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FAMILY INFLUENCES ON ADOLESCENT DEPRESSION AND DELINQUENCY:  
GENDER DIFFERENCES IN RISK

by

Veronica Marina Herrera

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A Dissertation Submitted to the Faculty of the

DEPARTMENT OF PSYCHOLOGY

In Partial fulfillment of the Requirements  
For the Degree of

DOCTOR OF PHILOSOPHY

In the Graduate College

THE UNIVERSITY OF ARIZONA

2001

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As members of the Final Examination Committee, we certify that we have  
read the dissertation prepared by Veronica Marina Herrera  
entitled Family influences on adolescent depression and delinquency:  
Gender differences in risk.

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Veronica M. Herrera

## ACKNOWLEDGEMENTS

I would like to begin by thanking my parents for their unconditional love and continual encouragement throughout this whole experience. Without their unfailing support, I would have never have made it this far. Thanks also go out to my brother Jacobo, who's correspondence and generosity I could not have done without.

I would like to thank my advisor, Laura McCloskey, for giving me the opportunity to work with her on this project. The time I have spent with her has been an invaluable part of my graduate school experience. Her mentoring has helped me create a strong foundation from which to base my future career and aspirations. I would also like to thank my committee members Judith Becker, Mary Koss, Roger Levesque, and Richard Wood, for their suggestions. I sincerely appreciate the patience, understanding, and support they showed as I slowly worked my way through my dissertation.

As for my friends, I don't even know where to start. They have seen me through my highs and my lows, and have put up with more than I care to account for. Special thanks go out to Dion King, Jeffrey Stuewig, Kimberly Becker, and Jennifer Bailey. Dion's perceptive outsider's view into my life helped me keep things in perspective. Jeff's patience with my questions about statistics and his unique brand of humor kept me hanging on. Kim's e-mails, with their constant reassurances that it would soon be over, kept me grounded and focused on the final goal. And Jen's presence through it all was a great source of comfort and support. And finally a general thanks goes out to the Furies. Their encouragement and support both on and off the soccer field did not go unnoticed.

Lastly, I would like to acknowledge the women and children who participated in this study. All of us who heard their stories were changed by the experience.

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## ABSTRACT

Using a community sample of 296 youth participating in a longitudinal study, this study sought to explore : (1) gender differences in rates and patterns of offending (2) gender differences in pathways between childhood and adolescent family risk factors, adolescent depression, and juvenile delinquency and (3) childhood sexual abuse as a risk factor of female delinquency?

The findings reveal that boys self-report higher rates of lifetime participation in most types of delinquent acts. Similar patterns are found in official records. Gender differences also emerge in the frequency of offending with delinquent boys reporting higher frequencies of property destruction, theft over \$50, and aggravated assault. Delinquent girls self-report running away with greater frequency than boys. Official reports indicate higher frequencies of drug, order, property, and sex offenses for boys. Significant gender differences also emerge in the context of violent offending. A significantly larger proportion of girls' violence is defined as violence against parents only as compared to male violence, which was distributed more evenly between family and community.

Structural equations models were initially run separately for girls and boys. Early exposure to family violence did not predict delinquency for either sex. It did influence later parenting practices for girls' only. Girls depression was also affected by current parenting practices. Parenting in adolescence did not predict girls' delinquency, although the relationship approached significance in the predicted direction. Only girls' depression

was significantly related to girls' delinquency. For boys, the only significant relationship in the model was between parenting in adolescence and juvenile delinquency.

Although the patterns of associations between the girls' and boys' models appear to differ, multi-group structural equation models tested whether the pathways between constructs statistically differed by sex. Results from these analyses indicate that the pathways between parenting in adolescence and depression, and depression and delinquency are significantly more relevant for girls than for boys.

The final model including sexual abuse, was tested for girls only. Child sexual abuse affected parenting in adolescence and also predicted adolescent depression. Although childhood sexual abuse failed to directly predict delinquency, the pathway emerged as a trend.

## CHAPTER 1: INTRODUCTION

Traditional delinquency treatment strategies have been largely shaped by commonsense assumptions about what youths, generally boys, need (Chesney-Lind, 1998). Yet this long-standing practice of placing girls in programs designed to serve boys has been highly criticized by advocates of gender-specific services. They argue two points. First, that by placing girls in programs with boys, the specific needs of girls are shortchanged or simply ignored because the population of boys substantially outnumbers that of the girls (Chesney-Lind, 1998). Second, by placing girls in programs uniquely designed for boys, the outcomes for girls are destined to fail because young women bring their own issues to treatment that stem from growing up in a sexist, gender-scripted society (Chesney-Lind & Sheldon, 1998; Bloom & Campbell, 1998).

The lack of attention given to female offenders has largely been a result of not defining female criminal activity as a social problem (Belknap, 1996). Female offenders make up a small proportion of the juvenile justice population and the nature of their offending is often less threatening to the public than that of their male counterparts, keeping girls relatively invisible from the public eye. Consequently, females usually are overlooked in the development of policy and programs leaving the juvenile justice system ill-equipped to deal with the needs of girls and young women (Owen & Bloom, 1998). The undeniable fact remains that every year girls account for approximately 27% of all juvenile arrests in the United States, an average of 702,900 girls per year (Snyder, 1999).

Although only a small proportion of the total number of youth arrested, such numbers should hardly be ignored.

Types of offenses committed by females and males.

Juvenile arrest statistics reveal that there are substantial gender differences in official arrest rates, with the most obvious being that fewer girls than boys are arrested. A recent publication by the Office of Juvenile Justice and Delinquency Prevention (OJJDP) (Snyder, 1999) reported that between 1994 and 1998, arrests of juvenile female offenders increased more (or decreased less) than male arrests in most offense categories, particularly in the area of violent offenses. For example, the percent change in juvenile arrests for aggravated assault between 1994-1998 for females was a 7% increase while for males it declined by 18%. Although these national statistics depict increases in female delinquency, some argue that the increase is not as substantial as is portrayed by government sources. According to this view, female offense rates have basically stayed the same over the past few decades with increases in offending explained by changes in law enforcement practices, the worsening of the economic position of women (the feminization of poverty), changes in data collection and methods, and the inflation of the small base rate of female offending (Belknap, 1996).

The relative involvement of females in delinquent activities varies by offense. According to OJJDP data, in 1998, among Violent Crime Index Offenses, females were responsible for 8% of juvenile arrests for murder and non-negligent manslaughter, 2% for forcible rape, 9% for robbery, and 22% for aggravated assault. Among Property Crime

Index Offenses, females were involved in 11% of the arrests for burglary, 35% for larceny theft, 17% for motor vehicle theft, and 11% for arson. The female proportion of juvenile arrests for non-Index Offenses varied substantially. Females accounted for 3% of juvenile arrests for gambling, 7% of sex offenses (excluding rape and prostitution), and 9% of weapons offenses. But for other offenses, females accounted for a high proportion of the arrests: running away from home (58%), prostitution (50%), embezzlement (42%), offenses against family and children (37%), forgery and counterfeiting (35%), and larceny-theft (35%).

Overall, females have lower rates of offending than do males in most offense categories. In addition, female offending is often associated with status offenses (offenses for which only juveniles can get arrested) (Bloom & Campbell, 1998; Chesney-Lind & Shelden, 1998; Girls Inc., 1996). Another way to characterize this delinquent behavior is that girls are being disproportionately arrested for “being somewhere other than where adults determine they ought to be” (Girls Inc., 1996, p. 3). For example, in 1998 ‘running away from home’ was the third most frequent reason for which girls were arrested and the tenth most frequent reason for boys, constituting approximately one-sixth of girls’ overall arrest rates and only one-twentieth of boys’.

Despite these findings, a closer examination of the offenses for which juveniles are most often arrested indicates similar patterns of offending for boys and girls. The distribution of arrests within each sex cohort shows that the bulk of offenses for males and females are of a non-violent nature, with violent offending being relatively rare and



committed by a small proportion of the entire juvenile population (Belknap, 1996). As can be seen in Table 1, the top twelve offense for which males and females under the age of 18 were most often arrested largely comprise of fairly minor offenses, constituting 94% of all arrests for girls and 95% of total arrests for boys.

**Table 1. Offenses for Which Juveniles Under the Age of 18  
Were Most Often Arrested, 1998**

	<b>FEMALES</b>		<b>MALES</b>	
	Rank	Estimated # (in thousands)	Rank	Estimated # (in thousands)
Larceny-theft	1	146	2	271
All other offenses (except traffic)	2	113	1	340
Runaway	3	96	10	69
Other Assault	4	74	4	164
Curfew/loitering violations	5	56	6	131
Disorderly conduct	6	51	5	132
Liquor law violations	7	47	8	110
Drug abuse violations	8	29	3	176
Aggravated Assault	9	16	11	56
Vandalism	10	15	7	112
Burglary	11	12	9	103
Motor vehicle theft	12	9	12	45
TOTAL (in thousands)		664		1,709
PERCENTAGE OF ALL ARRESTS		94%		90%

Source: Calculated from Snyder (1999), table p. 3.

Although females and males appear to participate in the same type of offenses, there are a variety of both subtle and profound differences within the context of their offending (Steffensmeier & Allen, 1998). Context refers to the characteristics of a particular offense, including both surrounding circumstances and the nature of the act. For example, due to the reported increases in female violence, it has been suggested that females are becoming more like males in their delinquency. Yet, a closer look at the context of violent offending suggests that females are not simply reflecting male behavior. Victims of female offenders are far more likely to be family members than victims of male offenders (Acoca, 1999; Greenfeld & Snell, 1999; Rutter, Giller & Hagel, 1998). A close reading of case files of girls charged with assault reveal that most of the charges were the result of non-serious, mutual combat situations with parents, with the aggression in many cases being initiated by adults (Acoca, 1999).

#### Measuring crime across the sexes.

Research based on official data contributes much to our knowledge of gender differences in rates and patterns of male and female delinquency. Yet, due to the biases and limitations of official crime statistics, an accurate representation of the full range of female offending is often difficult to obtain. One limitation with official reports is that they do not capture the true extent of juvenile delinquent behavior. Official reports can only account for those offenses brought to the attention of the authorities; they do not capture undetected or unreported crime (Lab & Allen, 1984). Giordano & Cernkovich (1997) maintain that there is also a tendency of official data to reflect such confounding

influences as gender, race, and class bias more than actual amount and distribution of delinquent behavior.

Self-report measures have long been used in an attempt to gain information about the nature and extent of juvenile delinquency without the confounding influences of processing biases, legal and social changes, and other inconsistencies present in official reports (Cernkovich & Giordano, 1979). Self-report interviews were developed as alternate measures to official reports in much the same way that victimization surveys came to supplement police reports as indicators of the volume of crime (Maxfield, Weiler, & Widom, 2000). Self-reports and official reports are found to be generally consistent in describing the correlates of crime, however, self-report data produce higher estimates of participation in crime and frequency of offending (Elliot, 1994; Hindelang, Hirschi, & Weiss, 1981).

Self-report surveys usually reveal that female delinquency is more common than what official surveys report, indicating more similarities between rates of male and female delinquency than what official statistics suggest. On the whole the overall sex ratio for offending in self-report studies is lower than that in official statistics with some studies finding as low as a 2:1 ratio (Canter, 1982; Cernkovich & Giordano, 1979; Graham & Bowling, 1995; Hindelang, 1979). Similar to findings from official reports, when self-reported delinquent acts are rank ordered, the offense order is remarkably similar between the sexes. The pattern indicates that the majority of adolescents

participate in minor crimes at higher frequencies, with a few youth engaging in lower rates of serious offending (Giordano & Cernkovich, 1997).

Although self-report data provide a unique view into rates and patterns of offending, mistrust of this method of measurement has been noted. Self-report data could be erroneous, not just because of measurement error but because of the possibility of bias in the person providing the information. Respondents may forget incidents (memory decay), report incidents occurring outside of the time frame (telescoping), lie about their offense history, or recall certain offenses to the exclusion of others (memory bias) (Lab & Allen, 1984). Reporting biases can stem from a certain image the participant is trying to portray or even the fear of detection and repercussions.

Both official and self-reported measurements of delinquency provide valuable information about the rates and patterns of male and female offending. Although correlated, each perspective is limited by its own methodological biases. Taking convergent measures of delinquency would draw on the strengths of each measurement approach while balancing the weaknesses, providing more complete and precise portrayals of offending for males and females.

#### Are pathways to delinquency gender differentiated?

Attempts to identify whether females in fact differ from males in their reaction to risk factors and ultimately in their delinquent trajectories has been the focus of much research over the past two decades. However, no satisfactorily unified theoretical framework has yet been developed for explaining female crime and gender differences in

crime (Steffensmeier & Allen, 1996). Traditional criminological theories offer a logical conceptual and measurement starting point to understanding female delinquent behavior but overlook how broad social forces play out into gender differences in types, frequency and context of offending (Steffensmeier & Allen, 1996). Gender specific theories, on the other hand, focus on examining separate constructs and hypothesizing specific causal pathways which are solely designed to explain female offending (Chesney-Lind, 1989). This approach makes it difficult to determine whether females in fact face unique concerns and issues without the presence of comparable male data (Giordano & Cernkovich, 1997).

Gender differences in delinquency may best be understood by taking a more integrated or gendered approach which examines the ways in which the continued and profound differences between the lives of women and men shape different patterns of female and male offending (Hoyt & Scherer, 1998; Steffensmeier & Allen, 1996). For example, there is a reoccurring theme that females need a greater or different sort of “push” than males in order to engage in delinquent activity (Giordano & Cernkovich, 1997). This “push” is described as stemming from seriously disrupted family and social relationships, histories of violent victimization, and susceptibility to psychopathology. Theoretical work in female crime suggests that owing to the existence of social sanctions against misbehavior among girls, it must take an especially deviant family context to promote delinquency (Block, 1983; Cockburn & McCay, 1965; Henggeler, Edwards, & Borduin, 1987).

It is theorized that girls are socialized to be responsive to the needs of others and fear the threat of separation from loved ones, which in turn inhibits them from participating in activities that might cause them to hurt others (Gilligan, 1982). Feminist theory holds that females are more concerned than males with interpersonal relationships (e.g. Chodorow, 1978; Gilligan, 1982), hence, abuse, rejection, and/or indifference (i.e. experiencing little love, affection, or warmth) would be particularly devastating for girls' emotional and developmental well being. Support of this feminist framework does not imply that negative family experiences are unique to girls or that they do not affect or influence male outcomes. Nevertheless it is plausible that these risk factors affect girls differently than they do boys, perhaps even in more specific and significant ways.

Pathway #1: Early exposure to family violence and adolescent delinquency.

Incidence of maltreatment among boys and girls. Statistics on child abuse and neglect reveal that boys tend to be the targets of maltreatment more often than girls. National estimates of child maltreatment indicated that between 1986 and 1993, the incidence of maltreatment increased more among males than among females (102% vs. 68%) (Sickmond, Snyder, & Poe-Yamagata, 1997). Boys are found to be at a greater risk of emotional abuse and serious physical injury, whereas girls experience sexual abuse three to four times more often than boys (Bloom & Campbell, 1998). Although these statistics indicate that males are victimized more often than females (except in the area of sexual abuse) some studies report that girls and young women experience more frequent

and more serious victimization than do boys (Acoca, 1998; McClellan, Farabee, & Crouch, 1997).

A 1997 survey published by the Commonwealth Fund found that one in five girls in grades 9-12 reported physical or sexual victimization. High school girls surveyed were more than twice as likely as boys to report sexual abuse (12% vs. 5%), and 17% of high school girls reported physical abuse compared to 12% of boys (Acoca, 1998). Similarly, a study comparing child abuse histories of male and female inmates indicated that girls and women reported experiencing more frequent and more serious victimization than did boys and men (McClellan, Farabee, & Crouch, 1997). Girls in high risk situations may be more vulnerable and more accessible to abuse than boys because of the social norms that insist they remain at home in a dependent role within their family.

#### Gender differences in risk of delinquency.

The relationship between childhood victimization and delinquency has been examined in an extensive body of research (e.g. Garbarino & Plantz, 1986; Smith & Thornberry, 1995; Widom, 1989a, Zingraff, Leiter, Myers, & Johnsen, 1993). Although more recent research argues that the link between maltreatment and delinquency is not as strong as once suspected (Zingraff et al., 1993), a significant correlation between the two is repeatedly found. In prospective studies, the incidence of delinquency is estimated to be about 20% to 30% for children who have been abused or neglected, whereas retrospective studies of delinquents find estimates of histories of abuse ranging from 26% to 86% (Widom, 1989a).

Developmental theory suggests that children adapt to the world through early experiences with caregivers which tend to facilitate later adaptations to novel situations. Early positive experiences facilitate later successful adaptations, whereas early negative experiences may potentiate the emergence of psychopathological outcomes (Cicchetti, 1996). Child maltreatment is described as “the greatest failure of the environment to provide opportunities for normal development”( Cicchetti, 1996, p.19). Families where children are maltreated characteristically provide fewer supports and opportunities for children to learn to effectively function outside the family. Such families are incapable of providing an environment that fosters normal development. Children who are maltreated develop instead strategies that may be adaptive in their home but maladaptive in other contexts, placing them at risk for an assortment of negative outcomes.

