To the Graduate Council:

I am submitting herewith a dissertation written by Lizabeth Ann Wiinamaki entitled "Victim-Offender Reconciliation Programs: Juvenile Property Offender Recidivism and Severity of Reoffense in Three Tennessee Counties." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Social Work.

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We have read this dissertation
and recommend its acceptance:

Accepted for the Council:

Associate Vice Chancellor and
Dean of the Graduate School

Victim-Offender Reconciliation Programs: Juvenile Property Offender Recidivism and Severity of Reoffense in Three Tennessee Counties

A

Dissertation

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Doctor of Philosophy Degree

University of Tennessee, Knoxville

Lizabeth Ann Wiinamaki

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Abstract

The Victim-Offender Reconciliation Program (VORP) was marketed by the Mennonite Central Committee since 1975 as an alternative criminal justice intervention. VORP was based on a restorative rather than retributive criminal justice model. This correlational, ex-post-facto study investigated the effects of VORP on juvenile property offender recidivism and severity of reoffense in three eastern Tennessee counties (N=420). The study compared simple random samples of the VORP group (N=203) to the nonVORP group (N=217) that received traditional sentences of probation, incarceration, or fines. Results of a logistic regression indicated that VORP had a significant main effect (p=.008) on one year recidivism when controlling for age, gender, number of prior offenses, household composition, and last grade completed. "Priors" also had a significant main effect on recidivism (p=.0039). The Bonferroni inequality was used for 6 hypotheses with testwise alpha set at <.0083. Results of an ordinal logistic regression indicated that VORP had a main effect (p=.0151) in reducing severity of reoffense [0=no reoffense with no harm to others (N=305), 1=status offense, unruly, or delinquent for illegal conduct with potential harm to others (N=63), 2=delinquent against property or persons with indirect or direct harm to others (N=52)] when controlling for the same variables. VORP did not have a significant main effect on severity of reoffense at the Bonferroni level (p<.0083), but had a significant main effect on severity of reoffense at the less conservative Fisher's Protected t level (p<.05) in one of three ordinal logistic regressions.

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I. Introduction

This dissertation described a study that investigated the effects of the Victim-Offender Reconciliation Program (VORP) on juvenile property offender recidivism and severity of reoffense. Three eastern Tennessee county VORP offices and the juvenile courts of Putnam, Cumberland, and Anderson counties were the data collection sites. The purpose of the study was to investigate the effects of the intervention by using two comparison groups, VORP and nonVORP. The nonVORP group received a traditional sentence of probation, incarceration, or fines. Juveniles in both groups were matched on admission of guilt. The VORP offenders and victims were volunteers for the program, although some offenders may have sensed an element of court coercion. It was expected that VORP graduates would exhibit lower one year recidivism rates than a control group of nonVORP juvenile offenders, as well as lower levels of severity of reoffense.

Statement of the Problem

Juvenile property offense was a serious economic and social problem for many counties throughout the nation. Communities needed justice interventions based on empirical evidence of effectiveness in the reduction of juvenile offender recidivism and severity of reoffense.

Objectives of the Study

The main objective of the study was to investigate the effects of VORP on juvenile property offender recidivism and severity of reoffense. The second

objective of the study was to replicate previous studies on the effects of VORP on recidivism and severity of reoffense (Nugent & Paddock, 1995; 1996). The earlier studies on juvenile property offenders were conducted on Anderson county using a simple random sample (N=243) of VORP and nonVORP offenders from several years up through 1992.

Juvenile Offense

Community based intervention strategies for the alleviation of the social problem of juvenile offense were a challenge to develop and fund. Intervention programs must provide evidence of effectiveness in order to receive continued funding. The provision of empirical evidence of program effectiveness in the reduction of offender recidivism was a challenge to program developers and the juvenile justice community. Program effectiveness was also evaluated by measures other than recidivism and severity of reoffense. Victim and offender satisfaction with VORP was one measure of effectiveness commonly utilized. However, communities were increasingly becoming more interested in the pragmatic results of reoffense rates and cost-effectiveness of the intervention. Innovative interventions that provided empirical evidence of effectiveness were more likely to receive funding and community support.

The actions and behaviors of juvenile offenders were problematic for social workers, probation and parole officers, the courts, law enforcement, parents, schools, and communities. Delinquent behavior was often the problem which brought the juvenile and the family to community attention. In addition to

the funding challenge, victims of offenders often demanded a voice in the criminal justice process. Juvenile justice appeared to be at a cultural crossroads that provided opportunities for the development and testing of innovative interventions.

Crimes committed by juvenile offenders were generally considered to be offenses by minors under the age of eighteen. State laws varied, and in some areas seventeen year olds were routinely processed as adults by the criminal justice system. Juvenile offenders and delinquents were those minors who were charged with some offense by the police and whose criminal activities were on record in juvenile court. A juvenile offender was "adjudicated" delinquent when the issue was determined judicially by a judge's decision (New Webster's, 1992).

