conflict (i.e., stubbornness, defiance, and authority avoidance), overt, and covert pathways.

Victims were more likely than controls to have engaged in behaviors that involved authority conflict. Youth who took the overt pathways were more likely than controls to have had a referral to juvenile court. Covert behaviors were less strongly predicted by maltreatment measures compared with overt behaviors.

Although the devastating effects of exposure to different forms of violence on children's and adolescents' development are well established in the United States, the evidence is scarce with regard to exposure to community and family violence in some places in the world where the environment is highly toxic and unsafe for a normal development. In the next section, the public health impact of community and family violence is explored for Colombia.

Effects of Violence Exposure in Children and Adolescents in Colombia

Colombia has lived with war for nearly 40 years. The human tragedy associated with this war recently has escalated due to violence at different societal levels. Both displacement and forced recruitment of adolescents as young as 13 by revolutionary groups have placed families at heightened risk of health problems, family dysfunction, and violent death (Human Rights Watch World Report, 2002). For example, according to UNICEF (2002), almost 6000 children participated in activities held by rebel groups in 2001 and there were at least 300,000 cases of displacement, mainly among rural families who face constant encounters between paramilitary groups and guerrillas. Rates of kidnapping, death threats, and murders have risen dramatically in the last 10

years (Amnesty International, 1994; Inter-American Commission on Human Rights, 1993; Kliewer, Murrelle, Mejia, Torres, & Angold, 2001). Kliewer et al. (2001) reported specific violent events against family members in a nationally representative sample of 5775 adolescents ages 12-18 year old in Colombia. Notably, at least 11% of youth disclosed having had a family member murdered or kidnapped, or receiving a death threat in the past year. This proportion was higher for adolescents living in Medellin, the second largest city in Colombia, reaching 22% in 1992.

Family violence also has reached epidemic proportions in this country. The Colombian Institute of Family Wealth (Instituto Colombiano de Bienestar Familiar-ICBF, 2002) estimates that 25,000 children have been sexually abused, 14,400 of whom had been assisted by the ICBF in the year 2000; this situation is devastating in terms of the developmental impairment due to maltreatment. Correlates with mental health problems of youth in Colombia as reported by Kliewer and colleagues were similar to those found in the United States. For example, violence against a family member was positively correlated with depressive symptoms (e.g., melancholia, hopelessness), and anxiety in adolescents.

It is noticeable how violence exposure in the family and community has become a major public health problem, particularly in children and adolescents who live in environments characterized by extreme danger. These toxic

environments also are associated with maladaptive behavioral responses such as substance use and abuse in youths.

Associations between Domestic Violence Exposure, Substance Use, and Violent Behavior

Exposure to different types of violence recently has been the focus of attention in relation to substance use disorders during adolescence. Significant links between exposure to violence and victimization experiences and substance use in adolescents have been established using national household samples. The National Survey of Adolescents (Kilpatrick et al., 2000) was the first study to assess prevalence of DSM-IV classified substance dependence or abuse, and familial alcohol and substance use. Prevalence of sexual assault, physical assault, witnessing violence, and PTSD symptoms data were obtained in this study that sampled 4,023 adolescents ages 12 to 17. Separate hierarchical logistic regression analyses showed unique contributions of physical and sexual abuse, and witnessing violence on past-year alcohol, marijuana, and hard drug abuse-dependence after controlling for familial substance use and demographic variables.

Although familial substance use uniquely predicted the use of licit and illicit substances, the magnitude of Odds Ratio associated with familial substance use was reduced when victimization and exposure to violence were controlled. Indeed, the latter was the stronger predictor above and beyond victimization by other types of violence, familial substance use, and demographic factors.

Further analyses using this sample indicated that age, Caucasian ethnicity, and experiencing physical assault or witnessing violence increased the risk of current cigarette use for both genders (Acierno et al., 2000).

Thornberry, Ireland, and Smith (2001) emphasized the effect of persistent maltreatment on drug use, alcohol-related problems, teen pregnancy, school drop out, delinquency and internalizing-externalizing behaviors. Based on data from the Rochester Youth Development Study (RYDS), 738 adolescents and their caregivers provided information to look at longitudinal effects of child maltreatment, adolescents' maltreatment, or both on multiple cognitive and behavioral outcomes. Findings indicated that early-only maltreatment did not impact behavioral or psychological development during late adolescence. Conversely, adolescence-only maltreatment significantly increased the odds of delinquency, internalizing problems, externalizing problems. A report of any adolescent maltreatment whether it had started in childhood or in adolescence, increased the risk for delinquency, drug use, alcohol-related problems, depressive symptoms, internalizing behaviors, and multiple problems. These results highlighted the consistent and strong effects of maltreatment during adolescence compared with maltreatment experienced only in childhood.

Other studies have focused on the effects of domestic violence and trauma on adolescent's risky behaviors such as Sexually Transmitted Diseases (STDs) including HIV (Fullilove et al., 1993b), or have targeted adult women populations, especially in substance abuse treatment settings (Fullilove et al.,

1993a). During adolescence, the perception of a negative family environment may influence the risk for addictive behaviors and aggressive-criminal behavior. For example, even though domestic violence exposure was not directly measured, Garnefski and Okma (1996) found significant associations between perceived negative feelings at home and addiction-risk behavior in 2814 15- and 16- year-old secondary school students in the Netherlands. Adolescents with addiction-risk behaviors and/or aggressive/criminal behavior (e.g., had smoked cigarettes or marijuana during the past month, had drunk 25 or more glasses of alcohol during the past month; had deliberately destroyed other people's property) reported almost twice as many negative feelings at home (e.g., had serious incidents of quarreling with parents during the past year) as those without addiction-risk behaviors. Parental substance use was not controlled in this study.

Surprisingly, most studies have focused their attention on the effects of maltreatment on aggression (Cicchetti & Lynch, 1993; Manly, Kim, Rogosch, & Cicchetti, 2001), and delinquent behavior (Singer et al., 1999; Stouthamer-Loeber, et al., 2001), and have ignored other outcomes. Manly et al. (2001) examined the timing, subtype, and severity of maltreatment and its impact on child adaptation. Eight hundred and fourteen children ages 5.5 and 11.5 who attended a summer camp, participated in the study; analyses were conducted between 492 maltreated children and 322 non-maltreated comparison children. Measures included subtypes of maltreatment (i.e., emotional, physical neglect,

physical abuse, and sexual abuse), internalizing and externalizing behaviors, behavior ratings, counselor's ratings, and peer nominations. Multiple regression results indicated that children who were physically abused during the preschool years had higher disruptive behaviors above and beyond the effects of emotional maltreatment during infancy and toddlerhood. However, severity scores of emotional abuse, physical abuse during preschool age, and physical neglect during school age were related to higher levels of teacher report of externalizing behaviors.

Among juvenile offenders, exposure to serious family violence may lead them to escalated violent behavior and competence impairment. For example, Sparccarelli, Coatsworth, and Bowden (1995) interviewed a sample of 213 delinquent male adolescents to examine interadult family violence, physical abuse, attitudes toward aggression, and competence. Results showed that the effects of exposure to family violence on serious violent offending were mediated by beliefs supporting aggression and the tendency to cope through aggressive control seeking. Other studies have pointed out that adolescents who were exposed to physical abuse within the family are at higher risk of hostility ideation, disruptive disorders, and adolescent substance abuse and dependence (Kaplan, Pelcovitz, Salzinger, Mandel, & Weiner, 1997; Lynskey & Fergusson, 1997).

Violence Exposure, Substance use, and Adjustment in Colombian Adolescents

Studies of mental health in Colombians have been conducted since 1987 in order to provide national representative data on DSM-III- defined mental disorders including substance use disorders (Torres de Galvis & Posada, 1993; Torres de Galvis & Montoya, 1997). From these studies, significant associations were found between alcohol use and violent acts in the general population. Nonetheless, epidemiological data on adolescent's substance use disorders and risk and protective factors had not been gathered until 1996 (Torres de Galvis, Maya & Murrelle, 1997). This national study of 21,493 adolescents, focused on substance use disorders and risk factors (e.g., conduct problems, substance use and peer problems, emotional status) that were hypothesized as predictors of substance use. Results showed that 15% of youths used alcohol during the past year and 6.4% of adolescents between 15 and 17 were almost 6 times more likely than youths less than 12 years old to use marijuana. Lifetime prevalence of cocaine use also was found to be high, especially, among high school students with 4% reporting consuming cocaine in the past. Bivariate analysis revealed significant associations between peer problems, academic achievement, family dysfunction, and illegal use of substances.

Recently, Maya et al. (2000) conducted the first study on adolescent's use of psychoactive substances and related psychosocial factors on juvenile delinquency. The sample consisted of 1,152 middle and high school students

ages 11 to 19 and a subsample of 148 youths who had committed misdemeanors or had been convicted of a felony. Measures included family functioning variables, lifetime and past year prevalence of substance use, family violence, family and social support, emotional status, peer problems, substance use problems, violent behavior, and religious beliefs. Results showed high prevalence of substance use, mainly among juvenile delinquents. For instance, 68.8% of juvenile delinquents and 9% of school students consumed alcoholic beverages in the past year; also, 64.2% of juvenile delinquents used marijuana in the past year in comparison to 9% among students. Cocaine use was also higher in juvenile delinquents, with 37% reporting use in their lifetime compared with students, only 4.1% of whom reported use.

Some of the reasons why youth started having problems with the justice system included seeking dangerous activities, economic problems, using drugs, and seeking money to use drugs. Eighty three percent of youths endorsed sensation-seeking as one of the motives for engaging in illegal activity which resulted in their problems with juvenile justice system. In order to compare domains that were considered predictors of violent behavior, a risk of violence scale was created from previous factor analyzed items (e.g., Have you carried a weapon on the streets? Have you ever been hurt in a fight? Have you ever belonged to a gang?).

A severity index was then created (i.e., no risk, low risk, moderate risk, and high risk) so that percentages of risk of violence were possible to compare with

other predictors. Among adolescents who reported having been emotionally or physically maltreated, 40% presented moderate levels of maltreatment, and 16% severe levels. When risk of violence was compared with maltreatment risk, significant differences emerged. Severe levels of exposure to maltreatment were related to a higher risk of violent behavior. Also, there was a significant dosage-response gradient when risk of violence was compared with substance use dependence. Hence, with higher drug dependence, there was a greater risk for violent behavior.

In summary, significant associations have been found between domestic violence exposure and both substance use and violent behavior during adolescence both in the United States and in Colombia. However, mediating processes that may explain why maltreatment is associated with poor adjustment are less clear from the literature. The following section reviews the evidence on associations between domestic violence and impulsive behavior during adolescence as well as relationships between exposure to domestic violence, impulsivity, substance use, and violent behavior.

Domestic Violence Exposure and Impulsive Behavior during Adolescence

Impulsive behavior or "impulsivity" is a feature of several psychiatric disorders although the cognitive and neural bases of impulsivity remain unknown (Rogers, 2001). Several definitions of impulsive behavior have been proposed. (1) impairment in inhibitory control of behavior, which is related to the inability to inhibit responses to reward associated-stimuli or stress-induced

break down of control on previously, inhibited behaviors; (2) impairment in behavioral choice and decision-making; (3) a motivational abnormality related to integration of rewards, punishment, and probabilities (Richards & Wit, 2001). In the context of maltreatment, studies have used measures of emotion regulation that may have captured impulsive behaviors as part of emotional responsiveness constructs. For example, Shields and Cicchetti (1998) assessed affective lability, intensity, valence, flexibility, and situational appropriateness of emotional expressions (e.g., emotional intensity, angry reactivity, adaptive regulation) in order to examine the effect of child abuse on behavioral and emotional regulation. One hundred and forty-one maltreated and 87 non-maltreated children ages 6 to 12 years participated in the study. Findings indicated that physically abused children were more likely than non-maltreated children to display patterns of emotion dysregulation, as indicated by affective lability-negativity and attenuated emotion regulation.

In terms of psychosocial impairment, Zanarini et al. (2002) reported associations between severity of childhood sexual abuse and its relation to borderline personality disorders during adulthood. Two hundred and ninety inpatients between ages 18 to 35 years participated in the study. The Revised Childhood Experiences Questionnaire (CEQ-R) and the Abuse History Interview (AHI) were used along with DSM-III-R measures of personality disorders and axis-1 disorders. After controlling for age, gender, and race using multiple regression analyses, Zanarini found that severity of reported sexual abuse was

significantly related to the severity of symptoms in four dimensions of borderline personality disorders: affect, cognition, impulsivity, and disturbed interpersonal relationships.