These maladaptive strategies appear to follow gender differentiated patterns in reaction to maltreatment. Research indicates that boys tend to exhibit externalizing symptoms and problem behaviors (i.e. aggression and delinquency), whereas girls internalize their symptoms, showing elevated signs of depression and withdrawal (e.g. Fantuzzo & Linqest, 1989; Gore, Aseltine & Colten, 1993; Hughs, 1988; Jaffe, Wolfe, Wilson, & Zak, 1986; Widom, 1984). Yet, gender differentiated outcomes in response to victimization, either as targets or witnesses, have not received much attention despite the fact that the response of males and females to victimization appears to be substantially different (Hughes, 1988).



It is not surprising that most studies examining the effects of victimization on delinquency do not take into account potential gender differences in risk. There is, however, some reason to believe that the origins of delinquency vary for girls and boys particularly through their experiences of childhood victimization. Some investigators tie female delinquency and crime directly to their victimization (Browne, Miller, & Marguin, 1999; Chesney Lind, 1997; Simons & Whitbeck, 1991). Chesney-Lind and Shelden (1998) theorize that girls growing up in abusive households develop unique tactics of self-preservation, such as running away, that ultimately subject them to criminal exploitation (Lake, 1993; Whitbeck & Simons, 1990).

It is also suggested that girls who are violent may in fact be responding to their own victimization (Peters & Peters, 1998). Research verifies that girls' aggression and violence is mostly directed against people they are closest to, i.e. family members and significant others (Acoca, 1999; Greenfeld & Snell, 1999; Rutter, Giller & Hagel, 1998). Their heightened delinquency can be explained as an indirect result of acting out against or escaping an abusive home life. Boys, on the other hand, engage in aggressive acts for a wider variety of reasons (e.g., during the commission of a crime, self defense against other aggressive males, peer pressure, to defend one's 'reputation', etc.).

The prevalence of abuse in the lives of female offenders has been identified in various cross-sectional studies, ranging from 40% to 73% (American Correctional Association, 1990; Browne, Miller & Maguin, 1999; Chesney-Lind & Sheldon, 1998). When focusing specifically on violence, one study reported that one in five violent girls

were physically abused at home compared to one in ten violent boys and 6.3% of non-violent girls (Artz, 1998). Although these studies indicate a significant relationship between violence and girls' delinquency, care must be taken in interpreting these results. The results of these studies are correlational and cannot verify whether causation exists, nor can they imply that abuse is more significant in the lives of female offenders than in males since male offenders were not made a basis of comparison.

To date, there are a few studies that prospectively investigate how exposure to family violence in childhood affects males and females differently with respect to subsequent delinquency. One study comparing abused and non-abused children's juvenile and adult records found that both boys and girls who were abused and neglected in childhood were significantly more likely than their non-maltreated counterparts to have both a formal juvenile delinquency record and a formal adult criminal record (Widom, 1989b). When analyzed by gender the difference in criminality was more dramatic for women, indicating a higher sensitivity to the effects of abuse for women than for men. In subsequent analyses using the same data set, the investigators found that abused and neglected females, but not males, were at significantly higher risk than were control subjects for substance abuse/dependence diagnosis and for arrests for violent crime (Rivera & Widom, 1990; Widom, Ireland, Glynn, 1995; Widom & White, 1997). This gender difference was also apparent in analysis of arrests for alcohol and drug offenses (Ireland & Widom, 1994).

Specifically tracing the unique effects of marital violence and physical abuse on official delinquency in a community sample of boys and girls, we also found gender differences in risk (Herrera & McCloskey, 2001). Exposure to marital violence predicted referral to juvenile court for both boys and girls, however, girls with histories of physical abuse were more likely to be arrested for violent offenses than comparison girls. This relationship was not found for boys. Results from prospective studies illuminate potential gender differences in pathways, however, whether child abuse exerts a unique impact on girls over boys remains unclear, except in the case of child sexual abuse.

Pathway #2: Dimensions of parenting during adolescence as risk factors of delinquency.

Although much research focuses on the relationship between early exposure to violence and later delinquency, the fact remains that the majority of abuse victims (70%) do not go on to have adult criminal records (Widom, 1989b; Zingraff, et. al., 1993). However, family relationships during adolescence may provide insight into a more proximal cause or buffer of delinquent outcomes for boys and girls in relation to childhood histories of abuse. In fact, some studies report that the direct effects between physical punishment are eliminated once the effects of other dimensions of parenting are taken into consideration (Carroll, 1977; McCloskey, Stuewig, Herrera, & Becker, 2001; McCord, 1983; Simons, Robertson, & Downs, 1989; Simons, Johnson, and Conger, 1994). A review of longitudinal data found that specific socialization variables, such as erratic parental discipline, poor parental supervision or monitoring, marital disharmony, parental rejection of the child and low parental involvement with the child were amongst

the most powerful predictors of juvenile conduct problems and delinquency (Loeber & Stouthamer-Loeber, 1986). Parental discipline ranked as one of the weaker predictors.

According to social control theory, attachment to parents forms the basis of conformity. The more attached children are to their parents, the more strongly they are bound to their parents' expectations, and in turn the more strongly they are bound to conformity with the legal norms of the larger system (Hirschi, 1969). Within this framework, the quality of parental attachments is critical to the development of delinquency for both boys and girls. Children with weak parental attachments are less likely than children with strong parental attachments to take into consideration their parents' opinions and expectations when confronted with situational demands and peer pressure to engage in deviant behaviors (Rankin & Kern, 1994). Dembo and colleagues (1992) proposed that families which provide emotional and psychological support to their children supply conventional role models for them and are therefore able to exert control over their children's behavior. Thus, lower rates of delinquency are found in families where strong bonds of attachment exist between parents and children (Dembo, Williams, Wothke, Schmeidler, 1992).

Not surprisingly, parental rejection has been found to be the strongest and most consistent predictor of delinquency (Loeber & Stouthamer-Loeber, 1986; Simons, Robertson, & Downs; 1989). Parental rejection, defined as the absence of warmth, affection, or love by parents, is linked to aggressiveness, delinquency, emotional problems, drug abuse, and serious criminality in various studies (Simons, Robertson, &

Downs, 1989). It is argued that rejected children do not learn to form cooperative caring relationships with others due to being socialized in families characterized by little trust, warmth, and concern for each other. These maladaptive behaviors are then generalized to relationships outside the family (Rohner, 1975; Rohner, 1986).

Similarly, another aspect of parenting that significantly increases the likelihood of both official and self-reported juvenile offending is lack of monitoring (Cernkovich & Giordano, 1987; Gottfredson & Hirschi, 1990; Loeber & Stouthamer-Loeber, 1986; Patterson 1982; Rosenbaum, 1989; Sampson & Laub, 1993; Wilson & Herrnstein, 1985). Studies have consistently shown a significant relationship between how well youth are supervised, or perceive they are supervised by parents, and how much they are involved in delinquency (Hirschi, 1969; Martens, 1997; Patterson & Stouthamer-Loeber, 1984; Peeples & Loeber, 1994; Smith & Krohn, 1995; Snyder, Dishion, & Patterson, 1986). One study described that poor parental supervision more than doubled the risk of delinquency among the oldest boys in their sample, while increasing the risk by at least 1.5 times for the younger two groups of boys (Loeber, Farrington, Stouthamer-Loeber, Moffitt, & Caspi, 1998). Cernkovich and Giordano (1987) found that lower rates of female delinquency were partly explained by the greater degree of parental supervision of girls. It is suggested that girls' activities and behaviors are more strictly monitored by their parents as compared to boys because females are encouraged to stay closer to home leaving them fewer opportunities to engage in delinquency (Jang & Krohn, 1995; Seydlitz, 1991).

Are girls more affected by parenting than boys? Heimer (1996) argues that as

youth begin to internalize gender roles, they also internalize attitudes about rules and laws. She asserts that boys and girls differ in why they restrain from breaking the law. Boys' behaviors are more directly influenced by parental controls (i.e. monitoring), whereas, the effect of parental controls on girls is more indirect, with girls internalizing parental and societal attitudes that do not favor disobedience. Problem parenting is therefore seen as having a stronger effect on girls' delinquency because it disrupts socialization through which girls internalize societal attitudes and behaviors that discourage deviance.

Although female delinquency has been closely tied to seriously conflicted parent-child relationships (Dembo, et. al., 1998; Cernkovich & Giordano, 1987; Dornfeld & Kruttschnitt, 1992; Johnson, 1986), research shows conflicting evidence as to whether the pathway between parenting practices and delinquency is more predictive of girls' offending than boys'. One study found that family conflict had a greater effect on female than male involvement in status, property, and aggressive offenses (Norland, Shover, Thorton, & James 1979), while another study reported that lack of parental attachment was a significantly stronger predictor of female violent offending than male violent offending (Alarid, Burton, & Cullen, 2000). Conversely, Canter (1982) argued that although girls had stronger bonds than did boys to their parents, the inhibitory effect of family attachments on delinquency was greater for boys.

More often than not, research indicates that family factors influence male and female delinquent outcomes in similar ways (Cernkovich & Giordano, 1987; Dembo, et. al., 1992). Simons, Robertson, and Downs (1989) found parental rejection to be significantly related to delinquency even after controlling for the effects of other family variables; the same pattern of results were obtained when regressions were run for boys and girls separately. Cernkovich and Giordano (1987) found family attachment was important in inhibiting delinquency for all adolescents, even though various dimensions of this bond operated differently among boys and girls. Although competing theories argue about the role family factors have in predicting male and female delinquency, research in this area has yet to find consistent support in any one direction.

### Pathway #3: Depression as a route to delinquency.

Gender differences in rates of depression in adolescence. One of the most consistent findings in the depression literature is the significant gender difference in rates of depression. Gender differences in depression appear to emerge sometime between early and middle adolescence (Kandel & Davies, 1982; Nolen-Hoeksema, 1990), with some studies pinpointing the differences emerging between the ages of 13 and 14 (Ge, Lorenz, Conger, Elder, & Simons, 1994; Wichstrom, 1999). Early adolescence is hypothesized to be a time when many youths experience a convergence of life changes, such as changes in school and pubertal development (Larson & Ham, 1993). Longitudinal research shows that youth who encounter multiple simultaneous life changes in early adolescence are more likely to experience emotional and behavioral

problems (Simmons, & Blyth, 1987). Research also indicates that adolescent girls report more major life events and daily events than boys (Compas, Howell, Phares, Williams, & Ledoux, 1989; Larson & Ham, 1993). One study found that an increase in girls' life events coincided with an increase in depressed mood (Ge, et. al., 1994)

It has been suggested that a major factor in females' mental health is the salience of their social relationships (Gore, Aseltine, & Colten, 1993). Research finds that higher levels of social support have protective effects on girls' mental health (Gore, Aseltine, & Colten, 1992). Although conflict and change characterize the normative nature of relationships for both males and females during adolescence, theory suggests that girls may be more vulnerable to these stressors because their developing identity is contingent on maintaining relationships with others (Gilligan, 1984; Maccoby & Jacklin, 1974). Disturbed relationships might therefore increase symptoms of distress for girls more than for boys. These patterns of results are found when stress occurs within the family. Although both boys' and girls' mental health is affected by family stress, girls with a strong caring orientation or involvement in family problems are at an even greater risk of negative outcomes (Gore, Aseltine, & Colten, 1993).

Links between family violence and depression. Research examining children exposed to family violence find elevated rates of general psychopathology (Fantuzzo, DePaola, Lambert, Martino, Anderson, & Sutton, 1991; McCloskey, Figueredo, & Koss, 1995; Sternberg, Lamb, Greenbaum, Cichetti et al., 1993), and more specifically depression and anxiety (Christopoulos, Cohn, Shaw, Joyce, Sullivan-Hanson, Kraft, &



Emery, 1987). Some research indicates that psychological withdrawal may stem from children blaming themselves for the maltreatment they experience (Kaufman & Cicchetti, 1989; Ney, Moore, McPhee, & Trought, 1986); perhaps explaining increased rates of suicide ideation and attempts reported for maltreated children (Cavaiola & Schiff, 1988; Deykin, Alpert, & McNamera, 1988).

Parental rejection is also found to affect a child's self worth manifesting in various forms of psychopathology such as attachment disorder, anxiety and depression (Cummings & Cicchetti, 1994). One study reports that low levels of perceived support from family and friends are related to depressive symptoms in mid-adolescence (Windle, 1992). Whitbeck and colleagues (1992) discovered a pattern of intergenerational transmission of depressed mood through parental rejection of children. Depressed parents are often more withdrawn, irritable, and rejecting of their children than non-depressed parents, thus increasing their children's risk of depression, problem behaviors, and other psychopathology.

The link between internalizing problems and externalizing problems has been suggested but not often examined in terms of rates of comorbidity. Often each outcome is examined as a distinct and separate phenomenon, usually expressed in terms of gender-specific outcomes. Patterns of child and adolescent externalizing problems and internalizing problems often co-occur in children from families with disrupted parenting practices (Burbach & Borduin, 1986; Hughes, 1988; Patterson, 1982; Sternberg, et. al, 1993). Studies have indicated that children who are depressed as a result of abuse and

neglect are more withdrawn yet at the same time more aggressive with peers than children without such family histories (Rogosch & Cicchetti, 1994; Toth & Cicchetti, 1996). Ge, Best, Conger, and Simons (1996) found that parenting practices predicted the occurrence and co-occurrence of elevated depressive symptoms and conduct problems among a sample of adolescents.

#### Depression as a risk factor for delinquency.

Within the criminological field, researchers have begun to challenge the independence of the dimensions of internalizing and externalizing problems. As previously mentioned, studies have shown that there is a considerable degree of co-morbidity between disruptive behavior disorders and internalizing disorders (Loeber et. al., 1998). There is evidence to suggest that youth who are delinquent are also more depressed (Ge, et. al., 1996) however, the direction of this relationship has not often been considered. It could be that depression and delinquency are co-occurring phenomenon stemming from mutual risk factors, however, it has also been proposed that depression may in fact be a predictor delinquency. Moreover, depression might predict female delinquency more than male delinquency (Kovacs, 1996; Renouf & Harter, 1990).

Preliminary results from a baseline study of juvenile detainees show that females have far greater mental health needs and greater risk factors than males (Teplin, 2001). While alternative sequencing is possible, researchers hypothesize that depression may influence girls' propensity toward delinquent and antisocial behavior (Obeidallah & Earls, 1999). Depressive feelings are thought to feed into adolescent girls' indifference

regarding their own personal safety and the consequences of their actions, increasing the likelihood that they will gravitate to unhealthy and unsafe personal choices (Obeidallah & Earls, 1999). Along the same lines, rates of suicide attempt and completed suicide also appear to be especially high for young women who have been incarcerated as adolescents (Lewis, Yeager, Cobham-Portorreal, Klein, Showalter, & Anthony, 1991). A national study found that institutionalized girls were far more likely to think about and attempt suicide than boys (Wells, 1994). Rates of suicide for youth (both boys and girls) detained in juvenile detention centers is 7.7 times higher than the suicide rate for youths in the general population, and is 4.6 times the rate for youths incarcerated in adult facilities. It is suggested that girls' mental health problems are further exacerbated by the social isolation associated with incarceration thus placing them at an increased risk of potential suicidal ideation (Bloom & Campbell, 1998).

Research on the rates of depression in female delinquents proposes an interesting theoretical question: Is depression a risk factor of female delinquency or just a co-occurring phenomenon? Although compelling reasons have been presented to support this relationship, it can also be argued that the higher rate of depression in female delinquents than in male delinquents is actually an artifact of higher rates of depression for girls in general. Further research is needed to fully explore and explain this particular link.

Prevalence of sexual abuse in girls' lives: A unique pathway to delinquency?

The literature on female delinquency suggests that sexual abuse has a unique relationship with girls' offending (Chesney-Lind, 1997). Girls are much more likely to be victims of sexual abuse than boys, with some reports estimating up to 70% of sexual abuse victims being girls (Finkelhor & Baron, 1986). Like boys, girls are frequently the objects of violence and abuse. Unlike boys' victimization, girls' victimization is shaped by the subordinate status of women in society. Girls are more likely than boys to be victimized by a relative and to be younger when the abuse begins, consequently extending the abuse over longer periods of time (Browne & Finkelhor, 1986; DeJong, Hervada & Emmett, 1983; Finkelhor & Baron, 1986). Their vulnerability is heightened by norms that require that they stay at home, where victimizers have greater access to them (Chesney-Lind & Sheldon, 1998).

The effects of sexual abuse on girls range from psychological problems such as fear, anxiety, depression, anger, and hostility to behavior problems which include inappropriate sexual behavior, difficulty in school, alcohol and drug use, truancy, running away from home, and early marriage (Browne & Finkelhor, 1986; Runtz, & Briere, 1986). As noted in the previous section, the connection between abuse and delinquency appears to be contingent on the strategies that girls adopt in order to cope with and survive their victimization (Chesney-Lind, 1997). For example, higher rates of childhood sexual abuse are reported in populations of runaways when compared to the general population (McCormack, Janus, & Burgess, 1986; Simons & Whitbeck, 1991). One study found that the proportion of youth with sexual abuse histories among status

offenders was 7 times higher among runaways (35%) than among other youth arrested for other status offenses (5%) (Famularo, Kinscherff, Fenton, & Bolduc, 1990).