The juvenile justice system generally rated levels of offense according to categories. The following categories were provided by the 1994 Annual Report of the Juvenile Court of Anderson County, Tennessee. A juvenile was delinquent against persons, against property, or due to illegal conduct. Another category of juvenile offense was called "violation proceedings," as in violation of probation, aftercare, or a valid court order. Status offenses were another category of juvenile offense, as in in-state runaway, out-of-state runaway, truancy, violation of curfew, or ungovernable or unruly behavior. A juvenile was adjudicated for a delinquent crime against a person, as in assault, aggravated assault, robbery, rape, aggravated rape, sexual battery, reckless endangerment, and attempted first degree murder. A juvenile was adjudicated delinquent

against property, as in burglary, aggravated burglary, theft of property, theft under $500, theft over $500, theft over $1000, theft over $10,000, arson, reckless burning, vandalism, forgery, unauthorized use of a vehicle, or illegal use or possession of a credit card. A juvenile was adjudicated delinquent due to illegal conduct, as in attempted burglary, attempted theft, possession of controlled substances, sale of controlled substances, other drug offenses, inhaling intoxicants, possession of drug paraphernalia, driving under the influence, driving while impaired, unlawful possession of a weapon, public intoxication, disorderly conduct, harrassment, criminal trespass, resisting a stop/frisk/halt/arrest, evading arrest, other traffic offenses, driving without a license, driving on a suspended license, speeding, reckless driving, failure to yield, improper registration, leaving the scene of an accident, local City Ordinances, littering, discharging firearms, discharging fireworks, failure to appear, contempt of court, possession of alcohol, or consumption of alcohol (Anderson County Juvenile Court, 1994).

Juvenile justice was simply that part of the criminal justice system geared toward processing minors who were offenders. Juvenile court judges may or may not have had special training or interest in juvenile offense. Juvenile probation and parole officers and other juvenile justice workers attempted to reach minors by investing them with a sense of the consequences of their actions and rehabilitation before their criminal activities became habitual and carried over into their adult years (Elliott, Huizinga, & Menard, 1989). The

federally funded National Youth Survey, a longitudinal study of United States youth since 1976, provided data for numerous delinquency studies. Multiple problem youths, or those with drug, alcohol, mental health, and delinquency problems, were increasing in proportion compared to other populations of juvenile offenders. They were also more likely to enter the juvenile justice system and serve incarceration sentences if they were older adolescents (Elliott, et al., 1989).

Correlates of juvenile delinquent behavior have been examined by researchers. Family size, number of prior offenses, parental marital status, age, race, and sex were examples of correlates of delinquency examined in research (Nugent & Paddock, 1995;1996). Studies of the broad category of anti-social behavior were also relevant to delinquency, as delinquency was often considered a form of anti-social behavior.

Interventions with juveniles ranged from traditional sentences in lockup facilities, to experimental community-based treatment programs. Juvenile court judges have often been willing to try innovative interventions in the hopes of reaching teens before they became incorrigible. Incarceration has not been recognized as an effective deterent to juvenile offense. Societal intolerance for crime appeared to have increased in the politically conservative climate since the 1980s. Politicians have vowed to get tough on crime and courts have complied to an extent, but prison overcrowding was an issue. Citizens wanted criminals off the streets but did not appear to be willing to pay to build more

prisons to house them for social control.

Juvenile Offense Statistics

National statistics on adolescent violent and abusive behavior were provided by *Healthy People 2000 Review 1994* (CDC, 1995). These data indicated that carrying weapons dropped from the 1987 baseline of 107 incidents per 100 students per month to 92 incidents per 100 students per month in 1993. The target figure for the year 2000 was 86. This amounted to a 14% drop between 1991 and 1993. Many factors influenced this drop, such as increased school security measures and the use of metal detectors. Data also indicated adolescents continued to engage in physical fights with one another at a stable rate of 137 incidents per 100 students per month in 1987 and 1993. The year 2000 goal was 110 incidents per 100 students per month (CDC, 1995).

The total population juvenile and adult homicide rate dropped 5 percent from 1991 to 1992, the first decline in almost ten years (from 10.8 to 10.3 per 100,000). The year 2000 target goal was 7.2 homicides per 100,000 people. The 1987 baseline figures were 91.1 per 100,000. Black males aged 15 to 34 who were victims of homicide declined from 140.8 per 100,000 in 1991 to 134.2 per 100,000 in 1992. The year 2000 target was 72.4 per 100,000. The total population figures of 10.3 homicides per 100,000 in 1992 was considerably lower than the black male (age 15-34) figures of 134.2 per 100,000 in 1992 (CDC, 1995). In the United States homicide and nonnegligent manslaughter arrests for adolescents increased by 150 percent between 1985 and 1994.

Arrests for homicide and nonnegligent manslaughter by adults increased 11.2 percent during the same years (Federal Bureau of Investigation, 1995).