Recent studies have started to correlate the construct of dysregulation, which includes impulsive, hyperactive, and inattentive behavioral responses, as an important contributor to the likelihood of substance use during adolescence. The following section incorporates associations of domestic violence and impulsive behavior with special emphases on substance use disorders (SUD).

Associations between Domestic Violence Exposure, Impulsive Behavior, Substance Use, and Violent Behavior during Adolescence

Evidence to date has studied impulsivity linking it with SUD and violent behavior. First, impulsivity is a salient component for substance use initiation (Dawes, Tarter, & Kirisci, 1997). Along with aggressivity, inattention, and hyperactivity, impulsivity have been associated with SUD through a deficit in the planning, execution, and evaluation of goal-directed behavior (i.e., executive cognitive dysfunction). Executive function impairment is hypothesized to create an overall behavioral dysregulation that is manifested in a wide set of observable behaviors (Giancola & Tarter, 1999).

Dawes et al. (1997), for example, studied the correlation of impulsivity with factors that may account for the onset of SUD in 180 10-12 year-old sons of substance abusing fathers. In this study, impulsive symptoms were measured through mother, teacher, and child self-report (e.g., blurts out, engagement in

physically dangerous activities). Results showed that among sons of substance abusing fathers, impulsive behavior was significantly and positively associated with peer delinquency, perception of problem behavior, and family dysfunction as opposed to sons of fathers in the control group. In addition, impulsivity was negatively associated with school performance. Dawes et al. concluded that impulsive behavior might serve as a prodromal dimension to substance use disorders.

Similar evidence has found impulsive behavior to be correlated with measures of drug use. In this regard, impulsive aggression (Giancola & Zeichner, 1994), and propensity for fighting (Seguin, Pihl, Harden, Tremblay, & Boulerice, 1995) were correlated with SUD. These factors not only preceded SUD, but also explained bio-behavioral traits (i.e., low executive cognitive functioning) that have been associated with the probability of SUD in young adulthood. Furthermore, specific substances such as alcohol have been associated with impulsive and violent behavior during adolescence (White, Brick, & Hansell, 1993; White & Hansell, 1996; Zhang, Wieczorek, & Welte, 1997). Zhang et al., for example, explored the moderator effect of alcohol use between problem solving ability, aggression-hostility, impulsivity, and deviant motives and violent crime in 625 males ages 16 to 19 years old. Findings indicated that alcohol consumption moderated the relation between deviant attitudes and violent crime. Thus, high deviant attitudes increased the probability of violent crime when adolescents had drunk heavily as supposed to

youth who had low levels of drinking. However, although alcohol consumption did not moderate the relation between impulsivity and violent crime, impulsivity did uniquely contribute to alcohol use. Hence, It is possible that the inability to inhibit behavior when drinking may be related to risk-taking and aggression (Fillmore & Vogel-Sprott, 2000).

Second, in terms of behavioral responses, impulsive behavior has been associated with violent behavior in adolescents. Early prospective studies on development of delinquency, for instance, have indicated that high psychomotor impulsivity and lack of concentration (i.e., hyperactivity-impulsivity-attention deficit) were important predictors at ages 8-10 of aggression and violence during adolescence (Farrington, 1989).

There is a lack of professional literature on studies involving the putative mediator effects of impulsivity and substance use in the relation between maltreatment and delinquent behavior. However, mediating effects of these factors have started to be the focus of attention in recent research studies. For example, Wonderlich et al. (2001) examined the mediator effects of impulsive behavior and substance use in the relationship between childhood maltreatment and eating disorders (e.g., weight dissatisfaction, purging-restriction, body discrepancy). A sample of 20 10 to 15-year-old females who were receiving treatment for eating disorders and 20 control children (matched by age and parent level of education), were used. Both impulsive behavior and substance use mediated the relation between sexual abuse and eating disturbances.

Maltreated youth had lower impulse control tendencies and higher rates of substance use than non-maltreated children.

Other mediator effects also have been found in studies predicting substance use in the face of maltreatment. For instance, evidence of mediating effects of emotional-psychological factors has been found in relation to maltreatment and alcohol use. Dembo et al. (1990) tested a model of the relationships between childhood physical and sexual abuse and previous alcohol and other drug use on emotional-psychological functioning in 229 male children. Findings supported an indirect path through emotional processes in the relation between physical or sexual abuse and alcohol use.

Overall, the construct of impulsivity has been shown to have construct coherence, longitudinal stability, and associations with externalizing problems in middle childhood and adolescence (Espelage, Bosworth, & Simon, 2001; Olson, et al. 1999). Using laboratory tasks and a normative longitudinal sample of children, Olson, et al. demonstrated how factor analyzed measures of impulsivity from ages 6 to 17 reflected dimensions of executive control capabilities (i.e., Inhibitory control), delayed gratification, and a willingness to sustain attention and compliance. However, although impulsive behavior at ages 6 and 8 predicted maternal reports of externalizing problem behavior across adolescence (i.e., ages 14-17), there was no evidence of construct validity and longitudinal stability in non-normative samples such as maltreated or disadvantaged children and youths.

Adaptation in Maltreated Children and Adolescents: Evidence of Resilience

Despite adverse family and community environments, the additive and interactive effects of protective processes may buffer the negative effects of adversity on adolescent adjustment and competence. As Masten (2001) highlights, positive outcomes in the face of adversity come from the ordinary human capacity of adaptation. Hence, mechanisms that promote resilience can be found in proximal environments such as family, school, or peer group. In order to explain why some maltreated children may bounce back from the effects of an adverse family environment, both person-oriented and variable-oriented studies (Luthar, Cicchetti, & Becker, 2000) may provide answers to this phenomenon.

Previous person-oriented studies conducted by Cicchetti, Rogosch, Lynch, and Holt (1993) had drawn insights about resilient outcomes in maltreated children and its implications in the field of psychopathology. Cicchetti et al. investigated 127 maltreated and 79 non-maltreated children who attended a summer camp program in order to examine personality processes contributing to individual differences in these two groups. They hypothesized that individual differences should be related to intelligence, self-esteem, ego-control, and ego-resiliency so that successful adaptation despite traumatic experiences could be achieved.

Findings showed that maltreated children exhibited greater disruptive-aggressive behavior as well as more social withdrawal than non-maltreated

children. To compare adaptive functioning (e.g., prosocial behavior, disruptive-aggressive, internalizing-externalizing symptoms) between groups, three levels were created according to the number of positive domains that were endorsed (i.e., low functioning 0 to 1 domains, high functioning 4 or more domains). At the low level of functioning, maltreated children displayed 0 to 1 area of competence as well as differences in ego-resilience and intelligence. Yet, maltreated children evidenced lower ego-resilience and lower intelligence than non-maltreated children. Interestingly, there were a similar number of maltreated children who showed two or more areas of competent adaptation. Nonetheless, there was a group of maltreated and non-maltreated children who manifested lower adaptation capabilities. Researchers concluded that most maltreated children might sustain resilient strivings and become ego-controllers to adapt to aversive family experiences.

Evidence of long-term consequences of abuse and neglect beyond adolescence has also been addressed in terms of person-oriented models of resilience. For example, McGloin and Widom (2001) conducted a case-control study by examining a cohort of 908 abused or neglected children reported between 1967 and 1971 (ages, 0-11 year-old) and a matched control group of 438 children. Follow-up interviews were carried out between 1989 and 1995 covering a wide arrange of domains of functioning and psychiatric assessment. Measures of resilience included eight domains: Employment, homelessness, education, social activity, psychiatric disorder, substance abuse, and criminal

behavior. Gender differences were found between the abuse and neglect and control groups. Males in the control groups were able to succeed in the domains of psychiatric disorders, employment, education, homelessness, any arrest, and self-reported violence than the abuse-neglect group. For females, the groups did not differ in the extent to social activities although they did differ in other domains. Abused and neglected women differed from control females on seven domains of functioning: psychiatric disorder, employment, education, homeless, substance use, official criminal behavior, and self-reported violence. Overall, females had a higher mean number of domains of successful individual functioning, compared to males, and controls had a higher mean number of domains in which they were successful, compared to abused and neglected individuals.

In relation to variable-oriented models of resilience in disadvantaged children and adolescents, studies have focused on a variety of additive, moderator and mediator factors in the context of adversity. Examples of such processes are: mediator effect of maternal distress between community and family violence exposure and child behavior problems (Linares et al., 2001), mediator effect of intrusive thoughts between community violence and children's adjustment (Kliewer et al., 1998), additive effect of parent, peer, and school support on multiple resilient outcomes between youth exposed to community violence and non-exposed (O'Donnell, Schwab-Stone, & Mueeed, 2002), mediator effect of social expectations between physical abuse and

internalizing symptoms (Salzinger et al., 2001), and moderator effect of perceived internal control between maltreatment and internalizing symptoms (Bolger & Patterson, 2001; O'Donnell, Schwab-Stone, & Muyeed, 2002; Salzinger et al., 2001).

In the context of domestic violence exposure, there have been few studies addressing multiple outcomes when children or adolescents are differentially exposed to physical or psychological abuse. Salzinger et al., for example, conducted one such study in 100 9 to 12-year-old physically abused children and 100 case-matched non-abused comparison classmates. Children were assessed on measures of social status (i.e., peer nomination of social preference, positive reciprocity, peer rejection, and negative reciprocity), and internalizing problem behavior. Path analyses showed a mediator effect of social expectations between physical abuse and internalizing symptoms. Also, positive social expectations mediated the relation between abuse and social preference.

In summary, multiple individual processes such as impulsivity and substance use may contribute to different patterns of maladaptive outcomes (e.g., aggression, violent behavior or delinquency) and adaptive outcomes (e.g., pro-social behavior, social competence) when children and adolescents have to cope with maltreatment in the family. Next, resiliency is explored in Colombian children and adolescents based on person-oriented and variable-oriented approaches.

Evidence of Resilience in Colombian Adolescents

Family antecedents of delinquency and alcohol abuse, greater exposure to family life changes, psychological abuse, severe childhood punishments, and lower self-esteem and sense of coherence have been found to be risk factors for antisocial behavior after adolescence in Colombia (Klevens, Bayon, & Sierra, 2000). Klevens et al. reported these differences as independent of mother's level of education, head of the household's occupational level, and family size. Using a life history methodology, resilience has been identified among juvenile offenders who have committed an offense. Klevens and Roca (1999) also explored factors that promoted resilience in 46 young men from high-risk families. Factors that discriminated resilient youths (i.e., had committed an offense) and non-resilient adolescents (i.e., had not committed and offense) were less exposed to serious life stress, perceived stronger support from their families, and perceived greater degrees of control and coherence in their lives.

Based on a representative sample of Colombian youths, recent findings have found not only associations between exposure to serious violence against a family member and internalizing symptoms, but also protective processes that buffered this relationship. From a secondary analysis in a sample of 5,775 adolescents ages 12 to 18, Kliewer et al. (2001) found interesting moderator processes within the family environment in Colombia. After accounting for the effects of age, gender, and family life events other than violence, support from

family (e.g., perceived respect from people in the family, belief that family members support each other, pride in their family) attenuated the relationship between exposure to violence and adjustment; this relationship was stronger for girls and younger adolescents. Moreover, disclosure to friends (i.e., disclosed thoughts and feelings to their friends) exerted a protective effect for younger adolescents but was harmful to older adolescents.

In summary, despite our knowledge that children and adolescents exposed to domestic violence has been associated with aggressive and violent behavior, explanations as to what behavioral processes may account for these relationships remain unknown. For example, the lack of inhibitory control in impulsive behaviors may explain why maltreated adolescents engage in violent behaviors. Moreover, since resilience research has noted the importance of targeting multiple outcomes or adaptive processes (Luthar et al, 2000; Masten, 2001), pathways that lead to pro-social behavior have to be addressed in adolescents. Finally, much research needs to be done in terms of identifying mediator processes in the relation between exposure to domestic violence and violent; and prosocial behaviors, from high toxic environments such as Colombia.