Sexual abuse has been linked to other forms of offending as well. A strong correlation is reported between sexual victimization and alcohol and drug abuse (Dembo, Dertke, Borders, Washburn, & Scheidler, 1988; Dembo, et. al., 1992). Simons & Whitbeck (1991) also found that early sexual abuse increased the probability of involvement in prostitution above and beyond the influences of running away from home, substance abuse, and other deviant activities. Lastly, research also indicates a relationship between sexual abuse and aggression (Kendall-Tacket, Williams, and Finkelhor, 1993), however this relationship is less evident in its association with official reports of violent offending (Widom & Ames, 1994; Zingraff et al., 1993).

Less research focuses on the effects of sexual abuse on boys' delinquency, although some studies indicate that gender differences in delinquent outcomes exist. Similar to other victimization research, the findings suggest that boys who are sexually victimized are more likely to exhibit more externalizing behaviors (e.g. poor school performance, delinquency, and sexual risk taking) whereas girls are more likely to internalize their behaviors (e.g. suicidality, eating disorders, and alcohol abuse) (Chandy, Blum, & Resnick, 1996). Sex crimes, in particular, are most commonly associated with childhood sexual abuse in boys. Weeks & Widom (1998) found that male sex offenders reported higher rates of childhood sexual abuse than other offenders (26% vs. 13%).

It remains unclear whether sexual abuse specifically leads to increased participation in delinquent behavior or whether other factors, such as inept parenting practices, contribute to the strength of the relationship. Sexual abuse often occurs in the context of multi-problem homes (Widom & Ames, 1994); disentangling the unique effects of sexual abuse, therefore, has proven difficult. It is argued that the negative outcomes of childhood sexual abuse are actually more closely tied to family and individual functioning styles prior to the abuse incidents (Alexander, 1992), whereas, other theoretical perspectives point to the actual trauma itself as the origin of subsequent maladjustment regardless of prior family functioning (Cole & Putnam, 1992).

#### Limitations of previous research.

Few prospective studies specifically address the issue of gender differences in pathways to delinquency. Giordano and Cernkovich (1997) noted that many prospective longitudinal designs focus exclusively on boys; even those studies that include females have focused most analyses on males (i.e. Loeber, Stouthamer-Loeber, Van Kammen, & Farrington, 1991; McCord, 1983; Patterson, 1982; Sampson & Laub, 1990; Smith and Thornberry, 1995). "It may be that insights from these studies of male delinquents may generalize to the experiences of female offenders, but this has not been shown conclusively" (Giordano & Cernkovich, 1997, p. 500).

Even studies that do include females are limited in several ways. Research examining female delinquency suffers from the basic limitations imposed by biased sampling, inadequate sample descriptions, measurement inadequacies, and design

restrictions (Hoyt & Scherer, 1998). For example, many studies rely on cross-sectional and retrospective designs. Cross-section studies can only offer information about correlates of offending, but little firm evidence of the causes of offending (Hoyt & Scherer, 1998), while retrospective studies are based on remembered accounts of victimization which are subject to distortion and loss of information over time (Widom, 1989b; Widom, 1997).

By the same token, studies claiming that girls differ from boys in their delinquency often fail to include boys in their analyses. To test whether there are gender differences in pathways to juvenile offending, it is necessary to examine the factors generally seen as uniquely relevant to the explanation of female crime in relation to male crime (Bjerregaard & Smith, 1993; Giordano & Cernkovich, 1997). By doing this, one can explore whether delinquency risk factors vary by sex either in magnitude or in the direction of effects (Steffensmeier & Allen, 1996).

Lastly, lack of control or comparison groups also limit findings which imply causation. This limitation is often seen with studies examining the effects of childhood victimization. Often, childhood victimization occurs in the context of multi-problem homes with abuse being only one of several problems within the home. In order to disentangle the effects of different forms of abuse control groups become necessary components in order to determine the effects of childhood victimization on later behavior, independent of other family and demographic characteristics that are frequently found to correlated with problem behaviors (Widom, 1989b).

### Aims of the present study.

It is argued that female delinquency is often ignored in the development of theory and research (Chesney-Lind & Shelden, 1998). Whether girls' delinquency differs enough from boys' to require its own theoretical approach is still under debate. The purpose of this paper is to investigate three questions: (1) How different are girls and boys in their rates and patterns of offending? (2) Are pathways between childhood and adolescent family risk factors, adolescent depression, and delinquency gender differentiated? (3) What role does sexual abuse have predicting female delinquency?

Using a community convenience sample of youth participating in a longitudinal study, I began investigating the first question testing gender differences in rates and patterns of self-reported delinquency, drug use, and official reports of juvenile offending. In order to adequately address the first question, it was divided into 3 parts:

- (1) Do girls and boys in this sample differ in their rates and frequencies of offending?

It was hypothesized that boys would be overall more delinquent than girls. The examination of specific offenses would show greater gender differences in both rates and frequency of the more serious offenses, such as property and violent crimes. The majority of girls offending, on the other hand, would be non-violent in nature, defined more by status offenses and petty theft. However, the frequency of participation in these lesser offenses would be similar across the sexes.

- (2) Are patterns of offending similar between girls and boys?



It was hypothesized that girls and boys would show similar patterns of offending, with the majority of the youth engaging in lesser forms of delinquency, and smaller proportion engaging in more serious offenses.

(3) Are there contextual differences between boys' and girls' violent offending?

Based on the research, it was hypothesized that girls' violence would be more defined by violence against parents, as opposed to boys' violence which would be more diverse and defined equally by both violence against parents and against the community.

The second question was concerned with the more complex issue of testing the potential gender differentiated nature of association between family violence, problem parenting practices, depression, and juvenile offending. I use multi-group structural equation modeling to test theoretical based assumptions regarding the associations between the constructs in terms of gender differentiate risk:

- (1) Does childhood exposure to family violence predict adolescent delinquency?
- (2) Do current parenting practices mediate the relationship between childhood family violence and delinquency?
- (3) Does adolescent depression mediate the relationship between childhood family violence and delinquency?

The last question addressed in this paper, focuses on sexual abuse and its role on adolescent girls' outcomes. Many risk factors are common to both male and female delinquency, and should therefore be studied together, however there are a few risk factors which remain almost gender specific. Although both boys and girls experience

sexual abuse, a significantly larger proportion of girls are victimized than boys. Because of this phenomenon, it is necessary to understand what the short- and long-term outcomes are for girls who experience this form of victimization. This is not to say that boys' victimization is not important or should not be examined, rather, there is something almost unique about the link between sexual victimization and being female.

## CHAPTER 2: METHOD

### Sampling Approach

The findings are based on a longitudinal study of mother-child pairs first recruited during 1990 and re-interviewed during two subsequent waves over the years 1996-1997 and 1998-1999. The aim of the study was to examine the impact of marital violence on children, and therefore battered women were over-sampled from both shelters and the community at large. Abused women in the sample were recruited through public announcements and poster campaigns across the city asking for women who had been “abused by a partner in the last year” ( $N=102$ ) or from battered women’s shelters ( $N=64$ ). A comparison sample were similarly recruited but an a different contact phone number was posted and the request was for participation of mothers with a school-aged child for a study on the family ( $N=197$ ). Upon contacting the project, all women who had co-resided with a male partner within the last 12 months and had a child between the ages of 6 and 12 years of age were recruited for the study.

One child from each family, who had lived with the mother over the past year and was between the ages of 6-12 (Mean age = 9.2 years,  $SD = 1.95$ ), was selected by the intake interviewer. The interviewer alternated between choosing a boy or girl from each family. When there was more than one choice decisions were made based on the age and sex of the child, and not on the basis of maternal recommendations. An approximately equal number of boys and girls was interviewed.

### Participants

The sample selected for these analyses includes only those youth who were interviewed at all three time points ( $N=296$ ). By the end of the third wave of data collection, 81.5% of the children had been re-interviewed, with roughly an equal number of boys ( $N=146$ ) and girls ( $N=150$ ) retained. Children were on average 15.1 years old at Wave 2 and 16.9 years old at Wave 3. At Wave 3, the predominant ethnic make up of the children in the sample was Anglo-European (54%) or Hispanic (mostly Mexican-American) (36%). African Americans composed 5% of the sample, Native American 4%, and the remaining 1% of the families included Asian Americans, Pacific Islanders, and unclassified families.

Most of these families lived on low incomes in 1990-1991, with average monthly earnings of \$1498 ( $SD=\$932$ ) and a family size greater than 4. There was a significant increase in family income by the second ( $M=\$2102$ ,  $SD=\$1408$ ) and third ( $M=\$2196$ ,  $SD=\$1821$ ) waves of data collections.

### Procedure

Mothers and children were interviewed in separate rooms and at the same time at during all three waves of data collection. Interviews lasted approximately 2–3 hours. All interviewers participated in extensive training conducted by the principle investigator. Female interviewers were hired to conducted the first two waves of interviews. They were matched for ethnicity as much as possible with the participants. For the third wave of data collection, male interviewers were specifically hired to interview male

participants. All instruments were translated and pre-tested by a native Spanish speaker professionally experienced in translation and research so that all Hispanic women had the option of being interviewed in Spanish.

All mothers provided written consent for their own and their child's participation, and children provided assent until they reached the age of 18, at which point they signed their own consent forms. Participants were informed of confidentiality and of the voluntary nature of their participation. It was explained that they could stop the interview at any time or refuse to answer any question they felt uncomfortable with and still receive compensation. Because of the sensitive nature of some of the questions, in particular about possible child maltreatment, the limits of confidentiality were clearly explained. Because of the need to provide this warning to parents and children, it is likely that reports of abusive behavior are underestimated in our sample.

All legal and ethical guidelines regarding the disclosure of child physical and sexual abuse were followed. A full-time staff counselor intervened when reports of child maltreatment surfaced. The counselor either confirmed that prior reports had been filed to Child Protective Services, or in some cases filed new reports in cooperation with the mothers. A project staff counselor, who provided family and individual counseling and referrals to other agencies when necessary, was made available to families during all three waves of data collection.

After each interview, families were compensated for their participation and encouraged to call the project if they had any questions in the future. At Wave 1, mothers

were compensated with \$45.00 and children received an additional \$5.00 Mc-Donald's gift certificate. In subsequent interviews mothers received \$30.00 and youth usually received a \$20.00 Target gift certificate; in some cases older adolescents received a check or cash.

## Measures

### Wave 1

Marital violence      An abridged version of Straus' Conflict Tactics Scale (CTS; 1979) was used to measure mother's reports of relationship violence. The following 10 items from the CTS assessed mother's reports of the mean frequency with which they experienced violence by their partners: "How often has he ever: slapped you; kicked, bit, or hit you with a fist; hit or tried to hit you with something; beat you for a number of minutes; choked you; threatened you with a knife or gun; used a knife or fired a gun; threatened to kill you if you left him; ripped your clothes or destroyed your property; burned you with a cigarette or other hot object." The scale used to measure frequency of marital violence encompassed 0 to 20 or more times. Mothers' scores in this sample ranged from 0 to 18.2 with a mean of 2.8 ( $SD=4.2$ ).

Child Physical Abuse      Items assessing abusive tactics from the Parents Version of the CTS were used to measure parental abuse against the child. Children were asked five questions about physical abuse deriving from both their mothers and fathers: "How often has your mother/father ever: pushed, grabbed, or shoved you; slapped you;

kicked or hit you with a fist; hit you with an object (like a belt, board, or a cord); burned you with something hot (like an iron, cigarette, or really hot water)".

Mothers in turn reported on eight abusive tactics used by their partners against the child. Mothers were not asked about their own abusive tactics toward their child because it was expected that (1) reports about her own punitive parenting practices would be less reliable due to the nature of the interview than her reports about her partners; and (2) in order not to alienate the women. Mothers were asked the same questions as the children, with an additional 3 items: "How often has your partner ever: thrown something at him/her; beat him/her so there were marks and bruises; threatened any of the kids with a knife or gun, or told them he would kill them.". Table 2 shows the reported frequency of maternal and paternal physical abuse by respondent.

For the purpose of these analyses, child and mother reports about the father's abusive tactics were compared and the highest scores for each individual item preserved. Maternal and paternal abuse scores were collapsed, again retaining the highest score for each item. This resulted in a score reflecting mean frequency of abuse from either parent. The reason the highest score was used rather than the average of the two scores was to preserve the highest level of child physical abuse reported, by either parent. This method of coding was chosen because if mother's and father's scores were averaged and one parent was more punitive than the other, the child would resemble children who received normative levels of corporal punishment from both parents, masking the actual level of abuse experienced. Selecting the highest score reflects the maximum degree of

punishment the child experienced by either parent. Child scores on the physical abuse scale ranged from 0 to 17 with a mean of 3.4 ( $SD=3.3$ ).

Child Verbal Abuse Children were asked one item assessing maternal and paternal verbal abuse from the Parents Version of the CTS. Children were asked: “How often does your mother/father insult you?” Mothers were asked 2 items regarding how often their partners “yelled at” and “insulted” the child (see Table 2 for reported frequency of maternal and paternal verbal abuse by respondent). This measure was coded similarly to the measure of child abuse, comparing both mother and child reports on the same item and taking the highest score from either respondent, and collapsing reports of maternal and paternal abuse and retaining the highest score. Scores on the verbal abuse scale ranged from 0 to 20 with a mean of 10.6 ( $SD=6.9$ )

**Table 2. Frequency of Reported Physical and Verbal Abuse by Respondent**

	Number of items	Mean	SD
<u>Child Physical Abuse</u>			
Child’s report (father)	5	2.04	2.77
Child’s report (mother)	5	2.77	3.79
Mother’s report (father)	8	1.68	2.42
<u>Child Verbal Abuse</u>			
Child’s report (father)	1	4.70	7.38
Child’s report (mother)	1	2.20	5.19
Mother’s report (father)	2	9.53	6.97

Child Sexual Abuse Mothers and children were asked separately open-ended questions about possible sexual contact and abuse the children had experienced at Wave 1 and Wave 2. Positive responses were probed by interviewers and extensive information was obtained about the incident, including information about the nature and



circumstances of the abuse. Because only twelve boys in the sample indicated having been victims of sexual abuse, analyses involving this variable are limited to girls only.

At Wave 1, children were asked the following two questions: “How often has an older person touched you in ways that you didn’t like, or hugged you too hard in private, or tried to touch you under your clothes?” and “Did anyone ever get on top of you or make you lie down so they could get on top of you?”. Mothers were asked the following questions: “Do you have any reason to believe, or have any of your children ever complained that he [current partner] has had sexual contact with them?” and “Do you have any reason to believe, or have any of your children ever complained of any adult outside the [nuclear] family ever sexually contacting them?”

The questions to the children at Wave 2 included: “During the last year did you have any unwanted sexual experiences you didn’t want to have?”. “Before you were 13, did anyone try to make you touch a sexual part of their body or touch you in a private part of your body when you didn’t want them to?”, “Did anyone ever show you private parts of their body when you didn’t want them to?”, and “Did you ever have any (other) sexual experiences with someone who you didn’t want to?”. Mothers in turn were asked: “Did you ever think during or before this time period [1990-1991] that he [mother’s partner in 1990-1991] had any sexual contact with any of the children?”. “Did you ever have reason to believe during or before this time period [1990-1991] that anyone had sexual contact or was sexually inappropriate with any of the children?”, and “Since this time period – in the

last 5-6 years – do you have reason to believe that your child [target child] had any inappropriate sexual contact with someone at least 5 years older than she/he?”.

To address issues related to the credibility of the reports, transcriptions of all positive reports of sexual abuse were rated for credibility using a coding system developed by an attorney. The criteria used in making a determination of credibility included the clarity and consistency of detail reported about various aspects of the incident(s), such as the identity of the abuser, specific acts involved in the abuse, the time and place of the abuse, and the results of any report made of the abuse (i.e., to the child's parents, Child Protective Services, the police, etc.)

An index of child sexual abuse severity was created to capture the gravity of the abuse experiences by (1) summing the number of different perpetrators, (2) coding for perpetrator/victim relationship and (3) coding for degree of contact for each child. Perpetrator/victim relationship was coded as follows: 0 – no abuse; 1 – stranger; 2 – acquaintance; 3 – extended family member; 4 – nuclear family member, with the perpetrator most closely related selected for coding when more than one was identified. Degree of contact was coded as follows: 0 – no abuse; 1 – non-contact abuse; 2 – contact abuse not involving physical violence; 3 – contact abuse involving physical violence; 4 – penetration. “Penetration involving physical violence” was not created as a category, because it was felt that penetration during child sexual abuse is inherently violent. If a child was victimized on several occasions, the most severe degree of contact was selected for coding. Participants who were not abused received a score of zero for each of these

three variables. Because these variables were created on different scales, scores were first standardized before being summed in order to create an overall index of child abuse severity. Scores ranged from -1.6 to 11.3, with higher scores indicating higher levels of abuse severity.

## Wave 2

Parental Rejection The Parental Rejection Questionnaire (PRQ) assessed emotional abuse, humiliation, rejection, and warmth with 14 items each about mothers and fathers. Youth were asked 6 questions about their mother's and father's expression of warmth and concern using items from Hazzard, Christensen, & Margolin, (1983) Parental Warmth Questionnaire (PWQ). These items were inversely coded for the present study: "How often does your mother/father: Say nice things about you to other people, like "\_\_\_\_\_ is being nice or did a nice job"?; Tell you he/she likes what you did or thank you for doing things?; Encourage you in what you like to do?; Care if he/she has hurt your feelings?; When you are upset about something, how often do you talk with your father/mother about things that bother you or about your problems?; Pay attention to what you say?" (total=12 items).