Violent crimes and serious property crimes were committed by juveniles in over 32 percent of cases nationally, although juveniles constituted only 9 percent of the total population in the United States. Juveniles also accounted for 19 percent of all arrests (Berger, 1991).

Criminal justice research in Western countries indicated that offenders were disproportionately single young urban males; that they came from low socio-economic levels; that they were unemployed, not in school, and black if United States residents. The studies also indicated that victims shared many of these same demographic profiles (Fattah, 1992). Blacks in the United States represented 12 percent of the population, but represented nearly 50 percent of the victims of homicide (Levine & Rosich, 1996). Blacks also represented the majority of homicide offender arrests in the United States (Federal Bureau of Investigation, 1994).

Widespread economic deprivation and disproportionately high poverty in black communities may have had an impact on offense statistics. Also the issue of racial discrimination in the juvenile justice adjudication process may have had an impact on violence statistics. The disproportionately high percentage of young black males in offender and victim statistics indicated a serious sociological trend that needed to be addressed at the local, state, and federal levels of the criminal justice community.

Interpersonal violence in the family exposed generations of children to an ineffectual pattern of problem-solving. Domestic violence at all socio-economic levels of American society continued to be a factor in much of the crime and violence in our culture. Suicide and homicide deaths have run at 50,000 per year from 1985-91. National data indicated that more than two million citizens were victims of violence each year (CDC, 1995).

National statistics on juvenile mental health and violence were also provided by *Healthy People 2000 Review 1994* (CDC, 1995). Adolescent (age 15-19 years) suicide rates for 1988-90 were stable at 11.1 per 100,000, with a slight drop in 1991 to 11.0 and again in 1992 to 10.8. The goal for 2000 was 8.2 adolescent suicides per 100,000 adolescents. The 1987 baseline figure was 10.2 adolescent suicides per 100,000. This compared to total population suicides in the baseline year of 1987 of 11.7, which dropped to 11.1 in 1992, with a year 2000 goal of 10.5 per 100,000 of the total population. Suicide attempts among adolescents appeared to have increased, based on self-reported data from the school-based Youth Risk Behavior Survey (YRBS). These adolescents committed self-injurious behavior in the past twelve months that required medical treatment. The 1987 baseline revised figures were 2.1 percent, rising to 2.7 percent in 1993, with a year 2000 goal of 1.8 percent (CDC, 1995).

Due to an expansion in diagnostic categories for mental disorders of minors, mental disorder data for children and adolescents were revised for 1987

baseline figures from 12 percent to 20 percent. Figures for 1992-3 were unavailable, and the goal for the year 2000 was 17 percent. The baseline figures for 1987 mental disorders among adults were 12.6 percent, with no further data for 1992-3, and a year 2000 goal of 10.7 percent. The data suggested a serious problem among adolescents, with higher percentages of mental disorders than adults (20% compared to 12.6%). The revised 1987 adolescent figure of 20 percent was compiled based on only two studies in 1988 published in the *Archives of General Psychiatry*. The qualifying information that only two studies were used in the compilation of this data was provided by the editors regarding the somewhat shocking figure of 20 percent of adolescents who were considered to have mental disorders (CDC, 1995). It was possible they had some doubts regarding the accuracy of this figure. It was also possible the mental health professionals were experiencing errors in measurement regarding adolescent mental disorders. The subjective nature of the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (APA, 1994) led to unreliability in diagnoses as well as validity issues. Many professionals found it hard to believe that two out of ten adolescents had a mental disorder.

The relationship of diagnosed mental disorders to juvenile offensewais dependent on whether the juvenile offender ever had a psychological evaluation by a licensed psychologist. Many juvenile offenders were processed through the juvenile justice system with only the services of a probation officer. Psychological testing may not have been available or even desirable in the eyes

of the community. Credibility problems with the definitions and diagnoses of mental disorders in relationship to the justice community have resulted in inconsistencies in treatment and sentencing.

II. Literature Review

Criminal Justice

Greek, Roman, and Hebrew legal traditions were generally recognized as the basis of criminal justice in Western countries. Crime in these societies was viewed as an offense against victims and kin within a community. The community held offenders accountable to the victim and kin. Recompense and restitution to the victim and kin were acceptable and common results of justice. A Norwegian theorist published what has come to be regarded as a seminal work tracing the history of criminal justice in modern Western cultures from a private matter to an offense against the state resulting in retributive punishment by the state rather than recompense to the victim (Christie, 1977). Theorists believed the change occurred as national governments sought political power over local communities (Van Ness, 1989).