Purpose of the Study

Using a representative sample of adolescents living in Colombia, the purposes of the present study were to: 1) document associations of exposure to domestic violence and both pro-social behavior and risk of violence, 2) describe associations of domestic violence exposure with impulsive behavior and substance use, 3) determine the pathways from domestic violence exposure to substance use and impulsive behavior in a school-based sample and a sample of juvenile offenders, and 4) test the structural influences of both substance use and impulsivity on risk of violence and pro-social behavior in a sample of students and juveniles.

The model tested in the present study is depicted below.

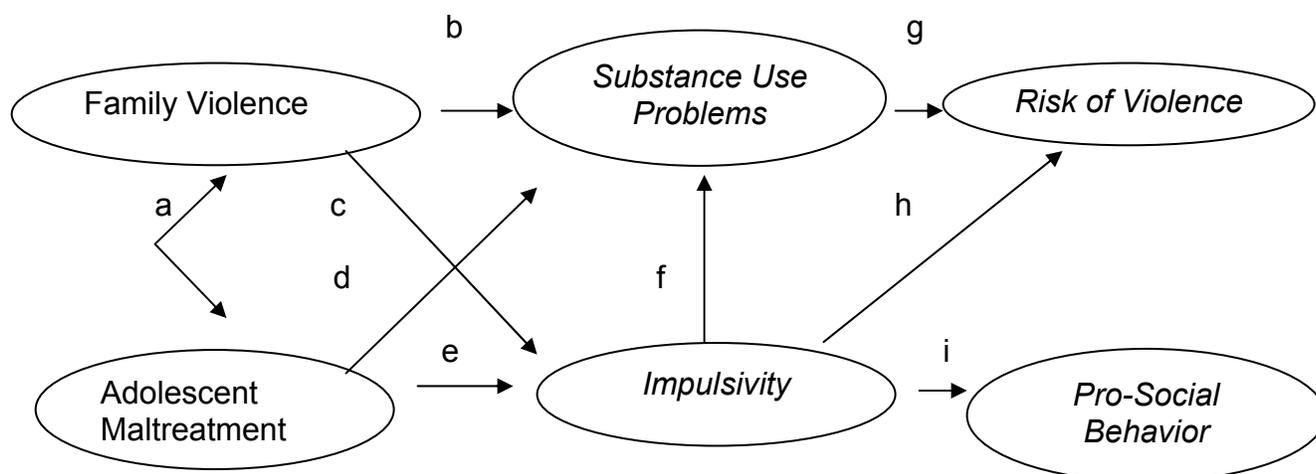


Figure 1. Structural model in which pathways from family violence and adolescent' maltreatment lead to pro-social behavior and risk of violent behavior through the mediator effects of substance use problems and impulsivity.

Hypotheses

Hypothesis One: There will be significant pathways from exposure to family violence and adolescent maltreatment to both substance use and impulsivity (paths c and d in figure 1). Substance use will mediate the relation between family violence-adolescent maltreatment and risk of violence (paths b and g). Impulsivity will mediate the relation between family violence-adolescent maltreatment and pro-social behavior (paths e and i).

Hypothesis Two: There will be significant pathways from exposure to family violence and adolescent maltreatment to both substance use and impulsivity (paths b,c,d,e in figure 1). By adding a pathway from impulsivity to substance use (paths f), the mediator effect of both impulsivity and substance use will explain the relation between family violence-adolescent maltreatment and risk of violence and pro-social behavior (paths g and i).

Hypothesis Three: There will be significant pathways from exposure to family violence and child maltreatment to both substance use and impulsivity (paths b,c,d,e). By adding a pathway from impulsivity to substance use (path f), and from impulsivity to risk of violence (path h), the mediator effect of both impulsivity and substance use will explain the relation between family violence-adolescent maltreatment and risk of violence and pro-social behavior (figure 1).

Method

Sample

The present study is a secondary analysis of data collected from a large, local representative survey sample of adolescents residing in the city of Medellin-Colombia, South America in 2000. The study was sponsored by two agencies: COLCIENCIAS and the Inter-American Bank for Development – BID (Maya et al., 2000). The sample consisted of 1,152 adolescents attending public and private schools and 148 juvenile offenders ages 11 to 18 (see table 1). There were 491 males in the school sample and 138 males in the juvenile group. Only 10 females were included in the juvenile sample since juveniles who committed offenses were mostly males. The female population in the school sample was 661. All youths were native Hispanic; students aged 11 to 19 ($M = 14.35$, $SD = 1.98$) and juveniles aged 14 to 19 ($M = 16.49$, $SD = .95$). No other ethnic groups were represented in the samples.

Educational status was higher for students ($M = 8.61$, $SD = 1.78$) than juveniles ($M = 6.51$, $SD = 2.54$). Although social status was not measured in the study, several demographic measures described groups in terms of housing living conditions and financial support. For example, an average of 6 people were living on each juvenile's household as opposed to 5 people in the student group. Moreover, 2 or more people were contributing financially to the juvenile offender's families relative to one person in the student group.

Table 1

Means and Standard Deviations of Demographic Variables by Group

Variables	School Sample (n = 1152)		Juvenile Offender Sample (n = 148)	
	Mean	Standard deviation	Mean	Standard deviation
Age	14.35	1.98	16.49	.95
Current School Grade	8.61	1.78	6.51	2.54
Number of people living in the Household	5.29	2.04	5.90	2.88
Number of Children in the Family	3.03	1.79	3.99	2.22
Number of Family Members Contributing financially to the Household	1.88	1.08	2.29	1.42

Procedures

Maya et al. (2000) used a case control study where controls (i.e., students) and cases (i.e., juvenile offenders) were selected based on a multistage sampling according to the following variables: Type of school (public or private), educational level offered by schools, number of students per grade, and updated addresses from students. The first stage of sampling started with public and private schools by estimating their proportional weight within the study population (60% public schools and 40% private). Next, a systematic sampling allowed selecting 34 public and 27 private schools, followed by a

randomized selection of classrooms. Hence, the student constituted the final unit of analysis.

Principals were informed about the study objectives and were asked to participate in the study. All youth in the study provided verbal consent to participate; verbal authorization from school boards and participants had been accepted in previous national surveys in Colombia. A team of psychologists and epidemiologists informed students about the study purposes and provided directions to appropriately answering the questionnaire; this procedure was carried out to ensure adequate quality of the information. Cases on the other hand, were defined as those youth who met the criteria for number of felonies and previous problems with law enforcement. A written letter and personal interview with the director of the treatment facility was sent before interviewing juveniles in order to provide the conditions for which they would be interviewed. When judges provided permission to conduct the interview, juvenile offenders were recruited from treatment facilities. All measures were administered in Spanish.

Measures

Demographics. Demographic variables included youth's age, number of family members contributing financially to the household, number of people living in the household, and current school grade.

Domestic Violence Exposure. Three indicators measured the exogenous latent construct of domestic violence exposure committed inside the family (see

Appendix A). Family violence was defined as the impact of youth's exposure to any type of marital violence (i.e., verbal or physical) in the past two years. Respondents indicated if the event (1 = did not occur, 2= did not affect us, 3= it affected us in some degree, and 4 = it affected us so much. Item 1 asked youths about parental fights, item 2 had to do with paternal mistreatment towards the mother, item 3 about children' mistreatment, item 4 asked about violence among family members. Item 5 "one of the parents abandoned the family" was excluded from the scale since it was considered not associated with family violence. Additionally, item one was also excluded from further analysis due to its conceptual similarity with maltreatment towards the mother. These Items were summed based on occurrence vs. no occurrence of violence in order to create a single score and to reduce confounds of impact and frequency. Scores ranged from 0 to 3. A higher score indicated greater family violence among students and juveniles. The internal consistency (Cronbach's alpha) of this scale was .74 (Maya et al., 2000).

Four items measured adolescent maltreatment in this study (see Appendix B). This set of items described the frequency of parental psychological, verbal and physical maltreatment towards the adolescent. Items asked whether parents disapproved or insulted youths for his or her behavior, parents made the adolescent feel unworthy or took things that they were entitled for, and whether he or she were physically punished/abused in their lifetime. Categories were scale 1-never, 2-rarely, 3-sometimes, 4-most of the time, 5-almost always.

These categories were recoded from 0 (never) to 4(almost always) and summed to obtain a composite where higher scores represented higher frequency of maltreatment for students and juveniles; scores ranged from 0 to 16. Cronbach alpha of this subscale was .76.

Establishing the face validity of family violence and child maltreatment measures involved seven steps. First, items were selected from published literature in English and Spanish on domestic violence, which led to the first set of items. Second, a panel of national experts in adolescent development (i.e., psychologists, psychiatrists, sociologists, and epidemiologists) discussed the items. Third, the measures were refined based on feedback from the national panel of experts. Fourth, six focus groups of adolescents were selected and asked to discuss the items. Fifth, a third version of measures was developed after making modifications from the focus groups. Sixth, A pilot test was conducted in three groups of youths, which led to the final set of subscales.

Impulsivity. This 9-item scale assessed whether youths were angry and slammed doors, could not sit still long, had difficulty following directions, or engaged in risky things in their lifetime (see Appendix C). Categories ranged from (1=never, 2=occasionally, 3=almost always, 4=always); these categories were recoded from 0 (never) to 3 (always) where higher scores represented higher levels of impulsivity. This scale showed a moderate internal consistency of .71. Additionally, Maya et al. (2000) found significant correlations of impulsive behavior with peer problems (e.g., peers had problems with authority,

have sold drugs, or were disliked by parents; $r = .32$) and conduct disorder measures (e.g., property damage, hurt animals, involved in fights with peers; $r = .43$) from the Drug Use Screening Inventory Revised (DUSI-R; Tarter, Laird, Bukstein, & Kaminer, 1992). Since categories of “never” and “occasionally” were undistinguishable from each other, “never” was eliminated. Items were summed to form a composite of impulsive behavior; scores ranged from 0 to 27.

Substance Use Problems. Eleven indicators assessed whether youths disregarded social rules for being under drug effects, fought because of their drug use, hurt someone under drug effects, or had an accident under drug effects in the last year. Responses were (1) “yes” or (0) “no” (see Appendix D) to evaluate the degree of involvement in drug-related events. This scale is one out of nine domains included into the DUSI-R, which has shown excellent discriminant validity (Tarter et al., 1992) and moderate to excellent internal consistency for drug-related problems among adolescent alcoholics (Tarter, Mezzich, Kirisci, & Kaczynski, 1994). The DUSI-R also has shown excellent discriminant validity between drug users and non-users in previous national studies in substance use in Colombian adolescents (Torres de Galvis, Murrelle & Maya, 1997). A single item with 11 possible responses was created in order to get a quantitative value; scores ranged from 0 to 11 where higher scores indicated a greater number of substance use problems. Cronbach alpha for this latent construct was .90.

Risk of Violence. This scale was developed through a series of exploratory factor analysis conducted by study researchers. Nine indicators described whether adolescents had carried a weapon on the streets, belonged to a gang, had carried a knife at school or on the streets, had been medically assisted due to a fight or hurt in their lifetime (see Appendix E). Like the family violence and child maltreatment measures, face validity was obtained through the seven steps mentioned before (i.e., expert opinion, focus groups). A single item with 9 possible responses was created in order to get a quantitative value. Higher scores indicated a greater number of substance use problems, with scores ranging from 0 to 9. The scale had Cronbach alpha of .82 and had a correlation of $r = .66$ with peer problems and $r = .85$ with conduct problems from the DUSI-R (Maya et al.).

Prosocial Behavior. Youths answered whether they have ever stopped a fight, tried to help someone as needed, helped others when they felt sick, or have provided comfort to others when they cried sometime in their lifetime. Responses ranged from 1=always, 2=almost always, and 3=never (see appendix F). This 9-item scale was reverse-coded to facilitate interpretation in the analyses. Correlation analyses showed a negative association with peer problems ($r = -.12$) and conduct disorder ($r = -.2$). Items were summed to form a composite of impulsive behavior; scores ranged from 3 to 27. Higher scores represented higher levels of prosocial behavior. The internal consistency for pro-social behavior was .82.

Results

Demographic Differences Between Youth with Complete Versus Incomplete Data

T-tests were used to compare youths who had complete data with youths who were missing data. Comparisons were made within group (student sample and juvenile delinquent sample) on age, number of family members contributing financially to the household, number of people living in the household, and current school grade. There were no differences on demographic variables within study groups when youth with and without missing data were compared.