The other items in the instrument, tapping parental rejection, were developed through two meetings with a single focus group held with graduate and undergraduate students at the University, led by the principal investigator. Based on the format and metric of the PWQ, youth were asked to rate how much they agreed with a given statement about how their parents treated them, on a scale ranging from 1 (never) to 5

(always). Sixteen questions (eight per parent) assessed the youth's experience with parental rejection, emotional abuse, and humiliation. These items included: "How often does your mother/father: Say very personal things and embarrassing things about you in front of other people?; Criticize the way you look physically?; Complain that it costs too much to take care of you?; Act like he/she is ashamed of you?; Yell at you when you've made a mistake?; Make you look stupid in front of other people?; Put down or make fun of things you're interested in?; Tell you you're doing things wrong?".

Separate mean scores were created by combining all of the items to assess overall mother's rejection ( $\underline{M}=2.0$ ,  $\underline{SD}=5.4$ ) and overall father's rejection ( $\underline{M}=2.1$ ,  $\underline{SD}=5.7$ ). Their respective reliabilities were acceptable (.82 for mothers and .81 for fathers). Similar with how child physical abuse during Wave 1 was coded, reports about both parents were compared and the highest score denoting the worst experience with either for mother or father was preserved. The overall mean score for this measure was 2.2 ( $\underline{SD}=.59$ ).

Family Functioning Style Items adopted from Trivette (1994) asked adolescents and mothers to rate how much they agreed with a series of statements about how their families got along, on a scale ranging from 1 (not at all like my family) to 5 (almost always like my family). These items included: "We usually talk about different ways we deal with problems and concerns"; "We find time to be together even with our busy schedule"; "We are always willing to pitch in and help each other out"; "family members listen to both sides of the story during a disagreement"; "We make time to get

things done that we all agree are important”; “We share our concerns and feelings in useful ways”; “We enjoy time together even if its is doing household chores”; “We usually agree about the things that are important to the family”. This study was particularly interested in the role of family dysfunction on adolescent outcomes, therefore the items were reversed coded so that a high score reflected a lack of positive family functioning. Mothers’ and youths’ reports were modestly correlated ( $r=.243$ ). Mean scores from mothers and youths reports were compared, and the highest score denoting the worst family functioning style was preserved ( $\bar{X}=3.0$ ,  $SD=.95$ ).

Parental Monitoring To measure monitoring, both mothers and adolescents were asked four questions regarding parent’s knowledge about their child’s activities. The items were adopted from Capaldi and Patterson (1989). Mothers were asked how often they knew: (1) where the child was when not at home; (2) who the child was with when not at home; (3) how often the child told her when they’d be home; and (4) how often the child left a note telling her where they were going. The adolescents were asked the same four questions about their parents’ knowledge of their whereabouts when not at home. These items were rated on a 5 point Likert scale, ranging from 1 (never) to 5 (always). Items were then reversed coded so that a high score depicted low monitoring. As previously noted, the decision to reverse code the items was selected in order to portray the influence of negative aspects of parenting on adolescent outcomes. Mothers’ and adolescents’ reports were correlated ( $r=.41$ ) with similar mean scores. Again, mother’s

and youth's reports were compared, and the highest score depicting the least amount of monitoring was kept ( $\bar{X}=2.1$ ,  $SD=.93$ ).

Depression Depression was measured using the adolescent's self report on the Catchment Epidemiological Survey for Depression (CES-D) (Radloff, 1977). The CES-D is a questionnaire used widely in epidemiological research and designed to assess symptoms of depression experienced in the week prior to administration. The 20-items used for this measure were limited to including only depressive symptoms and excluding a suicidality sub-scale. The CES-D is scored on a four point Likert scale ranging from 1 "rarely or none of the time" to 4 "always or most of the time" (Cronbach's  $\alpha = .74$ ). At Time 2 the mean score for the sample was 1.67 ( $SD=.46$ ).

Suicidality Suicidality was measured using a subscale from the CES-D. Four items assess suicidal ideation: "I thought about killing myself"; "I felt my family and friends would be better off if I was dead"; "I felt that I would kill myself if I knew a way"; "I had thoughts about death". The mean score for the sample on this subscale was 1.14 ( $SD=.39$ ).

### Wave 3

#### Self-Reported Delinquency

Self-reported delinquency was measured through the use of a self-report inventory of delinquent behavior consisting of 10 items. The items are similar in content to those used in other studies, including Rowe (1985). Respondents were asked to indicate if they had ever in their lifetime engaged in any of the listed acts and then how many times they

had engaged in each of them in the past year. Four additional items were assessed independently of this more traditional measure so as to capture more fully all aspects of adolescent offending. All of the items used to create self-reported delinquency were coded to capture the frequency of different delinquent acts engaged in during the past year. Due to the skewed distribution of several delinquency items, for the purpose of these analyses frequencies were coded as one to five or more times. This scale was chosen after examining the distribution of offense patterns and identifying a drop in frequency of offending after 5 times.

Non-Violent Delinquency Seven items from the delinquency inventory tapped into non-violent offending. Youth were asked how often they had: “Snuck or trespassed into a house or building just to look around”; “Gone into a house or building in order to steal something”; “Hurt or destroyed someone else’s property”; “Taken something worth less than \$50”; “Taken something worth more than \$50”; “Stolen a car”; and “Sold drugs to anyone”.

Assessed independently of this more traditional scale, running away from home was measured as an index of non-violent delinquency, based on it being a common feature of female offending. Youth were asked if they had ever runaway from home and how many times they had ever done so. A measure frequency in the past year was not asked as with the other items, so frequency over the child’s lifetime was used instead. The overall measure of non-violent delinquency (including running away) indicated high internal reliability, Cronbach’s  $\alpha \approx .70$ .

### Violent Delinquency

Three items from the original delinquency inventory tapped into violent or aggressive behavior. Adolescents were asked how often they had: “Threatened someone with a weapon”, “Set fire to someone’s property”, and “Hurt someone bad enough that they needed bandages or a doctor.”

Three additional items measuring violence against parents were also assessed independently from the original delinquency inventory and included as part of violent delinquency. The literature on female violent offending has indicated that a significant proportion of female violence is directed at family members. It appeared to be important to include a measure of violence against family for this reason, even though more traditional self-report measures do not include such items when measuring general violent offending. The participants were asked how often they had in the past year “thrown or hit something in anger when arguing with their mother/father”; “threatened mother/father with a weapon”, and “had to hit or push their mother/father”. The overall measure of violent delinquency (6 items) indicated high internal reliability. Cronbach’s  $\alpha=.62$ .

### Self- Reported Drug Use

Drug use was measured using a self-report inventory consisting of five items. Participants were asked to report if they had ever used any of the illegal substances listed and then how many times in the past month they had used them. The list of drugs included marijuana, inhalants, crystal meth, crack or cocaine, and other drugs (e.g. heroin, uppers, and hallucinogens). A frequency score of drug use was created similarly to self-



reported delinquency, with items being scored from 1 to more than 5 times. The mean score for the sample's self reported drug use was .24 (SD=.49).

#### Official Reports of Delinquency (2000)

To assess official reports of delinquency, juvenile court records were collected in the summer of 2000, nearly 10 years after the children had first been interviewed. The mean age of the children in the total sample at this time was 19 years old, with ages ranging from 16 – 23. The court records covered all incidents of arrest and referral throughout the minor's life thus providing the child's entire history in juvenile court. "Referrals" encompass physical arrests (child being brought into custody), and what is termed "paper referrals", which are citations legally equivalent to arrest resulting in the same juvenile court-related consequences, but without bringing the youth into immediate physical custody.

Offenses were grouped into one of eight categories for descriptive purposes. The eight offense categories are as follows: status, drug, order, petty theft, property, sex (excluding prostitution), violent and probation violation offenses. The offense categories created are mutually exclusive and individuals may have referrals for a variety of offenses and have multiple referrals (for a list of offenses that fall under each offense category, see Appendix A).

Since official records span over a 10 year period, an attempt was made to extract comparable information as that of self reports of delinquency, about the extent of juvenile court involvement during that same period. Therefore only referrals made after Wave 2

(1996) were included to create the indicator of official delinquency for the structural equations model. This was done so as to set up a temporal sequence that would allow a causal model to be tested, but also so that official reports might match more closely with self reports of delinquency in the past year. To match how self-reports were coded, referrals to juvenile court were coded from 1 to 5 or more referrals. The mean number of referrals to juvenile court for this sample was .72 (SD=1.63).

## CHAPTER 3: RESULTS

### Section #1: Gender Differences in Patterns in Offending

Self-Report Delinquency      Approximately 77% of the males and 66% of the females reported having committed at least one delinquent act in their life, with 60% of the males and 53% of the females having done so within the past year. Chi-square statistics tested for significant gender differences for lifetime and past year prevalence for specific delinquent acts. Table 3 presents the findings for individual self-reported delinquency items.

**Table 3. Percent of Youth Self-Reporting Delinquency**

Delinquent Act	<u>Males (n=146)</u>		<u>Females (n=150)</u>	
	Lifetime	Past year	Lifetime	Past year
<u>Non-Violent</u>				
Trespassed into a house or building	35**	16	19	9
Gone into house or building to steal	20**	9*	7	2
Hurt or destroyed property	35***	19**	14	8
Taken something worth <\$50	48*	21	34	20
Taken something worth >\$50	21**	11*	9	5
Stolen a car	16	6	15	5
Sold drugs	23*	15	13	10
Ran away from home	21	-	26	-
<u>Violent</u>				
Set fire to someone's property	11*	3	3	0.7
Threaten someone w/ a weapon	20*	10	10	5
Hurt someone bad enough they needed bandages or a doctor	29**	16*	15	7
Thrown or hit something in anger when arguing with your parents	43	18	37	13
Threatened parents w/ weapon	10	5	8	4
Hit or pushed parents	22	10	23	11

\*p<.05. \*\*p<.01. \*\*\*p<.001.

Chi-square analyses indicated that males were significantly more likely than females to report having engaged in almost all forms of offending at any time in their

lives, with the following exceptions: stealing a car, running away from home, and committing acts of violence against parents. When examining only past year prevalence, more boys than girls committed the following delinquent acts: going into a house or building to steal [ $\chi^2(1)=6.24$ ,  $p<.05$ ], destroying property that belonged to someone else [ $\chi^2(1)=8.64$ ,  $p<.01$ ], taking something worth more than \$50 [ $\chi^2(1)=4.46$ ,  $p<.05$ ], and physical assault with injury [ $\chi^2(1)=6.62$ ,  $p<.05$ ].

In order to assess the frequency of delinquent activity among those who self-reported any offense, the following analyses included only those males and females who had reported being delinquent at least once in the past year (males:  $N=88$ , females:  $N=79$ ). The past year was used to circumscribe frequency estimates because people are better at remembering the number of times they engaged in a certain activity within a recent time frame in comparison to recalling how many times they ever committed various acts. Results from the t-tests performed for self-reported delinquency are presented in Appendix B (Table B1). These t-tests revealed that boys engaged in property destruction ( $M=.70$ ,  $t=-2.94$ ,  $p<.01$ ), theft greater than \$50 ( $M=.39$ ,  $t=-2.23$ ,  $p<.05$ ), and hurting someone badly enough they needed bandages or a doctor ( $M=.26$ ,  $t=-2.24$ ,  $p<.05$ ) more often than girls. On the other hand, delinquent girls reported running away from home (lifetime) more often than did delinquent boys ( $M=1.52$ ,  $t=3.32$ ,  $p=.001$ ).

#### Self-Reported Drug Use

Analyses investigating drug use indicted that 60% of the males and 56% of the females reported having ever used drugs (31% and 24%

within the past month, respectively). However, no gender differences were found for the use of individual types of drugs, ever or in the past month (see Table 4).

**Table 4. Percent of Youth Self-Reporting Drug Use.**

Drug used	Percent used drugs one or more times			
	<u>Males (n=146)</u>		<u>Females (n=150)</u>	
	Lifetime	Past year	Lifetime	Past year
Smoked marijuana	61	30	52	21
Used inhalants (e.g. white out, paint)	12	1	8	0
Used crystal meth	15	.7	16	1
Used crack or cocaine	18	4	18	1
Used other drugs (heroin, uppers, hallucinogens)	18	7	17	3

Of those youths that reported using any drugs, analyses were performed to measure frequency of drug use. Appendix B (Table B2) shows that males and females in this sample engaged in similar rates of drug use, with marijuana being the drug used most often by adolescents in this sample.

#### Official Reports: Prevalence and Frequency

By the year 2000, 123

adolescents in this study were referred to Juvenile Court at least once, with girls ( $N=58$ ) being equally as likely as boys ( $N=65$ ) to appear in the Juvenile Court records. However, when examining only referrals made after Wave 2 (1996), significantly more boys, were referred to court than girls (37 boys vs. 21 girls) [ $\chi^2(1)=6.04$ ,  $p<.05$ ]. This finding suggests that boys are more persistent offenders than girls. (As described in the methods section, referrals made after 1996 were of interest because of the need to set up a temporal sequence that would allow a causal model to be tested later).

Table 5 shows gender differences in the prevalence of referrals to court for specific offense categories. Boys in this sample were more likely than girls in their life-course until the point of measurement to be referred to court for drug, order, theft, and property offenses. After 1996, the gender difference in referrals for drug offenses became non-significant, however more boys were arrested for violent offenses and probation violations after that time period than were girls.

**Table 5. Percent of Youth Referred to Juvenile Court.**

Juvenile Court Referrals	<u>Boys (n=146)</u>		<u>Girls (n=150)</u>	
	Lifetime	After 1996	Lifetime	After 1996
Status	21	15	27	11
Drug	13*	8	5	3
Order	26**	17*	12	7
Petty	21*	14	15	6
Property	23**	13**	9	3
Sex offense	3	2	0	0
Violent	21	12*	11	5
Probation Violation	15	10*	7	4

\*p<.05. \*\*p<.01.

#### Gender Differences Within the Sample of Youth Referred to Court

It was

found that the relative involvement of females in delinquent activities varied by offense. Similar to official reports of delinquency in national statistics, delinquent girls in this sample had lower lifetime rates of offending in most offense categories. Girls showed overall less involvement in violent offending (36%), probation violations (33%), order offenses (32%), property offenses (30%) and drug offenses (30%). Following the same pattern found in national statistics, female offenders accounted for a high proportion of status offense referrals (56%) and referrals for petty theft (41%). It is often reported that

girls, specifically, are disproportionately arrested for running away from home than are boys. In this sample girls represented 61% of all runaway referrals.

Although girls were as likely as boys to appear in Juvenile Court, gender differences emerged in the proportion of total referrals accounted for by each sex. In the sample of 123 juvenile offenders, the 65 delinquent boys accounted for a total of 208 arrests, whereas the 58 delinquent girls accounted for 129 total arrests, indicating a higher frequency of offending for boys in general,  $t(120)=-2.74$ ,  $p<.01$ . Gender differences in frequency of lifetime referrals for specific offense categories are presented in Appendix B (Table B3). Results indicate that boys had significantly more referrals for drug ( $t=-1.98$ ,  $p=.05$ ), order ( $t=-3.0$ ,  $p<.01$ ), property ( $t=-2.68$ ,  $p<.01$ ), and sex offenses ( $t=-2.05$ ,  $p<.05$ ) than girls.

**Table 6. Profiles of Offending Patterns Based on Total Number of Referrals.**

<u>Offense Category</u>	<u>Females (N=58)</u>		<u>Males (N=65)</u>	
	<u>Rank</u>	<u>Estimated %</u>	<u>Rank</u>	<u>Estimated %</u>
Status	1	31	3	15
Petty	2	16	3	15
Order	3	14	1	18
Violent	4	13	4	14
Property	5	11	2	16
Probation violation	6	9	5	11
Drug	7	6	6	9
Sex	-	-	7	2
Total Number of Referrals		129		208

Table 6 shows the rank order of offenses for which boys and girls in the sample were most often referred to court. These profiles represent the percentage of total male arrests and total female arrests represented by each crime category. The top offense

categories for which girls were most often referred included status offenses, accounting for 31% of all female referrals, petty theft (16%) and order offenses (14%). Boys were more likely to engage in order offenses, which accounted for 18% of all male referrals. Next came referrals for property offenses (16%), and then petty and status offense referrals each accounting for 15 % of all boys’ referrals.

Measured Indicators of Delinquency                      Measures of self-reported non-violent delinquency, self-reported violent delinquency, self-reported drug use, and official reports, were created as indicators of a latent construct of delinquency to be tested in later structural equations models for the entire sample. T-tests were performed to assess gender differences in frequency of these measured indicators for the total sample. Table 7 shows that gender differences emerged in only in official reports. with boys having a more referrals to court than girls.