Criminologists have debated the merits of diverse theoretical orientations regarding the relationship between victim and offender. Historically, after the fall of the Roman Empire, criminal law in Europe developed from a private to a public process. The blood feud, or vendetta, involved retribution by a private individual and his or her family on the offender and the offender's family. The vengeance exacted by the victim and kin was often the only opportunity for a perceived sense of justice to be served. Monetary compensation for offenses was also pursued. As feudal society organized, fines were sometimes paid to the victim but mainly to the king as recompense for disturbing the "king's peace"

(Henderson, 1992). Criminal acts began to be viewed as offenses to the crown, and offenders were declared "outlaws" to compel them to stand trial. Recompense directly to the victim died out due to the powerful in feudal society, who preferred to collect revenue by fining offenders (Christie, 1977). Examples of instrumental rulers who increased their revenue in this manner were Charlemagne and William the Conqueror. The victim's role in criminal processes steadily decreased in Western society, except in some experimental programs like the Victim-Offender Reconciliation Program (Dittenhoffer & Ericson, 1992). The proposed constitutional amendment regarding victim's rights was an indication that the victim's role in criminal processes was changing in the United States. Some researchers saw the growing interest in victimology, victim rights, and compensation to victims as a return to certain aspects of medieval criminal law such as the adversary-retribution model of justice (Sebba, 1992). Others viewed compensation to the victim and mediation between the victim and offender as aspects of restorative justice. Restorative justice was the attempt to reintegrate and restore the offender to good standing in the social system of the community, rather than simply mete out punishment for crimes. Restorative justice was also the attempt to restore losses to the victim in the form of financial or other type of reparation (Zehr, 1990; Wright, 1991).

Criminal Justice Theories

Criminologists maintained a diverse theoretical base within their profession, without reference to a particularly dominant theory. However,

certain theorists such as Kohlberg and Bandura were regularly cited in the literature. There was widespread dissension regarding their theories on moral and social development as they related to criminal justice (Morrison, 1995).

Kohlberg's Moral Development Theory

Moral Development Theory (Kohlberg, 1981;1984) speculated that individuals perceived moral issues differently as they aged or matured. Kohlberg suggested the first stage (4-8 years) involved the moral perspective of "the self in relation to powerful others." Children regulated their behavior to avoid punitive sanctions. The second stage involved a higher understanding of the "motives and interests" of others. Fair exchange for mutual profit was considered. The third stage involved the individual embedded in shared relationships. Right action "fostered and maintained relationships." The fourth stage viewed relationships "embedded in social institutions." Right action kept the system "more consistent, fair, and benevolent." The fifth stage viewed particular social orders as "embedded within a range of possible social orders." The rights and principles of a just society were defined, along with a "logical hierarchy of values." Juvenile offenders were often considered to function at the lower two levels (Thornton, 1987).

Stage theories have fallen out of favor in much of the professional literature in the 1990s due to a failure to incorporate race, class, and gender issues. Feminist theorists in particular have criticized stage theories for these reasons, as well as for the lack of empirical supporting evidence (Gilligan,1982).

Bandura's Social Learning Theory

Although the original VORP appeared to be based on Judeo-Christian theology as codified in Mennonite Central Committee doctrine regarding justice, other practitioners of a more secular bent preferred to accept social learning theory as the VORP theoretical base. Social learning theory explained behavior as "a continuous reciprocal interaction between cognitive, behavioral, and environmental determinants" (Bandura, 1977). The complex interactions between a person and their environment throughout a lifetime were considered by social learning theorists to constitute a major influence on social behavior, including criminal offense. The personality, intellectual endowment, temperament, and other possibly innate characteristics of an individual were tempered through social interaction with others in the environment. Parental or caregiver behavior was considered crucial in influencing future social behavior because of the potential for modeling antisocial or prosocial behavior.

Modeling behavior, corrective learning, and symbolic communication were elements of social learning theory. Psychological modeling theory has been offered as an explanation for juvenile offense, closely related to deprivation and familial violence theories (Bandura, 1971). Modeling behavior by the parents or caregivers was considered vital to the child learning to interact in a socially acceptable and appropriate manner. Children with poor or marginal parental role models exhibited resiliency by modeling their social behavior after a chosen role model such as a favorite teacher, coach, athlete, extended family member,

friend, hero or heroine. A child who has been exposed to marginal parental role modeling, such as a child from an alcoholic, drug abusive, physically abusive, or sexually abusive home, may learn socially acceptable patterns of interaction through what social learning theory called "corrective learning." The definition of corrective learning was the theraputic attempt to repeat the earlier learning experience in a more positive manner that promoted healthy interaction rather than dysfunctional interaction. Techniques that promoted corrective learning involved group therapy for the child with peers from similar backgrounds and experienced treatment leaders who reframed childhood experiences. Individual therapy involved the child repeating childhood social interactions with an adult therapist who responded in a socially acceptable manner in contrast to the behavior exhibited by the marginal parents or caregivers of the child. Marginal caregiving was a subjective term, but the states have all established minimal standards of care to combat child abuse and neglect. Symbolic communication involved role playing social interactions the child experienced in the past but with appropriate interactions rather than abuse. The child symbolically spoke to the adult abusive caregiver by speaking to the empty chair that symbolized the offender, wrote a letter to the offender, or role played different scenarios with a therapist who played the role of parent or caregiver. Moral judgments and reasoning were supposedly impacted by social learning, whether the social learning was deficient or healthy (Tonry, Ohlin, & Farrington, 1991). Children from marginally safe homes or completely unhealthy homes grew up with a

distinct disadvantage regarding their concept of socially acceptable behavior and interaction.