Demographic Differences in the Student and Juvenile Offender Groups

In order to test for potential demographic differences between the school sample and the juvenile offender sample, a series of t -tests were conducted. Mean group comparisons were conducted on number of children in the family, number of family members contributing financially to the household, number of people living in the household, current grade in school, and age. All demographic variables significantly differed between the two study groups. The juvenile group had a larger number of people living in the household, $t(1,257) = 3.08, p < .001$, and larger number of children in the family, $t(1,257) = 5.92, p < .001$, compared to the school sample. More people also contributed to family income among juvenile offenders, $t(1257) = 4.11, p < .001$.

Descriptive Information on Study Variables

Tables 2 and 3 display correlations among study variables for the school sample and juvenile offenders. Family violence was moderately correlated with child maltreatment, impulsivity, substance use problems (SUP), and risk of violence (ROV) among juveniles. Although the same correlations were significant among adolescents in the school sample, they were weaker than the correlations for the juvenile sample. Adolescent maltreatment was correlated more highly with impulsivity, substance use problems and risk of violence in the school sample than in the juvenile offenders sample.

Interestingly, adolescent maltreatment did not correlate with impulsivity in juvenile offenders whereas it did significantly correlate among youths in the school sample. Relative to other variables, impulsivity had the highest correlations with substance abuse problems and risk of violence in both groups although slightly stronger in juveniles than in their counterparts. All latent constructs except substance use problems negatively correlated with pro-social behavior in the two groups. However, slight differences between groups were identified; pro-social behavior was moderately correlated with child maltreatment and impulsivity among juveniles whereas only risk of violence was moderately correlated with pro-social behavior in the school sample.

Structural Equation Modeling

Structural Equation Modeling (SEM) analyses were conducted to evaluate the hypotheses that the relation between family violence and adolescent

Table 2

Descriptive Information on and Correlations Among Family Violence/Adolescent Maltreatment, Impulsivity, Substance Use Problems, Risk of Violence and Pro-Social Behavior in the School Sample (n = 1,152)

Variables	2	3	4	5	6	7	<u>M</u>	<u>SD</u>	Range
1. <i>Family Violence</i>	.22**	.09**	.14**	.14**	-.08**	.01	.74	.95	0.0-3.00
2. <i>Adolescent Maltreatment</i>		.24**	.14**	.23**	-.09**	.03	3.02	3.49	0.0-16.00
3. <i>Impulsivity</i>			.27**	.38**	-.16**	-.03	9.80	5.14	0.0-27.00
4. <i>Substance Use Problems</i>				.36**	-.09	.08	.36	1.12	0.0-11.00
5. <i>Risk of Violence</i>					-.20**	.14**	14.35	1.98	0.0-9.00
6. <i>Prosocial Behavior</i>						.04	20.16	3.80	9.0-27.00
7. <i>Age</i>							14.35	1.98	11.0-19.00
8. <i>Gender</i>									

** $p < .01$.

Table 3

Descriptive Information on and Correlations Among Family Violence/Adolescent Maltreatment, Impulsivity, Substance Use Problems, Risk of Violence and Pro-Social Behavior in the Sample of Juvenile offenders (n = 148)

Variables	2	3	4	5	6	7	<u>M</u>	<u>SD</u>	Range
1. Family Violence	.33**	.27**	.31**	.25**	-.16*	.48	1.17	1.17	0.0-3.00
2. Adolescent Maltreatment		.09	.12**	.14**	-.21*	.00	3.95	3.84	0.0-16.00
3. Impulsivity			.47**	.46**	-.28**	-.09	12.46	5.71	0.0-27.00
4. Substance Use Problems				.59**	-.14	-.10	4.24	3.74	0.0-11.00
5. Risk of Violence					-.17*	-.02	5.42	2.56	0.0-9.00
6. Prosocial Behavior						-.03	19.23	3.72	9.0-27.00
7. Age							16.49	.95	14.0-19.00
8. Gender									

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

maltreatment on risk of violence and prosocial behavior would be mediated by substance use problems and impulsivity. Prior to running analyses, the measurement model was adjusted. Factor loadings and error variances of latent constructs of family violence, substance use problems, and risk of violence were set to 1.0 and 0.0 respectively. Furthermore, for model convergence reasons, three categories of impulsivity and pro-social behavior were created. These categories were not theoretically driven; instead, each of the three categories encompassed three indicators combined in successive order.

Unlike regular SEM analyses, multisample analyses were carried out to examine differences or similarities between youths in the school sample and juveniles. This extension of SEM accounts for the fact that group comparisons necessitate the simultaneous estimation of models in all the samples involved. Thus, the models of interest are stated within each of the groups and then their simultaneous estimation is conducted. This is attained by minimizing a compound fit function that results by adding the fit functions across the groups, hence weighting them proportionately to the sizes of the available samples. This permits the simultaneous estimation of all parameters of the models in all groups. At the minimum of that fit function, a test of the overall model is possible, just as in the case of a single population (Raykov & Marcoulides, 2000).

As with SEM analyses with one group, parameter constraints can be placed in the measurement and structural models when incorporating two groups. In this study, error variances of indicators for child maltreatment, impulsivity, and prosocial behavior were freed in all of the models. Also, factor loadings for measurement models, factor loadings for structural models, covariance between family violence and child maltreatment, error covariance between pro-social behavior and risk of violence, and factor variance of family violence were estimated (See figure 2).

Table 4 displays Chi-Square values, degrees of freedom, The Comparative Fit Index (CFI), the Root-Mean-Square Error of Approximation (RMSEA), goodness-of-fit values for nested sequence of structural models 1,2, and 3; Chi-Square difference test, and change in CFI are also shown. Model 1 tested the structural model outlined in hypothesis 1 for youths in the school sample and juveniles. A total of 126 degrees of freedom in model 1 were estimated based on 31 parameters in the student group and 25 parameters in the juvenile offender group (i.e., all structural parameters were equal in both groups, everything else in the measurement model was freed).

Model 1 did not fit the data well, $X^2(126, N = 1300) = 604.86, p < .001$; CFI = .89; RMSEA = .07. However, as described in hypotheses 2 and 3, when paths from impulsivity to substance use problems and from impulsivity to risk of violence were added in both samples in model 2, the overall model fit improved considerably, $X^2(124, N = 1300) = 345.77, p < .001$; CFI = .95, RMSEA = .05.

Model 2 estimated 124 degrees of freedom from 33 parameters in the school sample and 25 parameters in the juvenile offender sample (i.e., as in model 1, all structural parameters were equal in both groups, everything else in the measurement model was freed). Hence, comparison of models 1 and 2 resulted in a significant Chi-Square difference $X^2_{2-1} (2, N = 1300) = 259.09$ $p < .01$ with a 6-point increase in the CFI fit index (see table 4).

Though comparison of models 1 and 2 led to improved overall model fit, it was necessary to set some parameter constraints in one of the groups in order to distinguish whether the pathways from impulsivity to SUP and ROV would vary in one of the groups. Thus, model 3 estimated 122 degrees of freedom from 33 parameters in the school group and 27 parameters in the juvenile offender sample. Eight structural parameters remained equal in the school sample and paths from impulsivity to SUP and from impulsivity to ROV were freed in juveniles. All other measurement parameters were freed in both groups as in models 1 and 2.

When model 3 was compared to model 2, it was possible to test the null hypothesis that paths from impulsivity to SUP and from impulsivity to ROV would be equal in the juvenile delinquents sample and the school sample. Since the chi-square difference between models 2 and 3 was significant, $X^2_{3-2} (2, N = 1300) = 23.56$ $p < .01$, the null hypothesis was rejected.

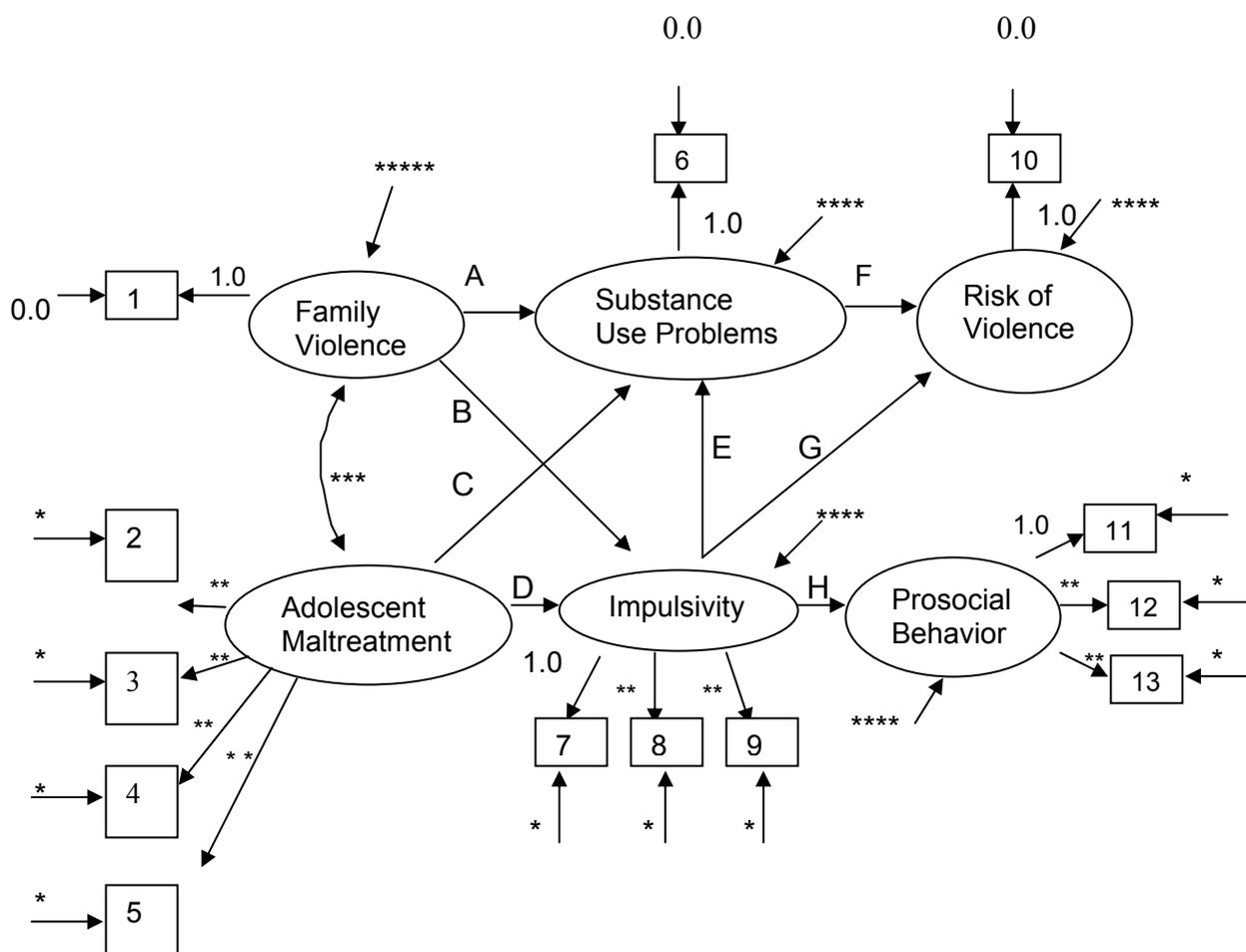


Figure 2. Parameter estimation on measurement and structural models in the two groups. A, B, C, and D (Gamma pathways). E, F, G, and H (Beta pathways). * Error variances for indicators ** factors loading for indicators ***covariance between exogenous latent constructs **** error variances of endogenous latent constructs ***** factor variance of family violence

Hence, it was concluded that the 2 non-recursive structural pathways from impulsivity to SUD and ROV (paths E and G in figure 2) did differ between the two groups. In summary, model 3 displayed the best model fit when compared to model 2 and model 1. Since multiple measurement parameters were freed and paths from impulsivity to substance use and risk of violence were

constrained among juvenile offenders, the mediator effect of these constructs was identified.

Measurement and structural parameters are depicted for the school sample in figure 3 and for the juvenile offender sample in figure 4. Factor loadings, error variances for indicators, covariance between exogenous latent constructs, error covariance of endogenous latent constructs and Gamma and Beta pathways were extracted from completely standardized solution from model 3.