**Table 7. Gender Differences in Measured Indicators of Delinquency.**

Variables	<u>Males (n=146)</u>		<u>Females (n=150)</u>		<u>t-Value</u>	<u>(df)</u>
	Mean	SD	Mean	SD		
Self-reported non-violent	0.34	0.64	0.29	0.48	-.857	260
Self-reported violent	0.19	0.42	0.11	0.31	-1.81 <sup>a</sup>	260
Self-reported drug use	0.29	0.54	0.19	0.44	-1.80 <sup>a</sup>	270
Juvenile Court referrals	0.97	1.84	0.49	1.34	-2.55*	265

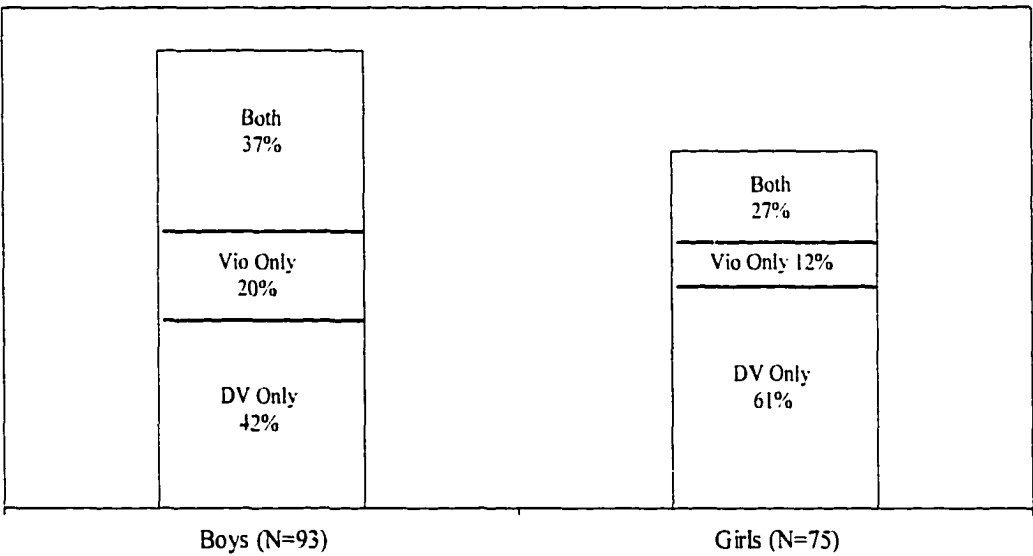
<sup>a</sup>p<.10, \* p<.05. \*\*\*p<.001

Contextual Differences in Self-Reported Violent Offending                      As described in the measures section, self-reported violent delinquency was created using items measuring violence against parents in addition to the traditional delinquency items measuring violence against peers. Theory has described that gender differences emerge in context of violent offending, with females being more likely to direct their violence



towards family members while male violence is more indiscriminate. In this sample significant gender differences emerge in context of violent offending. Figure 1 illustrates the proportion of the different forms of violence measured (violence against parents only, violence against peers only, and combination of both) within the sample of adolescents who self-reported engaging in any violent offending in their lifetime. A significant difference emerged between girls and boys in their patterns of violent offending. Of the girls who reported engaging in violence, 61% reported having been violent against their parents only, as compared to 42% of the boys ( $\chi^2=7.12, p<.05$ ). The distribution of violent offending appears to be more diverse for boys, whereas for girls it is focused on the family.

**Figure 1. Gender Differences in the Context of Violent Offending**



## Section #2: Gender Differences Across Other Measured Indicators

T-tests were performed to assess gender differences in the means and standard deviations the measured variables (see Table 8). The levels of violence experienced in childhood appear the same for both boys and girls, with the exception of verbal abuse, with boys reporting experiencing verbal abuse more often than girls. Differences in parenting during adolescence were also observed, with boys reporting less monitoring than girls. In terms of depressive symptomatology, girls expressed feeling more depressed than did boys during adolescence.

**Table 8. Gender Differences in Measured Variables.**

Variables	Males (n=146)		Females (n=150)		t-Value	(df)
	Mean	SD	Mean	SD		
Verbal abuse	11.6	6.60	9.7	7.09	-2.44*	293
Physical abuse	3.6	3.22	3.2	3.30	-1.19	294
Marital violence	2.7	4.01	2.9	4.37	0.40	293
CES-D (Depression)	1.6	0.41	1.7	0.50	2.01*	284
Suicidality	1.2	0.43	1.1	0.35	-0.16	278
Parental rejection	2.2	0.58	2.2	0.61	-0.26	289
Family functioning	3.0	0.97	3.1	0.94	0.30	291
Low monitoring	2.3	0.99	1.8	0.80	-4.68***	270

\* p<.05, \*\*\*p<.001

### Correlations Between Variables

Boys Table 9 presents the correlations matrices for boys and girls. The results for boys are located above the diagonal in bold. As expected, indicators of common constructs correlated with each other: childhood exposure to family violence, depression in adolescence, problem parenting practices in adolescence, and juvenile delinquency. For boys, measures of childhood exposure to family violence were

unrelated to most measures in adolescence, with the exception of marital violence which significantly correlated with all four measured forms of delinquency.

Measures of boys delinquency appear to be most influenced by measures of parenting in adolescence. Parental rejection significantly correlated with self-reported violent delinquency and self-reported drug use; family functioning was moderately related to self-reported non-violent delinquency and juvenile court referrals; and lastly, significant relationships were found between parental monitoring and self-reported delinquency, drug use, and juvenile court referrals. No significant relationships were found between measures of depression and suicidality and delinquency for boys.

Girls For girls, a somewhat different pattern of relationships appear between measures than for boys, with many measures being significantly related to one another. As with boys, indicators of common constructs correlated with each other, with one exception: self-reported violent delinquency and self-reported drug use were not significantly correlated.

Like boys, few correlations were found to be significant between exposure to childhood violence and subsequent delinquency, however unlike boys marital violence was not related to any aspect of delinquency. Instead, verbal abuse was correlated with self-reported non-violent delinquency and drug use, and physical abuse was significantly related to all aspects of delinquency, except self-reported drug use. Significant correlations between parenting in adolescence and delinquency were also found for girls. However unlike boys, relationships between measures of depression and measures of

**Table 8. Correlations Between Measured Variables.**

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Verbal	–	<b>.40***</b>	<b>.24**</b>	<b>.07</b>	<b>.13</b>	<b>.14*</b>	<b>-.03</b>	<b>.10</b>	<b>-.04</b>	<b>-.01</b>	<b>.13</b>	<b>-.01</b>	–
2. Physical	<b>.40***</b>	–	<b>.23**</b>	<b>.07</b>	<b>.16*</b>	<b>.14</b>	<b>.12</b>	<b>.21*</b>	<b>.04</b>	<b>.13</b>	<b>.11</b>	<b>.07</b>	–
3. Marvio	<b>.36***</b>	<b>.27***</b>	–	<b>.02</b>	<b>-.007</b>	<b>-.001</b>	<b>-.03</b>	<b>-.004</b>	<b>.24**</b>	<b>.22**</b>	<b>.34***</b>	<b>.18*</b>	–
4. CCES-D	<b>.19*</b>	<b>.16*</b>	<b>.27***</b>	–	<b>.49***</b>	<b>.22*</b>	<b>.11</b>	<b>.19*</b>	<b>.06</b>	<b>.15*</b>	<b>.10</b>	<b>.04</b>	–
5. Suicidality	<b>.16*</b>	<b>.10</b>	<b>.25**</b>	<b>.52***</b>	–	<b>.21*</b>	<b>-.07</b>	<b>.11</b>	<b>.02</b>	<b>.13</b>	<b>.09</b>	<b>-.01</b>	–
6. Rejection	<b>.15*</b>	<b>.10</b>	<b>.11</b>	<b>.31***</b>	<b>.27***</b>	–	<b>.49***</b>	<b>.32***</b>	<b>.17</b>	<b>.15*</b>	<b>.21*</b>	<b>.09</b>	–
7. FFS	<b>.26***</b>	<b>.08</b>	<b>.22**</b>	<b>.29***</b>	<b>.28***</b>	<b>.45***</b>	–	<b>.45***</b>	<b>.25**</b>	<b>.05</b>	<b>.10</b>	<b>.31***</b>	–
8. Monitoring	<b>.28***</b>	<b>.01</b>	<b>.14*</b>	<b>.27***</b>	<b>.25**</b>	<b>.28***</b>	<b>.34***</b>	–	<b>.22**</b>	<b>.16*</b>	<b>.15*</b>	<b>.24**</b>	–
9. SR NVio	<b>.23**</b>	<b>.20*</b>	<b>.12</b>	<b>.30***</b>	<b>.32***</b>	<b>.16*</b>	<b>.25**</b>	<b>.39***</b>	–	<b>.56***</b>	<b>.46***</b>	<b>.26**</b>	–
10. SR Vio	<b>.07</b>	<b>.34***</b>	<b>.02</b>	<b>.21**</b>	<b>.35***</b>	<b>.27***</b>	<b>.20*</b>	<b>.20*</b>	<b>.37**</b>	–	<b>.49**</b>	<b>.18*</b>	–
11. SR Drug	<b>.19*</b>	<b>.09</b>	<b>.08</b>	<b>.24**</b>	<b>.24**</b>	<b>.25**</b>	<b>.18*</b>	<b>.27***</b>	<b>.47***</b>	<b>.07</b>	–	<b>.20*</b>	–
12. Juv Court	<b>.06</b>	<b>.35***</b>	<b>.03</b>	<b>.19*</b>	<b>.10</b>	<b>.18*</b>	<b>.23**</b>	<b>.17*</b>	<b>.33***</b>	<b>.52***</b>	<b>.20*</b>	–	–
13. Sex abuse	<b>.18*</b>	<b>.15*</b>	<b>.07</b>	<b>.22**</b>	<b>.31***</b>	<b>.28***</b>	<b>.15*</b>	<b>.38***</b>	<b>.30***</b>	<b>.22***</b>	<b>.27***</b>	<b>.16*</b>	–

*Note.* Correlations for boys are above the diagonal in bold; correlations for girls are below the diagonal. Correlations including sexual abuse were run for girls only. \* $p < .10$ . \*\* $p \leq .05$ . \*\*\* $p \leq .01$ . \*\*\*\* $p \leq .001$

delinquency were also found to be significant. With regards to correlations between other domains, exposure to violence in childhood and parenting practices during adolescence were significantly related to each another; verbal abuse in particular was significantly correlated with all three aspects of subsequent measures of parenting, while marital violence correlated with family functioning and parental monitoring. Lastly, parenting practices in adolescence influence girls depression at the same time period.

### Section #3: Testing Gender Differences in Pathways to Delinquency

Hypothesized Measurement Models Multi-group structural equations modeling was used to test gender differences in pathways to delinquency. A hypothesized measurement model was tested by generating 4 latent factors representing distinct theoretical constructs: Childhood Family Violence, Problem Parenting in Adolescence, Adolescent Depression, and Juvenile Delinquency. Because latent factors are unobservable, they are operationally defined by the direct measurement of observed variables believed to represent them (Byrne, 1994). The measured indicators of latent constructs presumably share common variance that tap into the latent factor broadly construed. The strength of using latent factors is that they are “unidimensional concepts” in their purist form, unencumbered by the measurement error found in observed variables (Bollen, 1989, p.11).

The first latent factor measured was Childhood Family Violence. It was hypothesized that three observed variables measured at Wave 1: child verbal abuse, child physical abuse, and marital violence, would significantly load onto this one common

factor. The three indicators of family violence measured in childhood significantly correlated with each other and were thought to be representing the underlying theoretical construct of Childhood Family Violence.

The observed indicators measured during the second wave of data collection were hypothesized to form two distinct latent factors: Problem Parenting in Adolescence and Adolescent Depression. Measures of parental rejection, family functioning style and parental monitoring were hypothesized to link to the underlying latent factor Problem Parenting in Adolescence. As with the measures of childhood family violence, these three measures were significantly correlated with each other and were theoretically linked together to create a parenting factor at Wave 2. Adolescent Depression was made up of only two indicators: CES-D scores and a measure of suicidality. Both observed measures were originally part of the same scale, thus theoretically created to tap into an underlying construct of depression.

Lastly, it was hypothesized that the latent factor of Delinquency was comprised of four indicators measured at Wave 3: self-reported non-violent delinquency, self-reported violent delinquency, self-reported drug use and official reports of delinquency. By taking convergent measurement of several aspects of self-reported delinquency and official reports of delinquency, it was hypothesized that the four measured indicators most accurately defined the latent theoretical construct of delinquency.

#### Testing Factorial Invariance

Two multi-group confirmatory factor analyses (CFA) were performed to assess the adequacy of the hypothesized measurement

models and to test whether the proposed factors were invariant across sex. The purpose of the CFA is to estimate the parameters between the observed measures and the latent constructs they are hypothesized to be representing. Since gender difference in pathways were to be tested in the structural equations models, it was necessary to also determine that the hypothesized latent factors were representing the same theoretical constructs for both boys and girls.

According to practice, for each latent factor, either the variance of the construct or one of the indicators are set to the value of 1, while all other parameters are freely estimated. This is done for mathematical reasons, so that the scale can be set and the model can be identified (Bollen, 1989). For the following analyses, the indicators set to the value of 1 were selected because they were thought to explain most of the variance for the particular construct they represented.

The first model tested the fit of the delinquency construct. The four delinquency indicators, self-reported non-violent, self-reported violent, self-reported drug use, and official reports of delinquency, were initially tested together in a multi-group CFA model. For this model, self-reported non-violent delinquency was fixed at the value of 1, leaving the other parameters to be freely estimated. Results indicated that the model including the four indicators of delinquency did not provide a good fit, suggesting that the construct of Juvenile Delinquency thus measured was different for boys and girls. In order to determine where the discrepancy lay in the measurement of delinquency, confirmatory factor analyses were run separately by sex. It was discovered that for the girls' model,

self-reported violent delinquency did not significantly load on the Juvenile Delinquency factor.

In order to create a latent factor that fit both the boys' and girls' data, self-reported non-violent delinquency and violent delinquency were combined to create a single indicator of self-reported delinquency. In this model, the new created self-reported delinquency measure was set to 1. Results of the modified multi-group confirmatory factor analysis, shown in the top half of Figure 2, indicated that the 3 factor loadings for the Juvenile Delinquency construct were in the acceptable range and the model fit indices were good [ $\chi^2(2, 277)=1.47$ ,  $p=.48$ , CFI=1.00, RMSEA=.000].

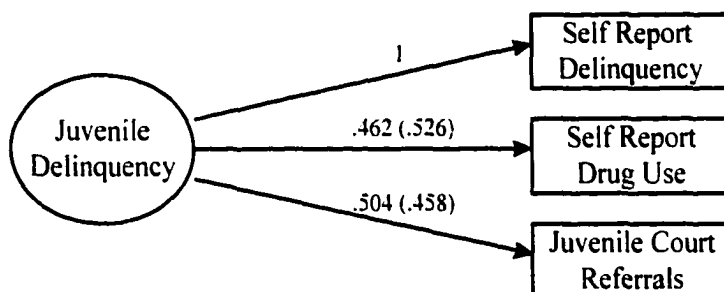
The second multi-group CFA tested the model fit and of the three remaining latent factors: Childhood Family Violence, Problem Parenting in Adolescence, and Adolescent Depression. In this model, for Childhood Family Violence the indicator child physical abuse was fixed at the value of 1. Parental monitoring was set to 1 for the factor Problem Parenting in Adolescence. Lastly, since there were only two indicators of Adolescent Depression, CES-D and suicidality were both fixed to be equal. All other indicators were left to be freely estimated.

All of the factor loadings for all 3 constructs were in the acceptable range and the chi-square and fit indices indicated an approximate fit of the data [ $\chi^2(40,277)=55.75$ ,  $p=.05$ , CFI=.96, RMSEA=.04] (see Figure 2). Although the chi-square for the model is significant, the Comparative Fit Index (CFI) and the Root Mean Squared Error of Approximation (RMSEA) indicate that the approximate fit of the model is good. The

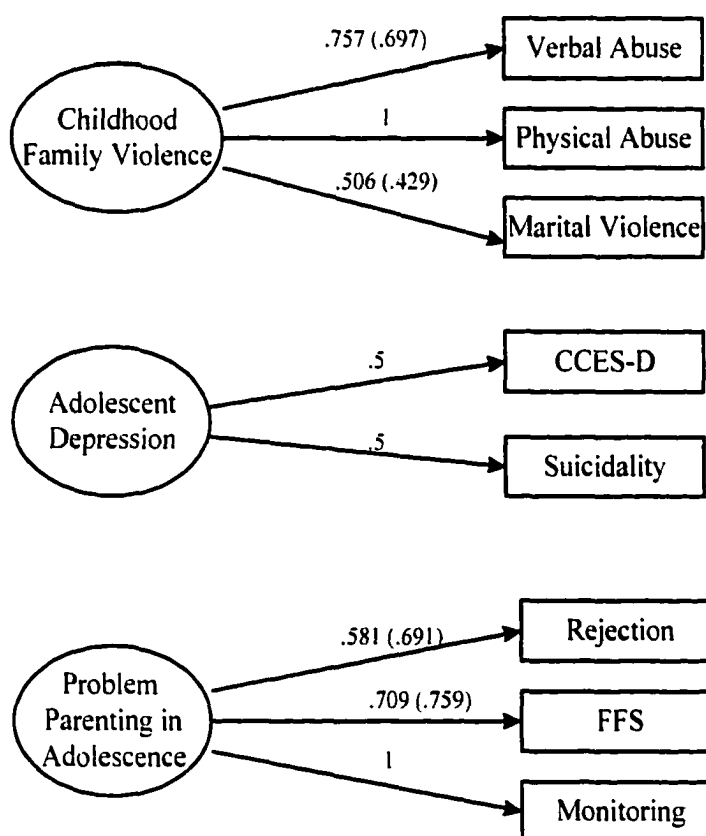


**Figure 2 . Factor Loadings from Confirmatory Factor Analyses  
(boys in parentheses)**

Model 1



Model 2



*Note.* The coefficients represent the standardized maximum likelihood estimates.

factors in both models were found to be invariant across sex allowing for the testing of gender differences in pathways. All factor loadings obtained from these models were transferred to the structural model and fixed to maintain sufficient ratio of participants to parameters being estimated (Bollen, 1989).