According to Bandura, moral disengagement was a concept that theorists applied in the explanation of offender behavior. Offenders may have cognitively recognized that their behavior was considered morally repugnant and the offender then morally disengaged from the act in order to commit the offense (Evans, 1989). In the mind of a perpetrator, moral disengagement may have involved a deliberate choice of viewing the victim as somehow responsible for the crime. The perpetrator may have willfully insisted that there were no innocent victims, that by their own negligence or carelessness they somehow asked to be victimized. Atrocities were committed after offenders dehumanized their victims on some level, as witnessed in Nazi concentration camps for the civilian victims of World War II, in prisoner of war camps in many societies, and in prisons throughout the world (Evans, 1989).

The question of how the moral standards of a society were internalized by citizens has occupied many researchers and theorists. Violence in the name of God and country was justified in the minds of the perpetrators as a moral imperative. The democracies of the Western world were often established through self-justified violence, as in France, England, and the United States. Social change brought about by violence was often justified after the fact if it appeared to result in improved conditions for citizens or in social justice. Social learning theory was an attempt to explain how individuals in a community and

society learned social behavior through interaction with individuals and communities within society. The social and economic marginalization of the poor and minorities was examined from the social learning theory perspective. The powerful in a society defined and shaped the society.

Feminist theorists have taken issue with social learning theory, as well as other social theories, for the failure to recognize the importance of structural and cultural misogyny as a dominant factor in social development (Gilligan, 1982). Social learning theory did not appear to be the ideal theoretical fit to explain deviance in society, such as juvenile offender behavior. Feminist criticism of social learning theory involved the absence of an explanation of social behavior due to sexism. Other than the glaring lack of perspective regarding race, class, and gender in social learning theory, it was often recognized as a theoretical perspective pertinent to juvenile offense.

Theoretical Dissension

Some researchers claim victim lobbyists collaborated with neo-conservatives to propagate right-wing criminology (Fattah, 1992). Retributive justice and recompense were considered by some to belong to right-wing politics, under the assumption that conservatism was equated with punitive sentencing. This was a simplistic view of a complex social and political issue. The political climate of the field of criminology was quite different in the 1960s and 1970s. At that time, community corrections models were in vogue for juveniles as an alternative to institutional corrections. Reintegration to society

in the 1990s was often a matter of the social control exercised by probation and parole officers. Systematic research on the effectiveness of community corrections models from earlier decades was absent, and by default the pendulum swung back to a "get tough on crime" attitude. Media sensationalism of certain horrendous juvenile crimes also contributed to a social attitude of punitive justice (Fattah, 1992).

However, correctional programs which isolated offenders from law-abiding citizens were simply "schools of crime," where offenders became increasingly detached from the outside community (Launay, 1987). Emotional detachment from the community of potential victims was a psychological aspect of criminalization. Inmates were rarely challenged to consider the consequences to their victims.

Theoretical dissension regarding the impact of capital punishment on crime was also an interesting aspect of criminal justice as it pertained to juveniles (Prejean, 1993). It was suggested that widely publicized executions resulted in a deterrent effect on some individuals, while others were brutalized or desensitized by exposure to socially acceptable lethal violence. The definition of "desensitized" was "rendered insensitive" (New Webster's, 1992). The conflicting impact of criminal inspiration or criminal inhibition on different populations may have canceled each other out (Cochran, Chamlin, & Seth, 1994). Deterrence versus brutalization or desensitization to violence was a core issue for juvenile justice professionals.

Felony murders committed by juveniles have resulted in death sentences when the juveniles were adjudicated as adults. The United States Supreme Court ruled in *Thompson v. Oklahoma* (1988) in favor of the execution of 16 year olds. Amnesty International produced international reports indicating that six countries, including the United States, led the world in juvenile executions. The other five countries that led in juvenile executions were Pakistan, Barbados, Bangladesh, Iraq, and Iran (Amnesty International, 1989). Amnesty International also targeted 24 states in the United States that permitted the execution of minors. Their goal was to change state legislation to reflect international standards that prohibited execution for crimes committed by minors (Amnesty International, 1992).

Genetic Factors

Criminologists accepted as probable many theoretical explanations of criminal offender behavior toward individual victims as well as toward society as a whole. Genetic factors were often studied by researchers in Western countries (McGurk, Thornton, & Williams, 1987). Genes were coded to influence metabolism, hormones, and other processes, but "criminal genes" have been elusive to researchers. Geneticists of the Human Genome mapping project may find evidence that indicates the effect of genetics on personality and character traits.