Table 4

Fit Indices for Nested Sequence of Theoretical Models

Model	X ²	df	CFI	RMSEA	X ² diff	ΔCFI
Model 1	604.86	126	.89	.07		
Model 2	345.77	124	.95	.05		
<i>Model 2 & Model 1</i>					259.09***	.06
Model 3	322.21	122	.95	.05		
<i>Model 3 & Model 2</i>					23.56***	.00

Note. X² = Chi-Square; df = Degrees of freedom; CFI = Comparative Fit Index; RMSEA = Root-Mean-Square Error of Approximation. *** p < .001; ** p < .01

As displayed in figure 3, four-factor loadings for maltreatment, two factor loadings for impulsivity and two factors loadings for pro-social behavior were found significant, $t(1) > 1.96$, $p < .01$ in the school sample. Factor loadings in

the juvenile sample also were significant at a .05 level. Similarly, although gamma pathways from family violence-maltreatment to impulsivity and substance use problems were significant, the strength of the association was weaker in comparison to beta pathways in both groups.

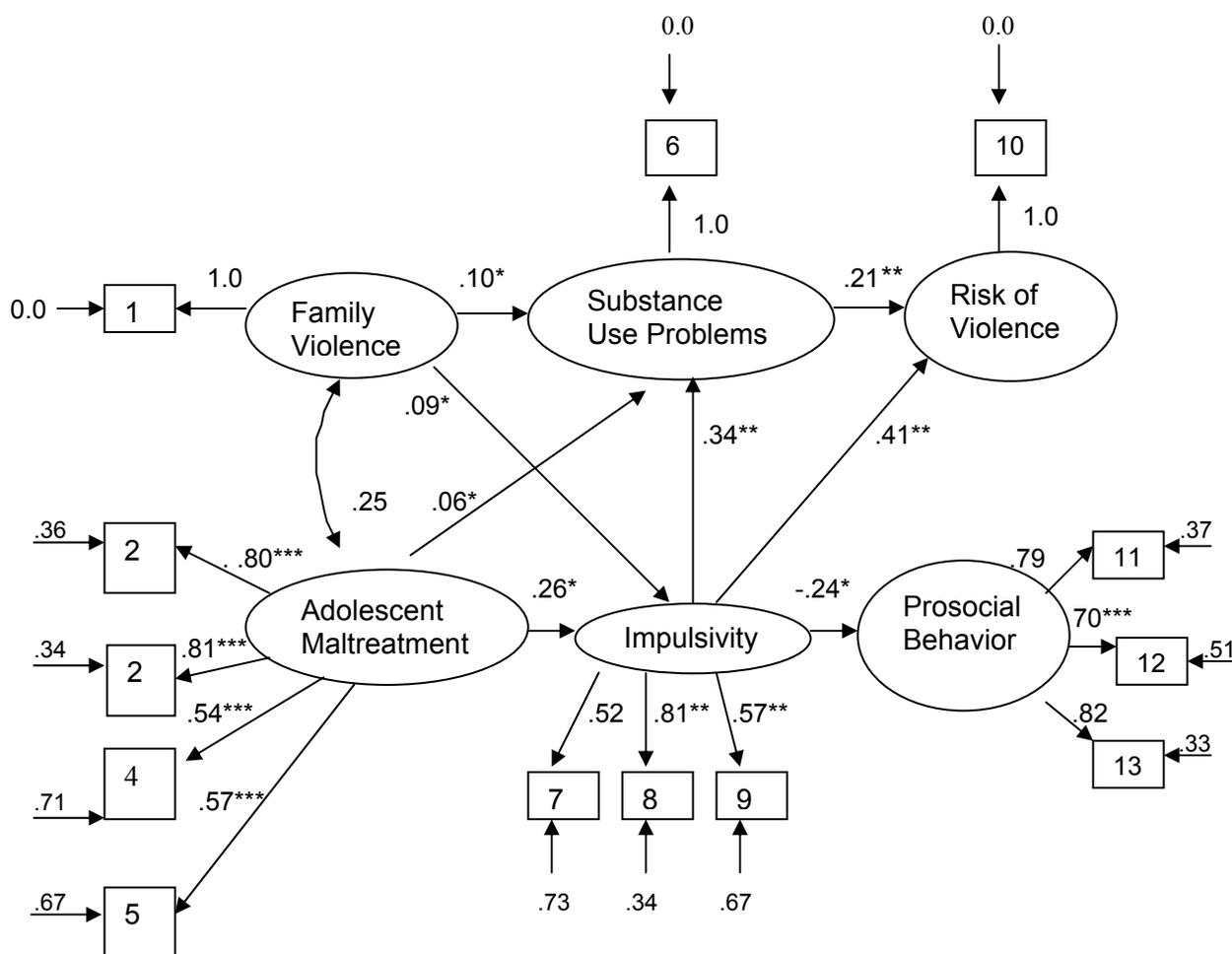


Figure 3. Latent variable structural equation model for testing the mediator effect of impulsivity and substance use problems between family violence/adolescent maltreatment and risk of violence and prosocial behavior in the school sample. Based on a multisample method, model 3 kept 8 structural pathways in the school sample. N = 1152; * p < .05 ** p < .01 *** p < .001

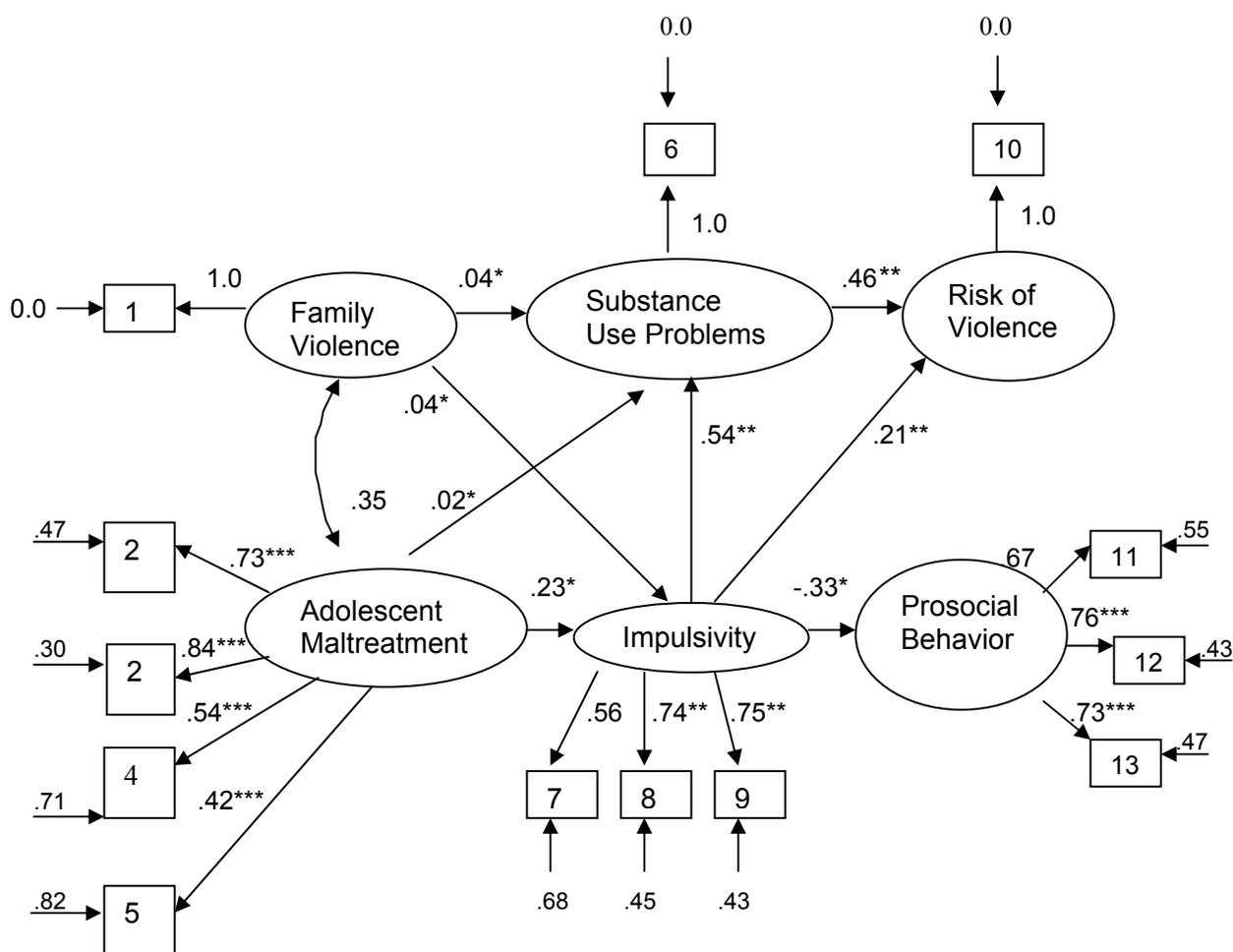


Figure 4. Latent variable structural equation model for testing the mediator effect of impulsivity and substance use problems between family violence/adolescent maltreatment and risk of violence and prosocial behavior in the juvenile offender sample. Model 3 set pathways from impulsivity to substance use problems and from impulsivity to risk of violence freed in juveniles. This procedure allowed comparisons among nested models 3 and 2. $N = 148$; * $p < .05$ ** $p < .01$ *** $p < .001$

The strength of the association between family violence and adolescent maltreatment on risk of violence and pro-social behavior was strongly mediated by impulsivity and substance use problems although unique contributions in each group were salient. For example, the path from impulsivity to substance

use problems was stronger in the juvenile sample than the school sample. In contrast, the path from impulsivity to risk of violence was stronger in the school sample than juveniles. All these associations were significant at a .01 level. Interestingly, the paths from SUP to ROV and from impulsivity to pro-social behavior resulted in a stronger association in the juvenile sample than the school sample (see figure 4).

Group differences were salient when squared multiple correlation for structural equations were calculated. Square multiple correlation is the amount of variance accounted for on the endogenous latent variable (i.e., impulsivity, substance use problems, risk of violence, and prosocial behavior), given a set of exogenous latent constructs (i.e., family violence and adolescent maltreatment). Domestic violence constructs explained 43% of the variance in risk of violence in juveniles when all other constructs were held constant in the structural equation whereas only 27% of the variance was explained in the school sample. Likewise, domestic violence explained 30% of the total variance in substance use problems in juveniles as opposed to 15% in the school sample. Slight group differences also emerged with regard to pro-social behavior; in juveniles; both family violence and maltreatment explained 11% of the variance in prosocial behavior in comparison to 6% in the school sample. With regard to impulsivity, domestic violence explained the same amount of variance in the two groups (i.e., 8% in juveniles and 9% in the school sample).

The reliability of the composite was possible to calculate for maltreatment, impulsivity, and pro-social behavior. Reliability of the composite estimates the extent to which indicators for a given latent construct reflect what they intend to measure within the measurement model (i.e., indicators for other latent constructs are held constant). Higher reliability also expresses low measurement error from indicators. Reliability was estimated based on the completely standardized factor loadings for indicators and the error variances of indicators on each latent construct. Results showed a 78% of reliability for maltreatment for youths in the school sample and 73% for youths in the juvenile offender sample; reliability for impulsivity was 72% in juveniles and 67% for adolescents in the school sample. Surprisingly, the highest percentage of reliability was obtained for pro-social behavior in the school sample (81% vs. 68%).

Discussion

The present study examined two possible mechanisms by which family violence and adolescent maltreatment are associated with increased risk of violence and impaired pro-social behavior among 11-19 year-old adolescents living in Medellin, Colombia, South America. This is the first known study to test a multidimensional model of exposure to domestic violence using a representative sample of high school youths and juvenile offenders. Results revealed significant associations between the predictor variables of family violence and adolescent maltreatment and risk of violence and pro-social behavior in both groups of adolescents. Exposure to family violence and adolescent maltreatment increased the risk of violent behavior and reduced pro-social skills. Thus, adolescents who were exposed to both of these forms of domestic violence reported more use of violent behaviors such as carrying weapons, knives, or responding by physically fight, and limited capacity to respond proactively towards others.

The findings are consistent with previous literature demonstrating the links of violence exposure and aggressive behaviors both at home and school (Farrell & Bruce, 1997; Linares et al. 2001; Lynch & Cicchetti, 1998; Schwab-Stone, 1995). Nonetheless, juveniles who were exposed to domestic violence exhibited greater responses to stressors than youths in the school sample. In this regard, it is likely that juveniles in this sample had more disadvantages than students in terms of educational opportunities, living conditions, and financial

support although SES was not directly measured. The strong links between domestic violence and adjustment in the juvenile offender group relative to the student sample may have been associated with more environmental factors in their lives.