#### Structural Equation Models

Models for girls and boys were run

separately before running a multi-group SEM which would test for gender differences in pathways between factors. It is considered most appropriate to first establish a baseline model for each group separately. "This model allows for the best fitting one to the data both from the perspective of parsimony and from the perspective of substantive meaningfulness." (Byrne, 1994, p.162). All fully saturated models (girls only, boys only, and the multi-group) examined the relationships between six specific pathways: (1) Childhood Family Violence → Adolescent Depression, (2) Childhood Family Violence → Problem Parenting in Adolescence, (3) Childhood Family Violence → Juvenile Delinquency, (4) Deficient Parenting → Adolescent Depression, (5) Problem Parenting in Adolescence → Juvenile Delinquency, and lastly (6) Adolescent Depression → Juvenile Delinquency.

#### Girls Structural Model

The first structural model tested the hypothesized

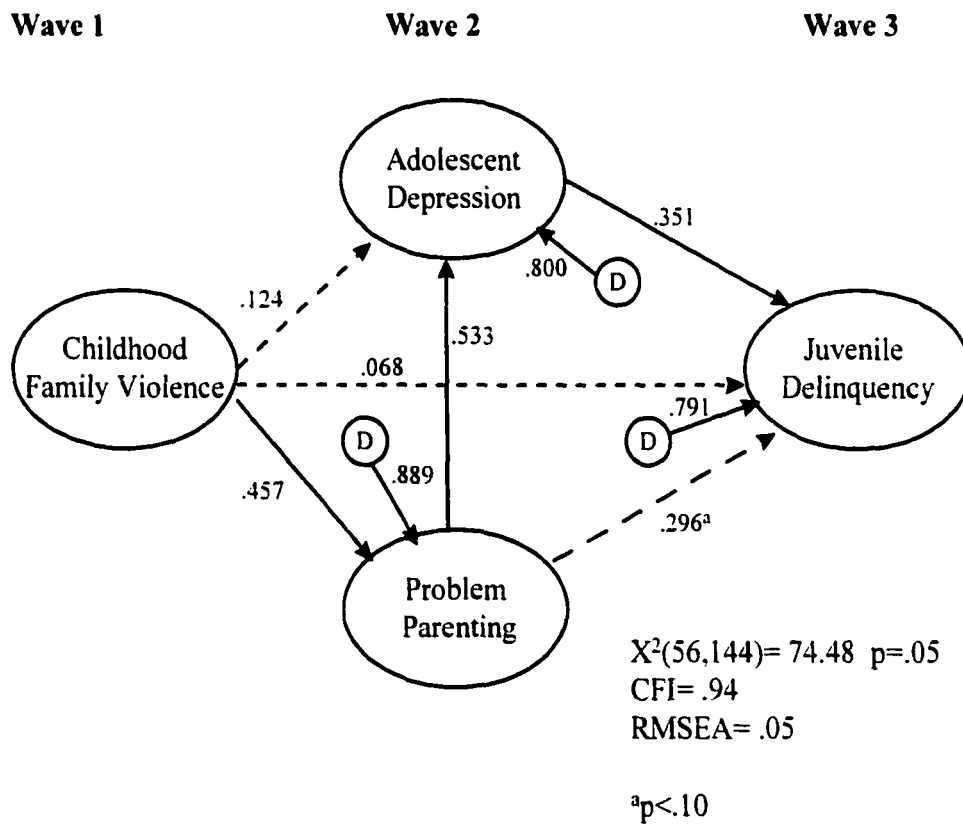
relationships between factors for girls only. The coefficients presented in Figure 3 represent the standardized maximum likelihood estimates obtained by using EQS.

Results suggest that Childhood Family Violence predicts Problem Parenting in

Adolescence (.457), Problem Parenting in Adolescence leads to concurrent Adolescent

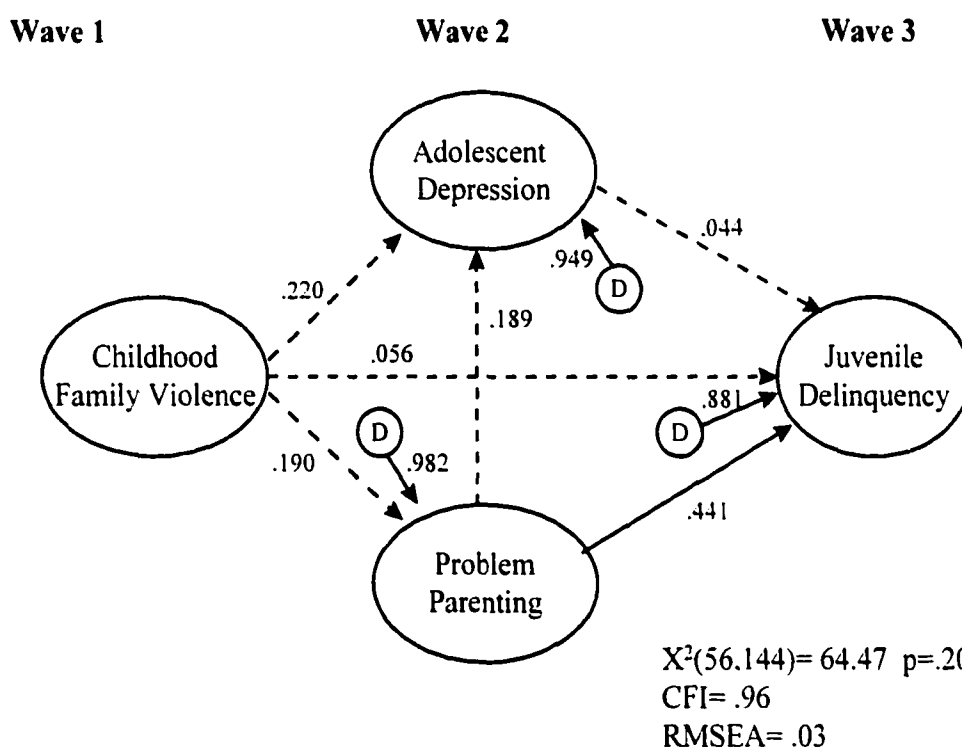
Depression (.533), and Depression in Adolescence predicts Juvenile Delinquency (.351). The paths from Childhood Family Violence to Adolescent Depression and to Juvenile Delinquency (.124 and .068) did not approach significance. Lastly, although Problem Parenting in Adolescence did not predict later Juvenile Delinquency, the pathway between the two factors was approaching significance in the predicted direction (.296). Although the chi-square for this model was significant, the model fit indices indicate that the approximate fit of the model was adequate [ $\chi^2(56,144)=74.48, p=.04$ , CFI=.94, RMSEA=.05].

**Figure 3. Girls' Structural Model**



Boys' Structural Model The boys' model appears quite different than the one for girls. The overall model fit for boys was very good, [ $\chi^2(56,135)=65.47, p=.20$ , CFI=.96, RMSEA=.03]. As shown in Figure 4, the only pathway in the boys' model that reached statistical significance, that pathway was between Problem Parenting in Adolescence and Juvenile Delinquency (.441).

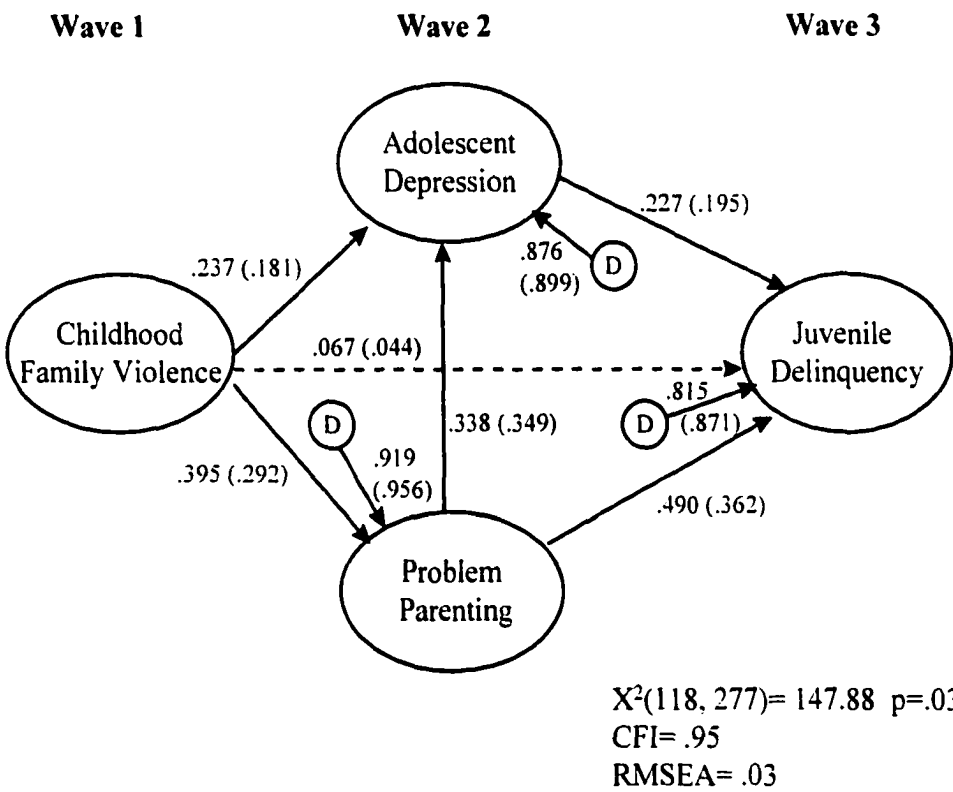
**Figure 4. Boys' Structural Model**



Multi-Group Models: Testing Gender Differences in Pathways Although the pattern of associations between the girls' and boys' models appear to differ from each other, running them separately does not test whether the differences in pathways are statistically significant between the two groups. To test the significance of the disparities

in pathways between males and females, a chi-square difference test was performed between a multi-group model which constrained all paths to be equal and a multi-group model that allowed all paths to be freely estimated across the sexes (Bollen, 1989). The

**Figure 5. Multi-Group Structural Models  
(boys in parentheses)**



test showed no significant differences in chi-square between the model that constrained all pathways and the model that allowed them to differ. This finding suggests the fully constrained model is a better fit than the fully freed model and that the differences

between boys and girls with regard to the pathways between constructs are not statistically significant (see Figure 5).

Although the fully constrained model indicated a good fit, alternative models were tested which allowed the groups to differ on specific hypothesized pathways. These models were then compared to the fully constrained model to test whether a better fit of the data could be explained by releasing certain pathways. The first alternative model tested released the pathway between Adolescent Depression and Juvenile Delinquency. Based on findings from research on depression and delinquency, it was hypothesized that this pathway would be a stronger predictor of female delinquency than male delinquency. The second alternative model allowed the pathway between Problem Parenting and Delinquency to be freed. Since research provides conflicting evidence regarding the role parenting has on male and female delinquency, this pathway was released in order to specifically test the hypothesis that girls' deviance is more affected by parenting than boys'.

The third model released the path between Problem Parenting and Adolescent Depression. Although this pathway was not specifically hypothesized to differ, it was released based on the Lagrange Multiplier Test in the fully constrained multi-group model. The Lagrange Multiplier Test indicated that releasing the pathway between Problem Parenting and Adolescent Depression would significantly improve model fit, suggesting a potential gender differentiated pathway. Much of the research on depression has found increased rates of depression in girls from problem homes as compared to boys

from similar environments. This pathway was not originally hypothesized to differ because the original purpose of the analyses was to examine gender differences in pathways to delinquency, not necessarily between other latent factors. Since the release of this pathway made theoretical sense, this third model was tested and compared to the fully constrained model.

Each of the three paths were freed one at a time to determine whether individual paths contributed to an improvement in chi-square. The results of the chi-square difference tests including the fully constrained model and the alternative models are presented in Table 10. For each model the table shows the chi-square for the model, the model fit indices, and the change in chi-square associated with the difference.

**Table 10. Chi-Square Difference Tests Between Multi-Group Models**

Model	$\chi^2$	df	p-Value	CFI	RMSEA	$\Delta\chi^2$
Fully Constrained	147.88	118	.03	.95	.03	
Adolescent Depression→ Juvenile Delinquency	145.72	117	.04	.95	.03	2.15
Problem Parenting→ Juvenile Delinquency	147.85	117	.03	.94	.03	0.03
Problem Parenting→ Adolescent Depression	142.57	117	.05	.96	.03	5.31*

\*p<.05

No improvement in chi-square was achieved by freeing the path either between depression and delinquency, or between family dysfunction and delinquency, indicating that these paths are not statistically different between groups. However a significant improvement in chi-square is seen when the path between family dysfunction and

depression is allowed to differ, suggesting that the nature of family relationships is more strongly associated with girls' mental health than boys'.

A final model was tested which released 2 pathways: Problem Parenting → Depression and Depression → Delinquency. The pathway between Problem Parenting and Delinquency was not included in this model because it was apparent in previous tests that there were no gender differences. In other words, problem parenting affected both sexes equally with regards to delinquency. The pathway between Depression and Delinquency was included because the chi-square difference test comparing it to the fully constrained model approached significance. Had the sample size been larger, gender differences in the pathway may very well have been detected. A significant improvement in chi-square, albeit small, was achieved by releasing both pathways together [ $\chi^2(116.277)=141.16$ ,  $p=.06$ , CFI=.95, RMSEA=.03;  $\Delta\chi^2(2)=6.72$ ,  $p<.05$ ]. These findings indicate that this model fits that data better than the fully constrained model. However, it should be noted that releasing these two pathways does not explain a better model fit than just releasing the one pathway between Problem Parenting and Depression alone.

#### Section #4: Sexual Abuse and Girls' Delinquency

The correlation between girls' sexual abuse and all other measures was examined included in correlation matrix presented in Table 9. Girls' sexual abuse history was significantly correlated with most other variables measured in this study. Early exposure



to marital violence was the only measure that failed to significantly correlate with sexual abuse.

Table 11 provides a descriptive summary of sexual abuse reported at during the first two waves of data collection. Thirty-seven girls in the sample had reported at least one incidence of childhood sexual abuse while growing up. Most girls were sexually assaulted by only one perpetrator (60%). In most cases the perpetrator was someone they knew (49%). Disturbingly, 42% of the girls reported having been raped in childhood.

**Table 11. Summary of descriptive information about sexual abuse events,  
W1 and W2 combined.**

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Identity of Perpetrator	Nuclear family	29%
	Extended family	18%
	Acquaintance	49%
	Stranger	4%
Degree of contact	Non-contact	7%
	Contact w/out violence	37%
	Contact w/ violence	15%
	Penetration	42%
Number of Different Perpetrators	1	60%
	2	30%
	3	9%
	4+	1%
<hr/>		

#### Structural Equations Model

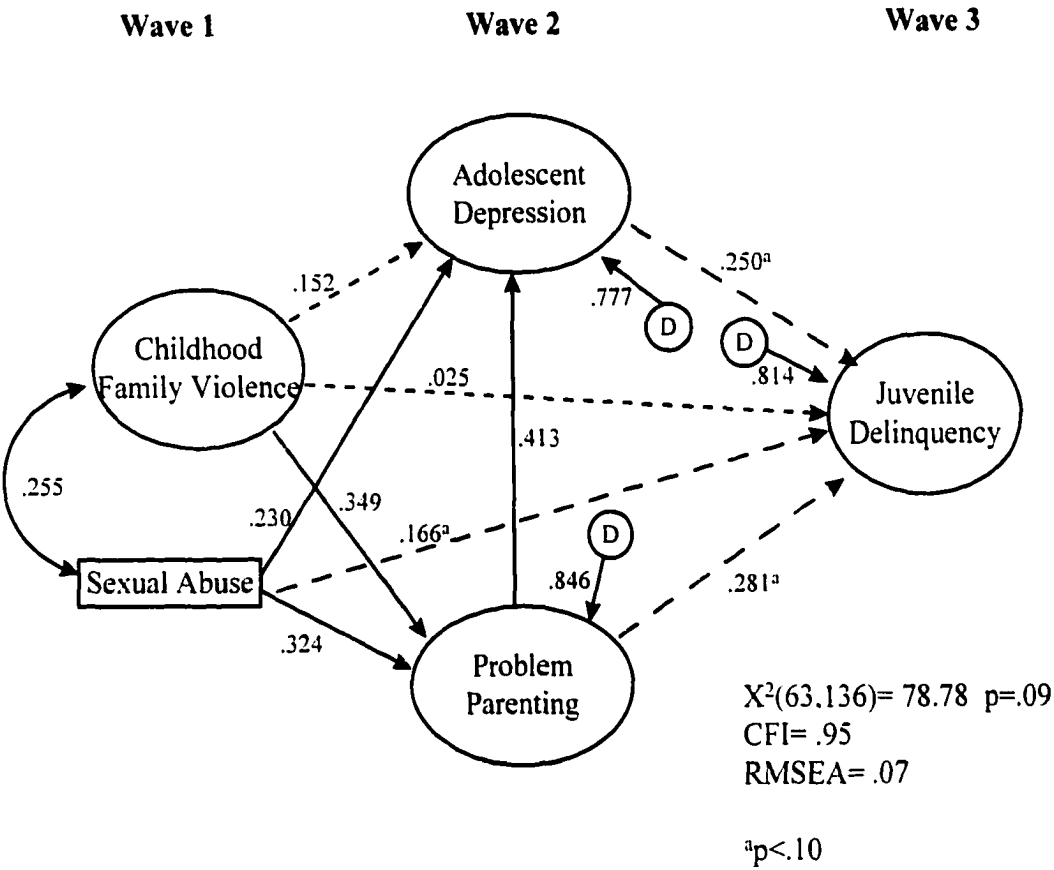
Sexual abuse was added as an observed

variable into a structural equations model. The decision to enter sexual abuse as an individual factor and not included as part of the latent construct of family violence was theoretically based. Female delinquency literature has suggested that the relationship

between sexual abuse and delinquency may be stronger than that of other forms of abuse for girls. Furthermore, sexual abuse did not significantly correlate with marital violence and thus a latent factor could not be created which included the 3 indicators family violence and sexual abuse. Also important to note, a multi-group model including sexual abuse could not be tested since the measurement of sexual abuse severity was limited to only girls' reports. With this in mind, the results from this particular SEM describe only girls' experiences and cannot be generalized or compared to gender-specific pathways since boys' experiences were not included.