Twin studies and adoption studies have been utilized by researchers who examined genetic factors in criminality. Nonfamilial adoptions of 862 Swedish

males were examined by three researchers from the Umea University School of Medicine in Sweden and one researcher from the Washington University School of Medicine in St. Louis, Missouri. All of the subjects were born in Stockholm between 1930 and 1949, and were adopted at an average age of 8 months and always under 3 years. At the time, adoptive parents were not informed of the biological parents identity or criminal convictions. Data on criminality, alcohol abuse, and occupational status of the adoptees, the biological parents, and the adoptive parents were analyzed. None of the adoptive parents had a criminal conviction, defined as a conviction leading to a prison sentence or more than 60 "day-fines". The day fine was prorated on a convict's income and based on crime severity, such as violent crime, fraud, and property crime listed in order of lessening severity. Of the 862 male adoptees, 12 percent had criminal convictions. Of the 862 biological fathers, 26 percent had criminal convictions. The general Swedish male population had 11 percent of men with criminal convictions. Data on alcohol abuse and related criminality indicated that offenses were more violent and repetitive when alcohol abuse was involved. Convictions among criminals who were not alcohol abusers tended to be for petty property offenses. Sons of biological alcoholics who were either criminal or noncriminal were at risk for alcohol abuse, but not for criminality. Sons of nonalcoholic criminals convicted of a number of nonviolent crimes were at risk for criminality (Bohman, Cloninger, Sigvardsson, & von Knorring, 1982). The researchers analyzed the data in a second study that indicated low occupational

status alone was not a risk for criminality, but combined with other congenital and postnatal factors the risk was 14 times that of the control group (Cloninger, Sigvardsson, Bohman, & von Knorring,1982).

Possible genetic influences in criminal convictions of an adoption cohort from Denmark were examined by two researchers from the University of Southern California in Los Angeles and one from the University of Copenhagen in Denmark. The researchers had access to extensive information on a large group of 14,427 nonfamilial adoptions that occurred between 1927 and 1947. Court records for a total of 65,516 individuals involved in the adoptions were obtained. Conviction records, socioeconomic status coded by occupation data, and place of birth were analyzed for male and female adoptees, adoptive fathers and mothers, and biological fathers and mothers. Results indicated that if neither the biological nor the adoptive parents were convicted, then 13.5 percent of the sons were convicted. If the biological parents were not convicted, but the adoptive parents were convicted, then 14.7 percent of the sons were convicted. If the biological parents were convicted, and the adoptive parents were not convicted, then 20.0 percent of the sons received one or more convictions. If both biological and adoptive parents received convictions, then 24.5 percent of the sons were also convicted. Conviction rates for female adoptees in all categories were considerably lower in each group (4 percent). A log-linear analysis indicated a statistically significant relationship between biological parents degree of recidivism and convictions of the sons in property crimes but

not in violent crimes. Chronic offenders in the male adoptee group with three or more convictions only numbered 4.09 percent, but were responsible for 69.4 percent of all male adoptee court convictions. The researchers concluded that a relationship was found between biological parent convictions and adoptee son convictions after statistically controlling for the socioeconomic level of both sets of parents (Mednick, Gabrielli, & Hutchins, 1984). The results also implied that environment played a role in criminality.

Related to genetic factors in theoretical criminology were the biochemical factors, such as glucose, cholesterol, insulin, testosterone, and alcohol levels. However, inconsistent findings and other research design problems such as low sample sizes plagued biochemical research in criminality (McGurk, et al., 1987). Control of confounding variables was always an issue in social science research. Deprivation and familial patterns of interpersonal violence may have produced an environment conducive to the development of a criminal offender, regardless of genetics. Psychopathology, or mental illness with psychological causes, may have been another confounding variable. Also measurement error was always possible (Venables & Raine, 1987).

Alternative Theories

Psychoanalytic theory was the basis some researchers utilized as an explanation of criminal behavior in adolescents and adults (Kline, 1987); others considered it inadequate, inappropriate, and inferior to personality theory (Eysenck, 1987). Fifteen German studies that involved 3,450 delinquents and

an even larger control group indicated that delinquents scored higher on aggression, "nervousness, depression, excitability, sociability, extraversion, and neuroticism" (Eysenck, 1987). The juveniles also exhibited greater emotional instability with regard to incarceration duration. The findings were considered support for personality theory by Eysenck.

Trait theory was also utilized by delinquency researchers in explaining criminal behavior. Trait theory proposed that persons were born with inherent traits or personality characteristics that defined their individuality and influenced behavior. Disposition and personality were components of trait theory. Measurement problems indicated self-reports were suspect and personality scales were not definitive. Social cognitive theory viewed human behavior as influenced by the interaction of cognitive, personal, and environmental factors. Behaviorist theory viewed human behavior as caused by external stimuli rather than internal stimuli. Reciprocal determinism viewed personal factors, behavior, and the environment as interacting factors in reciprocal causation (Bandura, 1986). The interaction of reciprocal possible causes of behavior may have resulted in unpredictable behavior. Resulting behavior may or may not have been socially appropriate. The unpredictability of human behavior allowed for numerous theoretical interpretations. No theorist had the definitive answer to behavioral problems such as juvenile delinquency.