The violent responses documented in the study are the result of complex individual, proximal and distal processes (Wachs, 2000) during childhood and adolescence. More importantly, these processes have cumulative effects, which in turn, may have heightened deleterious consequences for a normal development (Garbarino et al. 1992). In Colombia, children and adolescent's mortality caused by intentional injury has escalated dramatically in the last 15 years. In the World Report of Violence (2002), Colombia displayed one of the highest rates of deaths related to violence against children and adolescents ages 5 to 14 year old in 1995 (i.e., 2.3 per 100.000 population). Yet, when distal factors such as forced family displacement and social conflict are coupled with proximal factors such as death threats or kidnapping against a family member (Torres de Galvis & Posada, 1993), family violence and maltreatment may be more likely to occur.

Comparisons between students and juveniles in the present study were possible from an original case-control design (Maya et al., 2000) aimed at identifying factors associated with violence and prosocial behavior in a local representative sample of youths in Medellin. Maya and colleagues found significant differences between students (controls) and juvenile delinquents

(cases) in Colombia: 16% of controls reached the same level of risk of violent behavior (i.e., 4 or more positive responses to the risk of violence scale) as youths in the delinquent sample. The social reality in Colombia is that regardless of social status, youths are being exposed to the rising tide of violence in this Latin American country.

An ecological-transactional perspective of the effects of domestic violence on development (Cicchetti & Lynch 1993) suggests that potentiating factors such as family violence or maltreatment may transact with elements from the individual or proximal environment to shape adaptive or maladaptive behavior. Among Colombian adolescents, for example, Kliewer et al. (2001) found that exposure to violence against a family member was associated with internalizing symptoms. When families were highly cohesive, adolescents displayed lower internalizing symptoms than those adolescents whose families were less cohesive. To date, although several risk and protective factors have been linked to substance use and violence during adolescence in Colombia (Torres de Galvis 1997; Maya et al. 2000), there is no evidence of putative mediator processes to explain the escalating levels of violent responses and crime nor evidence of resilient outcomes based on a multidimensional causal model.

Impulsivity and substance use problems were hypothesized as mediators of the relation between family violence/maltreatment and risk of violence and pro-social behavior. Structural equation analyses demonstrated that associations of family violence in combination with adolescent maltreatment

with risk of violence and pro-social behavior was mediated by both impulsive behavior and substance use problems. Consistent with the literature of the effects of violence exposure and substance use based on a national representative sample of adolescents (Acierno et al., 2000; Kilpatrick et al., 2000), exposure to domestic violence was associated with substance use problems in the past year in the two groups examined after accounting for the structural effects of other latent constructs. Nonetheless, the presence of family violence did not strongly predict substance use problems, as did adolescent maltreatment.

If youths perceived family violence as having a low impact on their well-being, adolescents may have become desensitized to the effects of chronic family violence exposure (Farrell & Bruce, 1997); yet, little impact on substance use problems was observed. Furthermore, an imminent threat such as victimization (i.e., maltreatment) may also serve as an alternative explanation to the impact of family violence because the former exerts a greater effect on outcomes than witnessing a violent event (Schwab-Stone, Chen, Greenberger, Silver, Lichtman, & Voyce, 1999; Schwartz & Proctor, 2000).

Though persistent maltreatment has been associated with drug use, alcohol-related problems, teen pregnancy, school drop out, delinquency and internalizing-externalizing behaviors (Thornberry, Irelan, & Smith, 2001), it is likely that youths who were victimized in this study may have had a greater tendency to overt violent behaviors than those who only witnessed family

violence. Victims of physical or sexual abuse have been found to have greater authority problems (e.g., disobedience) and increased overt behaviors (e.g., property damage) than those who engaged in covert behaviors such as shoplifting or burglary (Stouthamer –Loeber et al., 2001). Among juveniles in Colombia who committed homicide, 40.3% were under the effects of alcohol or other illicit drugs. Also, among youths in the school sample, it was striking that 9% carried weapons on the streets and 9.7 % in the schools (Maya et al., 2000). Thus, more severe patterns of crime may have been initiated with a high proportion of misdemeanors in both groups perpetuated by the use of alcohol and illicit substances. This finding is supported by the literature with behaviors that involve authority conflict because maltreated youths who take the overt pathways are more likely than non-maltreated adolescents to have a referral to juvenile court (Stouthamer –Loeber et al. 2001).

Substance use problems partially mediated links between family violence/adolescent maltreatment and risk of violence. However, links between family violence/adolescent maltreatment and risk of violence were strongly mediated by impulsivity, especially when adolescents were maltreated. Adolescents who had been maltreated were more likely to exhibit uninhibited behavior (i.e., increased impulsive responses). This impulsive behavior was, in turn, associated with greater substance use problems and risk of violence. Additionally, impulsivity explained why family violence and adolescent maltreatment were associated with risk of violence and pro-social behavior.

Students versus juvenile offenders had a stronger pathway from impulsivity to risk of violence. Conversely, the extent of violent behavior was strongly mediated by substance use among juveniles. Furthermore, youths who had been maltreated were more likely to have impulsive responses, which in turn, led them to react less prosocially toward their peers at school.

The mediating role of impulsivity in adolescents' violent and pro-social behavior may be understood within the developmental theory of information-processing (Crick & Dodge, 1994). A major advantage of this model has to do with its comprehensiveness and support of the relation between information-processing styles and adolescent's social adjustment. This theory explains emotion regulation as adaptive and competent social behavior (i.e., social competence) as well as the extent of uninhibited incompetent behavior when stressful social situations challenge adolescents. Crick and Dodge (1994) reformulated a previous model of social information processing of children and adolescents' social adjustment. This information-processing model proposes that as children, adolescents have a limited set of biological capabilities of past experiences or database of social schemas and social knowledge. New cues from the environment (input) trigger a behavioral response that has to do with how the child processes those cues.

According to the five steps proposed in this theory, one may understand the engagement in social behaviors that lead to substance use problems, violent behavior and impaired pro-social responses. First, internal and external

cues are encoded; yet, mental representations of the social situation challenge adolescents. In the context of maltreatment, verbal or physical abuse (i.e., external cues) may be first internally encoded. Second, an interpretation emerges from past schemas (memory) and new knowledge from the situation. When adolescents are chronically maltreated, negative experiences within the family may distort appropriate and competent behavior in response to stressful social situations. Third, interpreting the social situation involves the clarification of goals. Goals act as arousal states; for example, adolescents bring previous goal orientations as well as formulate new ones depending upon the social stimuli. When maltreated Colombian youths perceive violence as an effective goal to appropriately solve problems or conflicts, their lack of control or impulsive behavior tends to worsen aggressive responses (Shields & Cicchetti, 1998) or favor the engagement in substance use. In other words, the risk of violent behavior and substance use could be linked to a deficit in executive control (i.e., attentional control, cognitive flexibility, goal persistence, and abstract reasoning), which is frequently seen among substance abusers (Dawes, Tarter, & Kirisci, 1997; Giancola, & Tarter, 1999). This pattern of dysregulation may have exacerbated the risk of substance use problems among juvenile offenders; or may have prompted youths in the school sample to heightened levels of aggressiveness.

The next step in the Crick and Dodge (1994) model involves response access or construction (e.g., previous successful coping strategies as well as

new cues favor future adaptive cognitive and behavioral responses). It is possible that impulsivity may lead to substance use problems as a way to avoid a stressful home environment. In this regard, coping strategies such as avoidance (e.g., cognitive avoidance, resigned acceptance, alternative rewards, and emotional discharge) have been found to influence maladaptive behavioral responses (Ebata & Moos, 1994). Engagement in substance use, mainly among juvenile offenders, may be hypothesized as an avoidant coping mechanism for which to overcome high stressful experiences such as maltreatment.

The fifth and sixth steps include response decisions and behavioral enactment that allow the adolescent to reframe the situation and evaluate the efficacy of his/her responses. Studies have found that high levels impulsivity and low self-efficacy may account for aggressive behavior among Hispanics in the United States (Flannery, Vazsonyi, Torquati, & Fridrich, 1994). Since self-efficacy expectations and outcome expectations are situation and behavior-specific (Maddux, 1995), the frequency and severity of maltreatment experiences lowered self-efficacy expectations among Colombian adolescents, which ultimately, increased violent responses and had an impact on pro-social behavior.

Pro-social behavior can be seen as an adaptive functioning domain that is affected when adolescents are maltreated. As Cicchetti, Rogosch, and Lynch (1993) demonstrated, phenotypic processes such as ego-control and ego-

resilience may buffer the effect of maltreatment in the home and promote adaptive outcomes. Because of the mediation effect of impulsivity between maltreatment and pro-social behavior was larger among Colombian youths in the school sample, it is likely that juvenile offenders had lower adaptive functioning skills with peers due to lower ego-control or dysregulated behavior.

It is interesting to note that differences between groups in terms of pro-social behavior may have encompassed higher environmental factors for juvenile delinquents. A recent study of resilience in Colombian youths (Klevens & Roca, 1999) identified individual factors related to resilience and vulnerability to violence and offending behavior. Using a life history approach, there were notable differences between resilient men and offenders. Offenders lived more serious conditions (e.g., abandonment, parental death, and extreme poverty) than resilient men. Also, offenders as supposed to resilient men did not include during their narratives their feelings about life events, and perceived little or not control over their own behavior, attributing their behavior to parents or an adverse environment.

Limitations and Implications for Future Research

Study limitations that constrained my ability to examine the relations among domestic violence measures, impulsivity, substance use problems, risk of violence, and pro-social behavior must be acknowledged. First, although a panel of experts in Colombia selected the items to be included in the measure of domestic violence, there were not enough items in each category of

maltreatment (e.g., sexual and physical abuse, physical neglect, emotional maltreatment, moral-legal maltreatment, educational maltreatment) that have been systematically and empirically validated (Barnett, Manly, & Cicchetti, 1993). This meant that the amount of maltreatment may have been underestimated. Second, although family violence was re-coded to measure the frequency of events (i.e., occurrence versus non-occurrence of the event) as opposed to impact, further studies should include more categories about the frequency of family violence to better understand its association with substance use and impulsivity in youths. Third, although family violence occurred during the last two years and adolescent maltreatment was measured during adolescent's lifetime, we do not know exactly the psychological impact of recent domestic violence on Colombian youths.

Fourth, measures of family violence did not specify to whom or from whom the violent act was committed (e.g., to the mother from the father, mother to father, partner to mother). The impact of family violence may depend in part on this information. Five, since the data was self-reported from youths, the sensitive nature of the topic may have precluded adolescents from honestly answering the questions; reports of family violence from other sources in Colombia would have added internal validity to measures of domestic violence in the present study. Sixth, the lack of further reliability data (e.g., test re-test) and discriminant validity analyses from studies addressing domestic violence in Colombia and different outcomes reduces its construct validity. Seventh,

putative mediators such as peer nominations of substance use problems or impulsivity or peer-oriented constructs were not included in the study. Self-regulation, substance use and violence are likely associated with peer relationships during adolescence (Dawes, Clark, Moss, Kirisci, & Tarter, 1999; Tarter, Schultz, Kirisci, & Dunn 2001).

Findings in this study have implications for secondary prevention of domestic violence in Colombian adolescents. Due to the large sample, the epidemiological methods utilized in this study, and high external validity, impulsive behavior and substance use problems can be targeted in community interventions. These programs should be aimed at reducing violent responses and maladaptive goals towards resolving problems through violence and promoting resilient outcomes such as pro-social behavior at school and home. Studies should also include longitudinal follow-up in order to provide temporal relationships among theoretical pathways.

Furthermore, if I were to test a similar model in American adolescents, it could be possible that the putative mediators tested in this study differ in both cultures due to variations in determinants of crime and violence. Since Colombian youths are living in one of the most adverse environments in the world (World Health Organization, 2002), it is likely that distal processes (Wachs, 2000) such as poverty levels, inadequate housing, lack of public services, high population density, and elevated rates of unemployment (World Bank, 2002) may have a greater interaction with proximal processes such as

domestic violence in Colombian youths than adolescents in the United States. This set of distal factors may have accounted for a greater tendency to using drugs and impaired prosocial behavior among juvenile offenders than students in the present study.