The overall model fit with sexual abuse included was good. [ $\chi^2(63.136)=78.78$ ,  $p=.09$ , CFI=.95, RMSEA=.04]. Similar to the first model that included only girls, Childhood Family Violence predicts Problem Parenting in adolescence (.349), Problem Parenting increases girls' Depression (.413). Problem Parenting and Adolescent Depression did not predict delinquency (.281 and .250), however they both approached statistical significance in the right direction. The paths from Childhood Family Violence to Adolescent Depression and to Juvenile Delinquency remained non-significant. Girls sexual abuse was significantly correlated with Childhood Family Violence and predicted Depression and Problem Parenting in adolescence. Statistical significance was approached between Sexual Abuse and Juvenile Delinquency (see Figure 6).

Figure 6. Girls' Structural Model Including Sexual Abuse



## DISCUSSION

The primary objectives of this study were to examine (a) gender differences in rates and patterns of juvenile offending, (b) gender differences in pathways to delinquency and (c) sexual abuse as a pathway to female delinquency. Before discussing the results of the study, I must first acknowledge the unique composition of the sample and its limitations. In the original study, we specifically over-sampled families with histories of domestic violence. Many of the children were exposed to severe and chronic marital violence at the first wave of data collection. Although most of the violence ended by the time the children entered adolescence, other forms of family dysfunction highly correlated with domestic violence, as well as with delinquency, (e.g. parental criminality, parental substance use, parental psychopathology) continued to affect many families.

In addition, many of the “comparison” group families also came from lower socio-economic backgrounds and although they reported minimal violence in the home, they exhibited various forms of family dysfunction throughout the waves of data collection. These factors may account for the high rates of delinquency found among the youth in this sample, particularly among the girls. The findings from this study may not be generalizable to other community samples with lower levels of violence in the home. However, I believe that the approach taken is scientifically defensible for the questions framed in this dissertation and especially for comparing males and females from high risk backgrounds.

## Gender Differences in Rates and Frequencies of Juvenile Offending

### General Delinquency

Although boys and girls were equally as likely to report having engaged in delinquency at least once in their lives, there were predictable gender differences in the pattern of offending. An examination of lifetime self-reports by individual delinquency items shows that boys are more likely than girls to participate in almost all forms of offending. Gender differences in delinquency involvement become less evident with reports of delinquency within the past year, with boys continuing to be more representative of breaking and entering, vandalism, theft over \$50 offenses, and physical assault with injury. In terms of frequency of offending, delinquent boys are more likely to indicate higher frequency of participation in these same offenses, with the exception of breaking and entering. Girls, on the other hand, run away from home with more frequency.

These findings are consistent with the literature indicating similarities in rates and frequencies of self-reported offending between boys and girls, with gender differences emerging among more serious offenses (Chesney-Lind & Shelden, 1998; Giordano & Cernkovich, 1997). However, more similarities in offending were found within reports of the past year as opposed to lifetime offending, suggesting that boys may start offending at younger ages and continue later than girls. The only offense for which frequency of girls' offending was greater than boys' offending was for running away from home. This finding supports the idea that girls' criminal careers tend to be of a shorter duration than boys', with less recidivism when compared to boys (Bloom & Campbell, 1998).

In terms of gender differences in official reports delinquency, results indicated that by the year 2000, an approximately equal number of girls and boys were referred to Juvenile Court at least once in their life. Similar to the pattern of self-reports, significantly more boys were referred to court after Wave 2 (1996) than girls, providing additional evidence that boys may be more persistent in their offending than girls. Patterns of offending within our delinquent sample prove to be similar to official statistics. Delinquent boys make up the majority of violent, property, order, and probation violations, whereas delinquent girls are more represented among status offense and petty theft referrals. The proportion of girls arrested for running away from home also matched national statistics, with girls disproportionately representing 61% of all arrests in that category.

The rank ordering of offense patterns reveals similarities between male and female offending, with status and public order offenses ranking among the top three offenses for which both boys and girls are more often arrested. Violent offending ranks 4<sup>th</sup> for both girls and boys, accounting for 13% of all girls' offending and 14% of all boys' offending. It is important to note that although the rank ordering is similar, delinquent boys are still more likely to be referred for violent offenses than girls, 46% vs. 29%. Overall, the majority of girls' offending encompasses status offenses and petty theft (47% of total girls arrests), whereas the range of boys' offending is more diverse. In other words, boys in general engage in a wider variety of offenses than girls.

The diversity of offending in boys as compared to the limited range of offending in girls' delinquency (particularly with regards to running away and petty theft offenses) might suggest that girls' problem behavior reflects a troubled home life, whereas boys' delinquency reflects more of an involvement in a delinquent lifestyle (Chesney-Lind, 1997). It should be noted that this is all speculation based on descriptive statistics. Research examining the origins of delinquency and how they differentially predict different aspects of offending would provide a more accurate portrayal of potential gender differences in patterns and context of offending.

Drug Use Within this sample of youth, the drug of choice seems to be marijuana. Use of other substances, in particular narcotics, is at a much lower rate. Frequency of drug usage is also similar between boys and girls, again with marijuana being used most frequently. In contrast, juvenile court referrals for drug use are gender differentiated, with boys having more than 2 times as many arrests for drugs than girls. One potential reason for this difference might be that although boys and girls self-report using at similar rates, boys may be more likely to be on drugs while engaging in other delinquent activity. Research finds that girls are less likely than boys to be on drugs during the commission of other offenses (Belknap & Holsinger, 1998).

Another possible explanation is that boys are getting caught more than girls because they use more. However, in this sample there is nothing to suggest that boys may be more addicted, although gender differences in frequency of self-reported drug use is approaching significance in the predicted direction. Although frequency of drug use

can be described as a proxy of addiction, a direct measurement of addiction was not assessed. It can only be speculated that the pattern of addiction to illegal substances is stronger for boys than for girls. One final explanation for the discrepancy between self-reports and official referrals might be that official referrals for drug charges encompass more than just drug use, they also include selling and trafficking of drugs which is often associated with male offending in the literature. Results of self-reported drug dealings confirm that a gender difference exists in this particular domain of drug offenses.

Violent Offending Findings from previous studies suggest that the victims of female perpetrated violence are far more likely to be family members than victims of male violence (Acoca, 1999; Greenfeld & Snell, 1999; Rutter, Giller & Hagel, 1989). Taking a novel approach in measuring self-reported violent delinquency, I included a broad range of violent offenses encompassing not only measures of peer violence but also aspects of family violence. The measurement of violence in this study provides the opportunity to examine gender differences in the context of violent offending within a community sample of adolescents. Unlike reports of violence against peers, an alarmingly high rate of youth in this study have assaulted their parents. Nearly one quarter of the youth reported hitting or pushing one of their parents. Of some interest in this domain, there appears to be no significant gender differences in rates of participation for this form of violence, unlike with community level crime.

Within the sample of adolescents who self-reported having engaged in any violent offending in their lifetime, a closer examination into the context of violence found that a



much larger proportion of girls' violence was defined as violence against parents only as compared to male violence. The high rates of adolescent violence against parents in general and the overall lack of gender differences may again be a function of the families in the study. According to social learning theory, one would expect increased levels of violence in children who were exposed to high levels of violence in their homes (Patterson, 1982). This may be particularly true in the case of girls' violent offending based on the theory that the family plays a central role on girls' development and socialization.

Research suggests that the etiology of female offending typically can be traced back to severe problems in intimate relationships, and when the offense is violent, girls' aggression and violence are often directed against the people they are closest to (Acoca, 1999; Greenfeld & Snell, 1999; Rutter, Giller & Hagel, 1998). In this sample, at the bivariate level, self-reported violent delinquency and childhood physical abuse are significantly correlated for girls. Moreover, this relationship is not found for boys. It may be that violence is a unique tactic of self-preservation, similar to running away from home, that girls growing up in abusive households develop in order to deal with their victimization (Chesney-Lind & Shelden, 1998).

### Gender Differences in Pathways to Delinquency

Risk Factors Risk factors associated with offending in girls are generally similar to those found to apply in boys (Rowe, Vazsonyi, & Flannery, 1995; Steffensmeier & Allen, 1997), lending support to traditional theories claiming that pathways to

delinquency are the same for boys and girls. Gender-specific theories, characteristic of feminist methods, argue that differences in socialization influence unique patterns and profiles in female offending as compared to male offending. These two approaches enables one to test slightly different questions: traditional theories test whether the risk factors can explain male and female delinquency in general, while gender-specific theories test the role certain risk factors have in female delinquency. However, in order to test directly gender difference in the strength of association within pathways to delinquency, one should take an integrated approach that enables one to compare boys and girls directly on those risk factors that they share in common and test them against each other (Cohen, Cohen, & Brook, 1995).

I first examined whether risk factors in each theorized construct were initially different for boys and girls. During childhood, girls and boys experience similar levels of exposure to marital violence and physical abuse. However, gender differences emerge in exposure to verbal abuse, with boys being yelled at and insulted more often than girls. The measurement of verbal abuse was limited, therefore explanations for this gender difference can only be speculative. It isn't difficult to accept that boys may in fact be yelled at more by their parents than girls when taking into consideration the behavioral differences between boys and girls often described in the literature. For example, boys have higher rates of diagnosis of attention deficit disorder and conduct disorder than girls. Studies of children from violent homes indicate boys are more likely to act out while girls

are more likely to internalize. Perhaps because boys' acting out behaviors are more overt and visible than girls', they elicits more parental attention and discipline.

Parenting risk factors in adolescence indicate boys are less monitored than girls. Differences in levels of monitoring often are depicted as accounting for the differences in rates between male and female delinquency (Cernkovich and Giordano, 1987; Giordano & Cernkovich, 1997; Hirschi, 1969; Jang & Krohn, 1995; Seydlitz, 1991). Monitoring is highly correlated with other parenting factors suggesting that it encompasses more than just knowing where your children are. Although gender differences in monitoring are often described more as a means of gender differentiated socialization, it is plausible that monitoring also may be representative of broader expression of emotional attachment to children. The lack of monitoring, broadly construed as a form of parental neglect, may prove to be more disruptive for girls than for boys, since boys are less monitored in general than girls. In this sample, although low monitoring was significantly related to all forms of delinquency for both boys and girls, the correlations between monitoring and girls' offending were stronger than those for boys.

The last area of risk examined was adolescent depression. Depressive symptomatology is found to be more descriptive of girls than boys in this sample. This finding is to be expected given the literature showing girls' vulnerability to depression. The relationship between depression and delinquency is also found to be stronger for girls than for boys at the bivariate level. Girls' depression is significantly correlated with all forms of delinquency, whereas for boys the link was not evident. It seems almost

counterintuitive that depression would be linked to delinquency since the behavioral symptoms characteristic of each appear so different. What remains to be explained is whether the comorbidity of these symptoms stems from sharing similar risk factors or whether this relationship can be explained in more causal terms.

Factor Models      The initial finding from the first confirmatory factor analysis indicating that the delinquency factor, defined by four indicators, was not representing the same theoretical construct for boys and girls was unexpected but not wholly unsurprising. The correlation patterns between the four measures of delinquency were significant for boys, some very highly, confirming that these indicators were indeed measuring different aspects of the common construct of delinquency. It was particularly encouraging that court referrals made after 1996 were correlated with self report data. For girls similarly strong patterns of correlations between indicators existed with one notable exception; the relationship between self-reported drug use and self-reported violent delinquency was negligible.

Although differences were expected between girls' and boys' delinquency, it was quite surprising that drug use and violent delinquency did not correlate for girls. One would suspect that a relationship would exist between girls' drug use and violent offending, since violent offending for girls represents severe levels of family dysfunction as defined by violence against parents. However this proved not to be the case. Girls' violence seems to be an expression of something other than general delinquency. These initial results provide support for the feminist theory which suggests that delinquency (in

violent delinquency) may in fact be a different phenomenon for girls than boys, therefore requiring separate explanations and theories.

Caution must be taken when interpreting these results, however. Violent delinquency is rarely, if ever, measured the way it was in the present study. If violence against family members is examined at all, it is usually placed in its own category or combined with school violence (e.g. Sampson, 1985). It is therefore possible that violence, traditionally measured, is the same across both sexes. There is some evidence to suggest that violence traditionally measured is different for boys and girls. When testing the measurement and structural invariance of self-reports and official reports of delinquency across the sexes in multi-group structure models. Sampson (1985) found discrepancies in violent delinquency for boys and girls. It was suggested that the skewed distribution and infrequency of the serious crime for females accounted for the difference in meaning of violent crime between boys and girls. Further research focusing on the contextual differences between girls' and boys' family versus peer directed violent offending is needed in order to fully understand the nature of female violent offending.

#### Gender-Specific Models

Before performing the multi-group analyses which would directly compare whether gender differences in pathways existed, I performed separate structural equation models for boys and for girls with all the variables they held in common. These initial gender-specific models portray widely varying pathways to delinquency. Results will be discussed by way of the hypothesized pathways.

(1) Does childhood exposure to family violence predict adolescent delinquency?

The answer to that question is no for both boys and girls. Much of the literature predicts a relationship between family violence and subsequent delinquency, therefore the lack of a significant pathway between the two constructs was somewhat surprising. One explanation for this null finding can be traced once again to the sample population studied. As previously described, since families with violent histories were over-sampled in this study, a convenience sample of community families were recruited as a comparison group. As described earlier in this section, families reporting low levels of violence in the home may still be suffering from other unexplored risk factors relating to delinquency, such as poverty, parental alcoholism and drug use, parental criminality and psychopathology.

One final explanation takes into consideration the influence of adolescent parenting practices as mediators between childhood family violence and adolescent delinquency (Carroll, 1977; McCloskey, et. al., 2001; McCord, 1983; Simons, Robertson, & Downs, 1989; Simons, Johnson, and Conger, 1994). Meta-analyses examining family risk factors find that parental discipline ranks as one of the weaker predictors of delinquency when compared to other family factors, such as parental rejection and monitoring (Lipsey & Derzon, 1997; Loeber & Stouthamer-Loeber, 1986). Yet, it should not be overlooked that problem parenting practices in adolescence are highly correlated with abusive parenting in childhood, and may in fact be an extension of one another.

(2) Do current parenting practices mediate the relationship between childhood family violence and adolescent delinquency?

For girls, family violence predicts parenting problems in adolescence. Parenting problems do not lead to adolescent delinquency, although the pathway approaches significance in the predicted direction. For boys, the *only* significant relationship to delinquency is from problem parenting in adolescence. The finding that problem parenting did not lead to girls' delinquency was quite surprising. All the literature on this topic indicates that a relationship should exist between these two constructs for girls. It is, however, reassuring that this pathway was approaching significance in the predicted direction.

Further exploration introduces another possible explanation for the for the weaker relationship between problem parenting and delinquency for girls as compared to boys. Perhaps problem parenting, in of itself, is necessary but not sufficient enough to propel girls into a delinquent lifestyle; other circumstances might also need to be present in order to provide the necessary "push" for girls. For example, if girls in fact rely on a network of intimate relationships for their emotional well being, perhaps social support networks out side of a home where relationships are strained, buffers girls from negative outcomes such as depression and delinquency. Although these relationships can not be tested in the present study, they are potential avenues for future research.

(3) Does depression mediate the relationship between family violence and delinquency?