Criminology

The field of criminology as it pertained to juvenile justice required a brief

history of the development of the field in Western countries. Generally, four major eras were considered reflective of the dominant theoretical bases prevalent in those years. The era of classicism from 1750-1870 was dominated by theorists such as Cesare Beccaria, an Italian who published *Of Crimes and Punishment* in 1764. The era of positivism from 1870-1960 was dominated by Cesare Lombroso, another Italian who published *L'Uomo Delinquente* in 1876 (Roshier, 1989; Beirne,1993; Garland, 1994). The era of interactionism dominated the 1960s and radical criminology dominated the 1970s (Garland, 1994). Presumably the 1990s were theoretically open, as criminologists generally recognized that the definitions of crime and explanations for crime were socially constructed. The social construction of crime made it specific to a certain historical era. Another factor in criminal justice was that criminal investigative procedures varied between cultures and times (Maguire, Morgan, & Reiner, 1994; Roshier, 1989; Barak, 1994). The social constructionist perspective of crime was a reflection of post-modernism, which invaded all academic disciplines.

Classicists

The classicists of the eighteenth century believed the offender was a rational actor who exercised free will. They generally believed penalties proportionate to the crime acted as a deterrent. Writers on crime stressed negative social conditions which influenced individual actions of desperation. Free will, reason, and habit were believed to influence character as well as

conduct. Beccaria was one of the first in the field to advocate a separation of criminal law and justice from religion, crime from sin, and secular courts from ecclesiastical courts. For this reason his work was condemned by the Roman Catholic church under a papal Index Prohibiorum for nearly two hundred years (Beirne, 1993).

Positivists

The positivists of the late ninteenth century claimed to espouse the empirical approach, although central to their theoretical base was the belief in "criminal types." They believed in the hereditary roots of criminal determinism, assuming treatment rather than punishment was in order. The positivists attempted to incorporate theory from psychiatry and physical anthropology to justify their belief in the born criminal. They believed phrenologists could identify criminal types and explain the etiology of criminal pathology. Physiognomy was supposedly an accurate measure of character and disposition (Garland, 1994). The belief in criminal types also allowed deep rooted cultural myths, fears, and prejudices to surface. Positivists claimed they desired to separate the "deserving poor" and "respectable working class types" from the criminal types. Positivists made a distinction between constitutional and accidental criminality (Garland, 1994). Constitutional criminals were thought to have been born criminals due to defective genes, while accidental criminals found themselves in circumstances beyond their control, such as poverty, which resulted in temporary criminal activity. By the late ninteenth century there was a

rise in numbers of penitentiaries in Western cultures, as both types of criminals appeared to increase in number relative to those exercising social control.

It was interesting to note that most of the literature on criminology originated in Italy, France, or Germany in this period. Britain and the United States were conspicuously silent in the international criminology literature until the 1960s. One explanation for this silence was the traditionally conservative stand of the British justice community. Criminals in Britain were viewed as normal individuals, with a small minority considered mentally ill or intellectually defective. The latter group was housed in separate institutions (Garland, 1994). A similar stituation existed in the United States. The criminal justice communities in Britain and the United States may have rejected the continental perspectives of criminology as too nontraditional and nonconservative (Garland, 1994). It was also a possibility that cultural traditions in Britain and the United States regarding the individual's responsibility for his or her own behavior and destiny precluded the recognition of genetic influences on criminal behavior popular in continental Europe at the time. Criminals in Britain and the United States were supposedly viewed as normal humans caught breaking the law, rather than as racially or ethnically inferior and doomed to a life of crime. The homogeneity of continental European countries may have influenced the cultural scapegoating of criminals as biologically fated to be inferior. However, this did not explain the overrepresentation of African Americans in both offender and victim statistics. Deprivation and unemployment in low-income communities

appeared to be factors in crime according to sociologists (Levine & Rosich, 1996).

Interactionists and Radical Criminologists

Interactionism was one of the theoretical perspectives popular in the modern era (Garland, 1994). The 1960s interactionism resulted in a hodgepodge of treatment programs which were inadequately studied for recidivism. Interactionists viewed crime as a result of complex interactions between the individual and the environment, a sociological perspective. Poverty, racial discrimination, poor education, marginal parenting skills in the family of origin, and low income communities with high crime rates were all considered factors in an individual exhibiting criminal behavior. Many of the 1960s political programs such as the War on Poverty were instituted as an attempt to even the field for poor children who might otherwise have grown up with few skills for self-support. The inability to become self-supporting was often considered a factor in criminal behavior (Garland, 1994).

Politically conservative reactionism resulted in the following era of radical criminology in the 1970s and beyond. Radical criminology appeared to be a misnomer, as the era of the 1990s was simply filled with flagrant disagreement on the theoretical basis of criminology as well as disagreement regarding simple definitions. Radical criminology since the 1970s may be defined as freedom of perspective among the criminal justice system workers and theorists. A relatively high rate of crime was not necessarily a product of the free market

economy, which created such a divergence in the spread of wealth and resources. Many of the Pacific rim countries became free market economies and did not experience a corresponding rise in crime. The United States may be in a unique situation due to ethnic and racial diversity which was not as common among the Pacific rim countries (Garland, 1994).