It is also possible that cultural factors may greatly influence psychological outcomes in Latino-American countries than in the United States. For example, in Costa Rica, parents have acknowledged using physical punishment to discipline children, but reported it as their least preferred method (Lopez, 2000). Nonetheless, further research may adjust the definition of family violence and maltreatment according to cultural variation across countries. Finally, it is necessary to test similar pathways of impulsive behavior, substance use (i.e., including alcohol abuse and dependence), and incorporate measures of community violence exposure along with domestic violence indicators in both countries.

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Appendix A

Response Scale:

1. Did not occur
2. Did not affect us
3. It affected us in some degree
4. It affected us a lot

Indicators:

1. Parental fights
2. Paternal maltreatment towards the mother
3. Children were maltreated
4. There was violence among family members
5. One of the parents abandoned the family

Appendix B

Response Scale

1. Never
 2. Rarely
 3. Sometimes
 4. Frequently
 5. Almost Always
- 1) You were disapproved or insulted for your behavior
 - 2) Your parents made you feel unworthy
 - 3) Your parents took things that you like away
 - 4) You were physically punished/abused

Appendix C

Response Scale:

1. Never
2. Occasionally
3. Almost always
4. Always

Indicators:

1. While playing, I get impatient awaiting my turn
2. I cannot stay seated too long
3. When angry I slam doors
4. I have difficulties to following directions
5. I like to do risky things
6. I like to have different experiences even when I know something bad might happen
7. I prefer friends who hang out a lot in parties
8. I think on the problem before doing something
9. I prefer to watch TV programs with high violence content

Appendix D

Response Scale

1. Yes

0. No

Indicators:

1. Have you disregarded social rules for being under drug effects?
2. Have you fought because of drug use?
3. Have you increased the amount of drug to get the same effect?
4. Have you hurt someone under drug effects?
5. Have you felt trapped due to your drug use?
6. Have you prevented yourself of participating in activities for spending so much in drugs?
7. Have you felt you ought to control your substance use but you cannot do it?
8. Have you had difficulties to say no when you are asked to use drugs?
9. Have you felt intense desire to use drugs?
10. Have you had and accident under drug effects?
11. Have you had problem to get along with a friend due to your drug use?

Appendix E

Response Scale:

1. Yes

0. No

Indicators:

1. Have you carried a weapon on the streets?
2. Have you carried a weapon at school?
3. Have you carried a knife at school?
4. Have you been hurt in a fight?
5. Have you carried a knife on the streets?
6. Have you ever been medically assisted due to a fight?
7. Have you ever had a fight with physical aggression?
8. Have you ever threatened others to cause them harm?
9. Have you ever hurt or maltreated animals?

Appendix F

Response Scale

1. Always
2. Almost Always
3. Never

Indicators:

1. I always try to stop a fight
2. Without other's request, I help to clean up and organize objects
3. I try to help people as needed
4. Once I have the opportunity, I let people feel that their work is worthy even though they have fewer capabilities than I do.
5. I'm sympathetic to whom have gotten a mistake
6. I help others when they have difficulties to accomplish a task
7. I help others when they feel sick
8. I provide comfort to others when they cry
9. I voluntarily help to clean what other people have messed up

9. En nuestra familia	Nunca	Rara Vez	Algunas Veces	Con Frecuencia	Casi Siempre	12. Si en su familia se presentaron las siguientes situaciones durante los ULTIMOS DOS AÑOS , indique en que forma <u>los afectó</u> .	No Ocurrió	No nos afectó	Afecto ALGO	Afecto MUCHO
	1	2	3	4	5		1	2	3	4
a. Nos gusta pasar juntos el tiempo libre.						a. Los padres se separaron o divorciaron.				
b. Cada persona expresa fácilmente lo que desea.						b. Hubo problemas de dinero en la casa.				
c. Nos ayudamos unos a otros.						c. Hubo violencia entre los miembros de la familia.				
d. Las ideas de los hijos son tenidas en cuenta para la solución de los problemas.						d. Uno o ambos padres se unieron a una nueva pareja (compañero o compañera) o se volvieron a casar.				
e. Cuando surgen problemas nos unimos para resolverlos.						e. Uno de los miembros (hijos, padres) tuvo problemas legales.				
f. Nos turnamos las tareas y responsabilidades de la casa.						f. La familia cambio de lugar de residencia de una ciudad a otra.				
10. Con relación a sus parientes...	1	2	3	4	5	g. Uno de los hijos se fugo de la casa.				
a. La familia comparte con parientes cercanos en los eventos importantes.						h. Por problemas económicos tuvo que cambiar de residencia a un barrio peor.				
b. Estoy satisfecho con la relación con mis parientes.						i. Uno de los miembros de la familia murió por causa violenta.				
11. ¿Está satisfecho con los siguientes aspectos de su vida?	Muy Insatisfecho	Insatisfecho	Ni lo uno Ni lo otro	Satisfecho	Muy Satisfecho	j. Un miembro de la familia fue tratado por problemas emocionales.				
	1	2	3	4	5	k. El padre quedó sin trabajo.				
a. Con usted mismo.						l. El padre maltrato a la madre.				
b. Con sus amigos.						m. Disgustos por alcoholismo.				
c. Con su barrio o comunidad.						n. Uno de los padres abandono la familia.				
d. Con su familia.						d. Les falto comida.				
e. Con la situación económica de su familia.						e. Los hijos fueron maltratados.				
f. Con su colegio.						f. Problemas por uso de droga.				
e. Su religión.						g. Peleas entre los padres.				

13. ¿Cuándo tiene dificultades, a quién acude para buscar apoyo? Si no tiene ponga una X en la columna 0 (No aplica)	No aplica	Nunca	Rara vez	Algunas Veces	Con Frecuencia	Casi Siempre
	0	1	2	3	4	5
a. Cuenta con el apoyo de sus padres.						
b. Cuenta con el apoyo de sus hermanos.						
c. Cuenta con el apoyo de otros de sus parientes.						
d. Cuenta con el apoyo de su pareja (novio o novia)						
e. Amigos personales.						
f. Otro/s adultos.						

14. Lea las siguientes actividades e identifique si las realizan o no en su familia. Si no tiene ponga una X en la columna 0 (No aplica)	No Aplica	Nunca	Rara vez	Algunas Veces	Con Frecuencia	Casi Siempre
	0	1	2	3	4	5
a. Su PADRE dedica algún tiempo a hablar con sus hijos.						
b. Su MADRE dedica algún tiempo a hablar con sus hijos.						
c. La familia completa comparte alguna comida cada día.						
d. Nosotros tomamos cada noche, un tiempo para compartir.						
e. Hacemos algo como familia por lo menos una vez /semana.						

15. ¿En general cómo es su relación con su <u>padre</u> ? Si no tiene poner una X en la columna 0 (No aplica)	No Aplica	Nunca	Rara vez	Algunas Veces	Con Frecuencia	Casi Siempre
	0	1	2	3	4	5
a. Estoy satisfecho en la forma que conversamos.						
b. Me es fácil expresarle todos mis sentimientos.						
c. El puede saber como me estoy sintiendo aún sin preguntármelo.						
d. Si yo estuviera en dificultades podría contárselo.						

16. ¿En general cómo es su relación con su <u>madre</u> ? Si no tiene poner una X en la columna 0 (No aplica)	0	1	2	3	4	5
	a. Estoy satisfecho en la forma que conversamos.					
b. Me es fácil expresarle todos mis sentimientos						
c. Ella puede saber como me estoy sintiendo aún sin preguntármelo.						
d. Si yo estuviera en dificultades podría contárselo.						

17. Con relación al ejercicio de autoridad en su familia, quien ...	La Madre	El Padre	Ambos	Pareja del Padre	Pareja de la Madre	Otra Persona	Cambia	No sé
	0	1	2	3	4	5	6	7
a. Impone las reglas.								
b. Da los permisos.								
c. Regaña o impone castigos.								

18. ¿Cómo se considera usted comparándose con sus amigos y/o familiares? (SELECCIONE SOLO UNA RESPUESTA)	Señale con X	19. Cómo le va a usted en los estudios, comparándose con los demás compañeros. (SELECCIONE SOLO UNA RESPUESTA)	Señale con X
a. Uno de los <u>menos</u> felices.		a. <u>No estudio ahora.</u>	
b. Menos feliz que la mayoría.		b. Mucho <u>peor</u> que a la mayoría.	
c. Tan feliz como la mayoría.		c. Un poco peor que a la mayoría.	
d. Más feliz que la mayoría.		d. Igual.	
e. Uno de los más felices.		e. Un poco mejor que la mayoría.	
		f. Mucho <u>mejor</u> que la mayoría.	

20. Por favor responda teniendo en cuenta DURANTE SU VIDA	Si 1	No 2
a. Ha discutido mucho.		
b. Ha molestado o hecho daño a los animales.		
c. Ha estado muy malgeniado.		
d. Ha amenazado a otros con hacerles daño.		
e. Le ha dado rabia con facilidad.		
f. Ha hecho cosas sin pensar en las consecuencias.		
g. Ha hecho cosas peligrosas con frecuencia.		
h. Ha pasado a solas la mayor parte del tiempo.		

21. Por favor responda teniendo en cuenta EL ULTIMO AÑO	Si 1	No 2
a. Ha tenido peleas con sus compañeros.		
b. Ha dañado intencionalmente cosas de otras personas.		
c. Se ha sentido inquieto en la misma posición.		
d. Ha robado algo.		
e. Se ha sentido frustrado con facilidad.		
f. Se ha sentido triste con frecuencia.		
g. Ha estado nervioso.		
h. Ha sentido miedo con facilidad.		
i. Ha sentido que lo miran fijamente.		
j. Ha sentido miedo de estar con otras personas.		
k. Ha sentido ruidos que los otros no escuchan.		
l. Con frecuencia ha sentido ganas de llorar.		

22. Por favor responda teniendo en cuenta TODA SU VIDA	Si 1	No 2
a. Ha sido rechazado por sus compañeros.		
b. Le ha sido difícil hacer amigos en grupos nuevos.		
c. Cree que otras personas se han aprovechado de usted.		
d. Ha sentido miedo de defender sus derechos.		
e. Le ha sido difícil pedir ayuda a otros.		
f. Se ha dejado influenciar por los compañeros.		
g. Ha tenido dificultad para defender sus opiniones.		
h. Lo han visto como una persona antipática.		
i. Ha tenido dificultad para entablar una relación duradera.		

23. Por favor responda teniendo en cuenta LOS ULTIMOS 2 AÑOS	Si 1	No 2
a. Ha tenido problema para concentrarse cuando estudia.		
b. Ha faltado al colegio más de dos días al mes.		
c. Ha pensado seriamente en abandonar los estudios.		
d. Sus notas han estado peores que antes.		
e. Se ha sentido rechazado por otros en el colegio.		
f. Han interferido el alcohol o las drogas en sus tareas.		
g. Ha dejado de ir al colegio debido al uso de alcohol o drogas.		
h. Lo han suspendido del colegio.		

24. Por favor responda teniendo en cuenta TODA SU VIDA	Si 1	No 2
a. Alguno de sus amigos ha usado alcohol o drogas.		
b. Algunos de sus compañeros le han vendido droga a un compañero.		
c. A sus padres les han disgustado sus amigos.		
d. Algunos de sus amigos han tenido problemas con las autoridades.		
f. Sus amigos han faltado mucho al colegio.		
g. Se han aburrido sus amigos en las fiestas donde no hay trago.		
h. Sus amigos han robado algo en almacenes a propósito.		
i. Comparado con sus compañeros, usted ha tenido menos amigos.		
j. Ha pertenecido usted a una pandilla o grupo fuera de la ley.		

25. Por favor responda teniendo en cuenta EL ULTIMO AÑO con relación al ALCOHOL...	Si 1	No 2
a. Ha sentido deseo intenso de usar alcohol.		
b. Ha aumentado la cantidad de alcohol para sentir el mismo efecto.		
c. Ha sentido que no ha podido controlar el uso de alcohol.		
d. Se ha sentido atrapado por el alcohol.		
h. Ha dejado de participar en actividades por haber gastado mucho en alcohol.		
i. Ha pasado por alto las reglas por estar bajo efecto de alcohol.		
j. Tuvo un accidente de tránsito bajo efecto de alcohol.		
h. Ha herido a alguien bajo alcohol.		

i. Ha peleado debido a alcohol.		
j. Ha tenido problemas para llevarse bien con algún amigo debido a alcohol.		
i. Ha tenido dificultad para decir no cuando le ofrecen alcohol.		