Results from the two models indicate that childhood family violence does not predict adolescent depression for either boys or girls. Instead, family violence in childhood was indirectly related to girls' depression through problem parenting in adolescence. This pathway was not found for boys. Similarly, the pathway between depression and delinquency was significant for girls but not for boys. In short, depression mediates the relationship between problem parenting in adolescence and delinquency for girls only.

Although childhood family violence did not predict adolescent depression for either boys or girls, the etiology of girls' depression could still be traced to family factors. Boys' depression, on the other hand, appears unrelated to family functioning at any measured time point. These findings may imply a different etiology for boys' depression than for girls' depression. For example, Loeber et al. (1998) found that internalizing problems such as depressed mood and anxiety were uniquely associated with attention deficit hyperactivity disorder (ADHD) scores for boys. In a separate set of analyses, internalizing problems were associated more with a diagnosis of ADHD than with conduct disorder for older adolescent boys (Loeber et al, 1994). This comorbidity extended to depression as well (Biederman, Newcorn, & Sprich, 1991; Jensen, Shervette, Xenakis, & Richters, 1993; Kolko, 1993; Rey, 1994).

Furthermore, the lack of association between depression and delinquency for boys may stem from its comorbidity with ADHD. In other words, boys who suffer from depression but do not show signs of ADHD or conduct disorder are less likely to engage



in delinquency than depressed boys identified as also having these comorbid behavioral problems. These hypotheses are only possible explanations for the gender differences in depression and delinquency found in this study. Further research in this area would need to include girls in order to confirm whether the links between ADHD, depression, and delinquency are specific to boys only.

Multi-Group Models The results of the two gender-specific models give the impression that boys and girls differ in their pathways to delinquency. However, this method of analysis is limited in its ability to make any such claims. By testing models separately by sex we do not know whether the presumed differences in pathways for boys and girls are in fact statistically significant. A multi-group SEM is used to address this question. Statistically this procedure entails running an initial model, which simultaneously tested boys and girls' models together, with all hypothesized pathways constrained to be equal by sex (Byrne, 1994). This is the most conservative test for identifying differences in pathways. We are basically forcing the pathways to be the same in order to test model fit. Subsequent steps include testing for chi-square differences between the fully constrained model and models which allow hypothesized pathways to vary between the sexes.

The fit indices from the fully constrained model show that this model fit the data well, signifying that the pathways between the latent factors do not statistically differ between boys and girls. These results were rather surprising, given the differences implied when the models run separately by sex. Four alternative models were tested

against the fit of the fully constrained model. Of the three pathways hypothesized to differ, only one proves to be gender differentiated. The pathway between problem parenting in adolescence and adolescent depression shows a significantly large difference between parameter estimates for girls and boys. This gender differences in this pathway makes theoretical sense based on the literature linking girls' depression and disrupted family relationships.

The lack of gender differences in the pathway between parenting in adolescence and juvenile delinquency was somewhat expected, even though this particular pathway was not found to be significant when tested in the girls' model. Most claims that girls are more affected by family practices are theoretically based, however not necessarily empirically tested. Research that directly tests for gender differences between these domains have generally found few differences, if any. Perhaps certain aspects of family functioning affect boys and girls differently, as was found in the study by Cernkovich and Giordano (1987). However, these findings indicate that girls and boys are equally affected by an overall latent construct of problem parenting. Further analyses may be able to disentangle the unique effects of individual parenting practice on male and female juvenile offending.

Finally, the lack of a gender difference in the pathway between depression and delinquency was most surprising. Bivariate tests between indicators of depression and indicators of delinquency showed significant correlations for girls and no relationships between the measures for boys. In addition, when the models were run separately by sex

they showed a moderately sized parameter estimate for girls (.351) and a very small parameter estimate for the boys (.044). Although freeing the pathway between depression and delinquency did not explain better model fit than the fully constrained model, it is worth mentioning that the difference in chi-square test approached significance in the predicted direction.

The lack of significant difference between depression and delinquency for boys and girls could be accounted for by the lack of power in the model. Small sample size minimizes the power of the model. If a larger sample were available, significant gender differences may have been detected. Another limitation which may account for the lack of gender difference may be explained by the way depression was measured. By using only two indicators of depression the error term for the latent factor in this model was restricted at the lower bound. A broader measurement of the latent factor of depression would better be able to detect gender differences between the constructs.

The final multi-group model, which released the pathways between parenting in adolescence and depression and depression and delinquency, was performed in order to test whether the model fit improved by simultaneously releasing the two pathways already found to be significantly different (or approaching significant difference) for boys and girls in previous multi-group models. The change in model chi-square indicated an improved model fit over the fully constrained model. A large difference was found between parameter estimates for boys and girls for the parenting/depression pathway (.502 and .202) and a more moderate, yet significant, difference was found for the

parameter estimates of the girls' and boys' pathway between depression and delinquency (.287 and .069). This model reinforces the previous findings detecting gender differences in pathways.

### Sexual Abuse and Female Delinquency

Feminist theories maintain that female delinquency is a distinct phenomenon requiring separate constructs and hypothesizing unique causal paths. Although most risk factors examined are common to both boys and girls, there are some that are more relevant to girls' lives which need to be studied separately. These risk factors include higher rates of depression, sexual abuse in both childhood and adolescence, and re-victimization. These risk factors not only increase the risk of delinquency in girls but also increase the risk of other high risk outcomes such as early sexual initiation, teen pregnancy, and other sexual and reproductive health problems, which can be directly linked to girls' early experiences with victimization.

The goal of the present analysis was to examine the initial relationship between childhood sexual abuse, parenting practices during childhood and adolescence, depression, and female delinquency. Childhood sexual abuse was related positively to problem parenting in adolescence and adolescent depression as established in the structural equations model. Although the outcome of delinquency appeared to be unrelated to the other factors in the model, the paths to delinquency from sexual abuse, adolescent depression, and problem parenting in adolescence approached significance in the predicted direction ( $p < .01$ ).

Again, as with the previous models tested in this study, the lack of significant pathways may be a function of the small sample size and lack of power in the model. Structural equations models are sensitive to number of pathways in relation to the number of subjects tested. Although this model includes a sufficient minimum number of subjects in order to test the model, small sample sizes limits measurement accuracy. With that in mind, the patterns of relationships emerging in this model suggest a unique connection between sexual abuse and adolescent outcomes above and beyond other measures of childhood abuse.

Since so many more females are victims of child sexual abuse than males, it is particularly important for those who work with female offenders to have a clear understanding of the short- and long- term impact of this form of maltreatment. Delinquency is only one feature of the range of problem behaviors and symptoms that sexually abused girls exhibit. Co-occurring symptoms include depression, sexual acting out, and academic failure. Compounding the behavioral problems stemming from childhood victimization is the finding that victimization in childhood elevates the risk for repeat victimization (e.g., Koss & Dinero, 1989; McCloskey, 1997; Whitbeck, Hoyt, & Ackley, 1997; Wyatt, Guthrie, & Notgrass, 1992). These experiences launch a lifecourse where maladaptive beliefs that have formed to aid survival in a harsh childhood environment are solidified and confirmed by ongoing experiences (Koss, Figueredo, & Prince, 2000).

Involvement in a delinquent lifestyle may also place girls at an increased risk for future victimization. This link is largely ignored in the delinquency literature. It has been suggested that female offenders have attributes that make them prime targets for attacks by others on the street and at home (Lake, 1993). One study found that the vulnerability to victimization rose dramatically in the lives of female inmates as they entered adulthood, whereas for men, vulnerability and victimization decreased on reaching adulthood (McClellan, Farabee & Crouch, 1997). What these findings repeatedly suggest is that delinquent behavior is not the only issue that requires attention in the treatment of female offenders.

### CONCLUSION

It has been suggested that theoretical and empirical efforts are needed before the phenomenon of female delinquency can be fully understood and adequately prevented or treated (Hoyt & Scherer, 1998). Clearly, female delinquency is a complex phenomenon with a variety of determinants and diverse etiological paths. The question remains, is the phenomenon of female delinquency so different from male delinquency that it requires separate constructs and hypotheses of unique causal pathways? Depending on which approach is taken, the answer to this question may differ.

Using a gender-specific approach, limiting analyses to only one sex at a time, we found that the models between boys and girls appeared to differ dramatically in terms of which pathways were significant. However, by simultaneously testing boys and girls' models against each other, both similarities and differences in pathways emerged,

providing support for both traditional theories and gender-specific theories. It is necessary to take into consideration gender and the way it mediates the manner in which broad social forces described in traditional theory play out into gender differences in types, frequency and context of offending (Steffensmeier & Allen, 1996). It is important to remember that each approach has its own strengths and weaknesses that should be taken into consideration. Different research questions may call for different methodological approaches.

Finally, it should be noted that although causal assumptions are made at the outset of these analyses, the findings represent only correlations between variables. Longitudinal data is used to establish temporal sequence, however, constructs are measured at only one point in time thus limiting the interpretation of the findings. For example, this study proposes a causal pathway between problem parenting and delinquency. However, some studies indicate that this relationship may be reciprocal in nature, and maybe even causal in the other direction (Loeber and Stouthamer-Loeber, 1986; Rollins & Thomas, 1979). We know that the youth in our sample have lengthy delinquent histories, some stretching back as far as the first wave of data collection. Future analyses need to incorporate measures of latent constructs over time to test true causality.

## APPENDIX A

## JUVENILE COURT OFFENSE CATEGORIES

**Status Offenses**

Incorrigible

Truancy

Runaway

Runaway-in-county

Health/Morals/Welfare

Tobacco

Minor consuming liquor

Alcohol possession

Alcohol buy

Alcohol under age consumption

Ward/RAJ/DES

Curfew

**Drug Offenses**

Dangerous drug-possession

Possession/use/sale marijuana near school

Possession/use/sale dangerous drug near school

Marijuana sale &lt;2lbs'

Marijuana possession &lt;2lbs

Drug Paraphernalia - F

Drug Paraphernalia - M

Drugs on or near school grounds

Narcotic drugs- possess

Posses/use/sell toxic vapor

Contraband/drugs- prison

Conspire Dangerous Drug Sale

Marijuana Possession reduced to M

**Order Offenses**

Endanger- no risk of death

Gang participation

DV/Disorderly conduct

Failure to check ID

Resisting arrest

Obstructing criminal investigation

False report to law enforcement

False reporting



Obstruct governmental operations  
 Hindering prosecution- 2<sup>nd</sup> degree  
 Hindering prosecution- 1<sup>st</sup> degree  
 Escape correctional facility'  
 Obstructing judiciary  
 Unsworn falsification  
 Fireworks- use/sell/posses  
 DV-Disorderly conduct  
 Disorderly conduct  
 Disturbing the peace  
 Loitering  
 Tattooing a minor w/out parental consent  
 Disorderly conduct w/ weapon  
 Interfere w/ peaceful conduct @ school  
 DUI-drugs  
 Hit/Run-vehicular damage  
 Driving on suspended license  
 Refuse to show license  
 Unlicensed driver refused to show ID  
 Reckless Driving  
 Racing  
 Unlawful flight from law enforcement  
 Trespass  
 Criminal trespass  
 Criminal trespass- non residence/community yard  
 Criminal trespass residence  
 Criminal trespass- yard  
 In park after hours  
 Promote prison contraband- not weapon or drugs  
 DV- Criminal trespass

### **Petty Theft**

Shoplifting >\$100  
 Shoplifting <\$100  
 Petty theft <\$250  
 Shoplifting <250  
 Attempted petty theft

### **Property Offenses**

Arson  
 Reckless burning  
 Arson- unoccupied structure  
 Arson- unoccupied structure<\$100  
 Burglary

Burglary tools- possession  
 Burglary- Residence  
 Burglary- Nonresidence/yard  
 Theft  
 Shoplifting \$250+  
 Theft \$3000+  
 Theft \$2000+  
 Theft \$250+  
 Theft by possession/control>\$250  
 Theft \$500  
 Theft \$750  
 Theft \$1500  
 Theft-\$1000+  
 Theft-\$500  
 Theft-other  
 Stolen vehicle  
 Theft of vehicle  
 Unlawful use of means of transportation  
 Forgery-check  
 Fraudulent schemes  
 Theft credit card  
 Possess stolen property \$250+  
 Received stolen property  
 Possess stolen property  
 Trafficking stolen property  
 DV- damage property >\$250  
 Aggravated criminal damage \$0-1,500  
 Aggravated damage \$1500+  
 Criminal damage <\$250  
 Criminal damage \$250+  
 Criminal damage \$2000  
 Damage petty graffiti  
 DV- petty damage  
 Criminal damage- petty  
 Attempted theft of vehicle  
 Criminal damage \$250+  
 Attempted criminal damage  
 Conspire to criminal damage

### **Sex Offenses**

Sexual contact with a minor under 15  
 Sexual assault  
 Child molestation  
 Crime against nature

Sexual abuse

### **Violent Offenses**

Transfer to adult court

Murder 1

Kidnapping

Robbery- armed

Robbery- aggravated

Assault

DV-endangerment

Assault- touch w/ intent to injure or provoke

Simple assault w/ intent to cause injury

Simple assault

Threaten/intimidate

Endangerment- risk of imminent death

DV- intimidation

DV- assault

Aggravated assault- serious physical injury

Aggravated assault against peace officer

Aggravated assault against teacher/school employee

Aggravated assault on correction officer

Aggravated assault- temporary disfigurement

V- aggravated assault

Aggravated Assault w/ weapon

Arson- occupied structure

Misconduct with weapon- carry

Misconduct with weapon- sell deadly/deface

Misconduct with weapon- deadly weapon at school

Weapon- other

Minor in possession of a firearm

Cruelty to Animals

Robbery

Terrorism

Reckless cruelty to animals

DV- assault- intent to cause injury

DV-assault-simple

### **Probation Violations**

Prot supervision violation

Bench Warrant

DOC warrant

Juvenile warrant

Probation violation

Probation violation- technical

Violation of condition of release  
Outstanding warrant  
Parole violation

APPENDIX B

FREQUENCY OF DELINQUENT OFFENDING

**Table B1 . Gender Differences in Frequency of Self-Reported Delinquency (past year).**

Delinquent Act	Frequency of delinquent involvement in past year					
	<u>Males (n=88)</u>		<u>Females (n=79)</u>		t-Value (df)	
	<u>Mean</u>	SD	Mean	SD		
<u>Non-Violent</u>						
Trespassed into a house or building	0.50	1.04	0.28	0.82	-1.54	165
Gone into house or building to steal	0.27	0.89	0.12	0.66	-1.30	164
Hurt or destroyed property	0.70	1.31	0.23	0.70	-2.94**	164
Taken s/thing worth <\$50	0.76	1.37	1.1	1.75	1.30	163
Taken s/thing worth >\$50	0.39	1.08	0.11	0.39	-2.23*	164
Stolen a car	0.20	0.82	0.19	0.77	-0.12	165
Sold drugs	0.93	1.82	0.78	1.74	-0.53	165
Run away from home	0.67	1.17	1.5	1.96	3.32***	163
<u>Violent</u>						
Set fire to someone's property	0.06	0.23	0.01	0.11	-1.59	165
Threaten someone w/ a weapon	0.17	0.38	0.09	0.29	-1.59	165
Hurt someone bad enough they needed bandages or a doctor	0.26	0.44	0.13	0.33	-2.24*	165
Thrown or hit something in anger when arguing w/ your parents	0.55	2.15	1.3	7.09	0.84	164
Threatened parents w/ weapon	0.07	0.32	.09	0.57	0.22	164
Had to hit or push parents	2.2	19.5	.46	2.40	-0.82	164

*Note.* Univariate statistics are computed for active delinquents only.

\*p<.05. \*\*p<.01. \*\*\*p≤.001

**Table B2. Gender differences in Frequency of Self-Reported Drug Use (past month).**

Drug used	Frequency of drug use in past month					
	<u>Males (n=45)</u>		<u>Females (n=36)</u>		t-Value (df)	
	<u>Mean</u>	SD	Mean	SD		
Smoked marijuana	3.7	1.76	3.3	2.11	-1.02	78
Used inhalants (e.g. white out, paint)	0.13	0.76	0	0	-1.18	79
Used crystal meth	0.04	0.30	0.17	0.85	0.83	79
Used crack or cocaine	0.31	1.06	0.22	0.96	-0.40	79
Used other drugs (heroin, uppers, hallucinogens)	0.47	1.14	0.28	0.81	-0.87	79

*Note.* Univariate statistics are computed for active substance users only.

**Table B3. Sex Differences in Frequency of Official Delinquent Referrals to Juvenile Court (ever).**

Juvenile court referrals	Frequency of juvenile court referrals ever				t-Value	(df)
	Males (n=65)		Females (n=58)			
	Mean	SD	Mean	SD		
Status	1.25	1.77	1.62	1.72	1.19	121
Drug	0.46	0.83	0.21	0.59	-1.98*	121
Order	1.11	1.31	0.50	0.92	-3.0**	121
Petty	0.60	0.79	0.43	0.60	-1.35	121
Property	0.95	1.30	0.41	0.92	-2.68**	121
Sex offense	0.06	0.24	0	0	-2.05*	121
Violent	0.80	1.13	0.50	0.94	-1.60	121
Probation Violation	0.85	1.41	0.50	1.23	-1.46	121

*Note.* Univariate statistics are computed for active delinquents only. The results for sex

offenses are unreliable due to the small sample size.

\*p<.05, \*\*p<.01

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