26. Por favor responda teniendo en cuenta EL ULTIMO AÑO Estas preguntas se refieren al uso de MARIHUANA U OTRA DROGA.	Si 1	No 2
a. Ha sentido deseo intenso de usar drogas.		
b. Ha aumentado la cantidad de droga para el mismo efecto.		
c. Ha sentido que no ha podido controlar el uso de droga.		
d. Se ha sentido atrapado por la droga.		
h. Ha dejado de participar en actividades por haber gastado mucho en drogas.		
i. Ha pasado por alto las reglas por estar bajo efecto de drogas.		
j. Tuvo un accidente de tránsito bajo efecto de droga.		
h. Ha herido a alguien bajo droga.		
i. Ha peleado debido a uso de droga.		
j. Ha tenido problemas para llevarse bien con algún amigo debido a las drogas.		
i. Ha tenido dificultad para decir no cuando le ofrecen droga.		

27. Por favor lea cada frase y coloque una X en la respuesta que considere más adecuada	Nunca	Ocasional mente	Casi siempre	Siempre
a. Siento que soy físicamente atractivo.				
b. Tengo dudas de lo que me espera en la vida.				
c. Le gusto a la gente.				
d. Soy capaz con mis responsabilidades.				
e. Tengo problemas para hacer planes, pues no sé lo que quiero.				
f. Los demás me rechazan fácilmente.				
g. Me imagino como será mi vida en 5 años.				
h. Me siento saludable.				
i. Tengo una pobre opinión de mí mismo.				
j. Tengo dificultades para tener una relación amorosa.				
k. Mis compañeros no me incluyen en sus actividades sociales.				
l. Sé quien soy y que haré en la vida.				
m. Creo que no soy constante ni disciplinado en las cosas.				
n. La gente me ve como persona muy competente.				
o. Siento que soy capaz de aprender nuevas cosas rápidamente.				
p. Las personas disfrutan de mi compañía.				
q. Si estoy en problemas se que soy capaz de resolverlos por mí mismo.				

28. Por favor lea cada frase y coloque una X en la respuesta que considere más adecuada	Nunca	Ocasional mente	Casi siempre	Siempre
a. Cuando juego me pongo impaciente esperando mi turno.				
b. No puedo estar sentado por mucho tiempo.				
c. Cuando estoy furioso tiro las puertas.				

d. Tengo dificultad en seguir instrucciones.				
f. Me gusta hacer cosas peligrosas.				
f. Me gusta tener toda clase de experiencias, aun cuando sepa que me puede suceder algo malo.				
g. Prefiero los amigos que rumbean mucho.				
h. Pienso muy bien antes de hacer algo.				
i. Prefiero ver programas de aspectos violentos en la TV.				

29. Por favor lea cada frase y coloque una X en la respuesta que considere más adecuada	Siempre	Casi Siempre	Nunca
a. Cuando hay una pelea siempre trato de detenerla.			
b. Sin que nadie me lo pida ayudo a recoger y ordenar los objetos que se han caído o están en desorden.			
c. Trato de ayudar a las personas cuando lo necesitan.			
d. Cuando tengo la oportunidad valoro el trabajo de otras personas con menos capacidades que las mías.			
e. Demuestro simpatía con los que han cometido un error.			
f. Ayudo a otros cuando tienen dificultades en realizar una tarea.			
g. Ayudo a otras personas cuando se sienten enfermas.			
h. Consuelo a las personas cuando están llorando.			
i. Voluntariamente ayudo a limpiar lo que otros han desordenado.			

30. Por favor lea cada frase y coloque una X en la respuesta que considere más adecuada	Nunca	Ocasional mente	Casi Siempre	Siempre
a. Estoy de mal humor todo el tiempo.				
b. Me gusta provocar peleas.				
c. Me enfurezco cuando se ríen de mí.				
d. Creo que tengo mucha paciencia.				
e. Cuando estoy cansado fácilmente pierdo el control.				
f. Cuando estoy irritado no tolero discusiones.				
g. Creo que se justifica recurrir a la violencia.				
h. Cuando otros me alzan la voz yo la alzo más fuerte.				
i. Muchas personas me irritan con sólo escuchar su voz.				
j. Cuando tengo la razón, tengo la razón.				
k. Cuando alguien insulta a mi familia se mete en problemas.				

32. Por favor lea cada frase y coloque una X en la respuesta que considere más adecuada. ALGUNA VEZ EN SU VIDA	<u>Si</u> 1	No 2
a. Ha portado un cuchillo o una navaja en la calle?		
b. Ha portado un arma de fuego en la calle?		
c. Ha portado un cuchillo o una navaja en el colegio?		

d. Ha portado un arma de fuego en el colegio?		
e. Ha tenido una pelea con agresión física?		
f. Ha sido herido en una pelea?		
g. Ha tenido que ser atendido por el médico debido a una pelea?		

33. Por favor lea cada frase y coloque una X en la respuesta que considere más adecuada.	<u>Si</u>	No
	1	2
a. ¿Usted se preocupa por conservar su salud?		
b. ¿Hace ejercicio regularmente?		
c. ¿Se lava los dientes y usa seda dental regularmente?		
d. ¿Usa cinturón de seguridad o casco para protegerse en caso de accidentes ?		

32. Con que frecuencia....	Casi Todos los Días	2 o 3 veces semana	1 o 2 veces semana	Casi Nunca
	1	2	3	4
a. ¿Asiste a misa o reuniones religiosas?				
b. ¿Practica algún deporte?				
c. ¿Se reúne en familia?				
d. ¿Mira series o películas en la televisión donde hay peleas como los Power Rangers, Highlander, policíacos, pistoleros, guerra, etc.?				
e. ¿Asiste a un Club Juvenil o Casa de la Juventud?				

Por favor escoja la mejor respuesta y márkela con una X. Con relación a las sustancias psicoactivas usted las ha consumido.... Si no las ha usado marque en la columna 6.	Ultimo Día	Ultima Semana	Ultimo Mes	Ultimo Año	Hace Más de Un	Nunca las ha consumido
	1	2	3	4	5	6
33. Marihuana						
34. Basuca						
35. Cocaína						
36. Inhalantes (gasolina, pegantes, etc)						
37. Tranquilizantes (pepas para los nervios)						
38. Otras pepas de uso no médico						
39. Cigarrillo						
40. Bebidas alcohólicas						
41. Bebidas alcohólicas hasta emborrachar						
42. ¿Cuál fue la primera sustancia que consumió en su vida?						
43. ¿Qué edad tenía cuando la consumió por primera vez?						

44. ¿Que opina usted sobre las siguientes creencias?	Muy de Acuerdo	Algo de Acuerdo	Algo en Desacuerdo	Muy en Desacuerdo		
	1	2	4	5		
a. Para educar a los niños, a veces es necesario el castigo físico.						
b. Si las autoridades fallan, la gente tiene derecho de hacer justicia por su propia cuenta.						
c. Si a uno lo insultan o le pegan, lo mejor es responder de la misma manera.						
d. Una persona tiene derecho a matar para defender su casa o propiedad.						
e. El tener un arma en la casa hace que la casa esté más segura.						
f. Una persona que porta armas está más segura.						
g. Usted cree que la vida es injusta con usted.						
h. Usted cree que la gente es amigable sólo cuando necesita algo de usted.						
i. Usted cree que hoy en día, es difícil saber en quién confiar.						
j. Usted cree que para hacer dinero, no hay formas buenas ni malas, sólo fáciles o difíciles.						
k. Usted cree que para salir adelante en la vida es más importante tener buenas conexiones que haber estudiado y tener habilidades.						
45. ¿En general cómo es su relación con su <u>MAESTRO</u> ?	No Aplica	Nunca	Rara vez	Algunas Veces	Con Frecuencia	Casi Siempre
	0	1	2	3	4	5
a. Estoy satisfecho en la forma como me relaciono con mis maestros.						
b. Me es fácil expresarle lo que siento con relación a las dificultades académicas						
c. El puede saber como me estoy sintiendo aún sin preguntármelo.						
d. Si yo tuviera problemas personales me escucharía.						
d. Si yo estuviera en dificultades con mis compañeros podría contárselo.						
46. Con respecto a las formas de corrección cuando ha cometido errores EN SU FAMILIA	Nunca	Rara vez	Algunas Veces	Con Frecuencia	Casi Siempre	
	1	2	3	4	5	
a. ¿Lo llamaron a dialogo?						
b. ¿Le llamaron la atención verbalmente?						
c. ¿ Lo desaprobaron o insultaron por su comportamiento?						
d. ¿ Lo desvalorizaron?						
e. ¿Lo privaron de las cosas a que tiene derecho o le gustan?						
f. ¿ Lo castigaron físicamente?						

47. Pensando en los primeros 15 años de su vida. Con qué frecuencia su abuelito o abuelita:	Mucha	Frecuente mente	A Veces	Nunca	No Aplica
	1	2	3	0	8
18 - Estuvo con usted					
19 - Le expresaba amor					
20 - Le daba consejos y le escuchaba sus inquietudes					

48. Con relación a la situación que se vive en la ciudad, usted cree que...	Seguramente 1	Posiblemente 2	No Sé 3	Imposible 4
a. ¿Mejorará?				
b. ¿Que los jóvenes juegan un papel importante para cambiarla?				
c. ¿Que los actuales esfuerzos del gobierno, construirán a lograr la paz?				

49. ¿Si pudiera hacer realidad su mayor deseo, cuál sería? _____

50. Por qué cree usted que LOS JÓVENES comienzan a tener dificultades con la justicia....	Si 1	No. 2	51. ¿Cómo comenzó a tener problemas con la justicia?	Si 1	No 1
a. Problemas económicos.			a. Por riñas familiares.		
b. Ambición.			b. Por riñas con amigos.		
c. Por un reto personal.			c. Por riñas en el barrio.		
d. Por presión de otros.			d. Por seguir a mis amigos.		
e. Deseo de experimentar cosas peligrosas.			e. Bajo el consumo de bebidas alcohólicas.		
f. Porque alguien tiene que arreglar este país.			d. Bajo el consumo de marihuana u otras drogas.		
g. Por imitar a otros.			e. Por portar armas.		
h. Por consumir drogas.			f. Por negociar con drogas.		
h. Por conseguir con que comprar drogas.			g. Por invitación u ordenes de un adulto.		
i. Por estar bajo el efecto del alcohol.			h. Por escapar de mi casa.		

52. Antes de estar en la situación actual....	Número de Veces	
a. Fue abordado sólo para requisita y revisión de documentos de identificación		
b. Estuvo en detención transitoria en comisaria o inspección y luego puesto en libertad		
c. Asistió a programas reeducativos por decisión de un juez		
d. Estuvo detenido en la cárcel		

58. ¿ Su comportamiento cuando cometió..... fue?	No aplica	Fue Planeado	Sin Planearlo	Bajo Efecto de Drogas o Alcohol
a. Hurto calificado o agravado				
b. Porte ilegal de armas				
c. Tentativa de homicidio				
d. Homicidio				
e. Secuestro				
f. Acceso carnal violento				
g. Extorsión.				

59. Qué tan de acuerdo está con que las siguientes situaciones lo ayudarían a mejorar su futuro?	Muy de Acuerdo	De acuerdo	Es posible	No está de Acuerdo
	1	2	3	4
a. Programas educativos.				
b. Opciones de trabajo.				
c. Apoyo de la familia.				
d. Alejarse de las malas compañías.				

60. ¿Qué le aconsejaría a los jóvenes para evitar problemas con la justicia?

61. ¿Qué le aconsejaría a los padres para evitar que sus hijos tuvieran problemas con la justicia?

Vita

Roberto Mejia was born on May 20, 1969, in Bogotá, Colombia South America. He received his degree in Dentistry from the Institute for Health Sciences in Medellin, Colombia in 1992. In 1995, he received a Master of Sciences in Epidemiology as well as a specialization in Mental Health Epidemiology from the same university in 1999. In order to continue his advancement in violence and substance use research, he started graduate studies in Developmental Psychology at Virginia Commonwealth University (VCU) in 1999. After earning his Master of Sciences in 2002, he became a Ph.D. candidate in Developmental Psychology. During his graduate training, he participated in the Violence Coping Project (VCP) at the Department of Psychology of Virginia Commonwealth University and was also a research assistant on a substance use prevention project aimed at promoting healthy pregnancies in African American women at the Medical College of Virginia-Virginia Commonwealth University.