Criminology remained a very diverse field, with no dominant theorist or theory. Lack of agreement in the field was viewed as a positive element, as it engendered diversity of thought and action.

Philosophy of Criminology

Ancient philosophers and law givers have traditionally shaped Western concepts of justice, crime, and punishment. Synonyms of crime were numerous; atrocity, depravity, felony, immorality, infringement, injustice, misdeed, misdemeanor, offense, outrage, transgression, vice, wickedness, and wrong (New Webster's, revised 1992). Religious institutions such as Judaism and Judeo-Christianity have primarily influenced the Western concepts of crime and punishment (Beirne, 1993). Rogues, rascals, and villains throughout history have offended society and broken laws written to protect all citizens, and were often cognizant of the related punishment. Knowledge of the price paid for law breaking did not historically deterred criminals (Prejean, 1993).

Authors throughout history have presented stories of popular criminals such as Daniel DeFoe's *Moll Flanders* and the legend of Robin Hood. Perhaps there was some common psychological human element that cheered on the

scoundrels who continued to evade justice, particularly if they had a cause. The question was raised regarding the legitimacy of law. Just and unjust laws coexisted within a society. Certain individuals chose to break a law perceived as unjust on moral or ethical grounds, and were prepared to suffer the legal consequences when caught. Some individuals intended to change the law by test cases in the courts. The concept of just cause was relative, particularly whether the crime was violent or nonviolent. An extreme example was the shooters of abortion clinic doctors. Just cause in the commitment of crime was a sensitive area legally, emotionally, and morally. Just cause in the commitment of nonviolent crime was more easily justified in the mind of the offender and before a judge and jury.

Studies of Recidivism

Certain contemporary criminologists believed prediction of recidivism, or reoffense, was vital to criminal justice in many avenues such as probation and parole, sentencing, and future prison space needs (Schmidt & Witte, 1988). They suggested that most criminals reoffended and were returned to incarceration within two years of release, based on empirical studies. Theoretically the prediction of recidivism was possible, particularly between certain deliniated programs. Offenders who participated in the usual incarceration without treatment, versus offenders who participated in a community treatment program while remaining in the community, versus house arrest offenders without treatment were compared for program effectiveness by

the comparison of rates of recidivism. One suggested reaction to findings of this type of study was termed "selective incapacitation" (Schmidt & Witte, 1988). Selective incapacitation was generally unpopular due to the violation of civil rights in disriminatory treatment by law. Selective incapacitation suggested certain individuals of the demographic characteristics of a population of high recidivism be given harsher punishment in the courts, based on the prediction of future likely reoffense behavior.

One problem with prediction reasoning was the rate of false positives in a classification table of the percentage of agreement between prediction of reoffense and observation of reoffense. A false positive rate was the percentage of those individuals who were predicted to reoffend but who actually did not reoffend. The rate of false negatives was the percentage of those who were predicted not to reoffend but who actually did reoffend. The overall percentage of agreement regarding correct predictions was inflated because some of the percentage of agreement was due to chance. The overall percentage of agreement consisted of the number of individuals not predicted to reoffend who were observed not to reoffend added to the number of individuals predicted to reoffend who were observed to reoffend, divided by the total number of individuals. Kappa was the procedure utilized to correct the overall percentage of agreement due to chance. Kappa was always less than the observed agreement because it corrected the measure for agreement due to chance (Orme, 1986).

Schmidt and Witte (1988) studied random samples of all individuals released from prison in North Carolina in 1978 and 1980. They found a higher rate of recidivism, defined as survival time or time until reincarceration, in the 1980 cohort but results on recidivism survival time were similar. Each cohort numbered 9,500, and each sample was over 1,000 subjects. The authors concluded recidivism would likely occur in 50 percent of offender cases. The young black male who was also a drug addict or alcoholic was most likely to reoffend, especially if he had many previous lengthy incarcerations for crime against property (Schmidt & Witte, 1988).

A career criminal paradigm was suggested by the National Academy of Sciences' Panel on Research on Criminal Careers which provided four aspects of criminal choice: participation (demographics of offenders and nonoffenders), frequency (rate of activity), seriousness of offenses, and career length (Blumstein, Cohen, Roth, & Visher, 1986). Obviously the paradigm was relevant to delinquency as well. Although there was a phenomenon of "aging out" among juvenile offenders, a number of them with multiple problems continued their criminal career throughout adulthood (Elliott, et al., 1989).

Results of a longitudinal study, begun in 1961 in London, of the complete conviction history of 403 youths between their 10th and 32nd birthday indicated 36 percent had at least one conviction. The original study included 411 youths but eight died before 32 years of age. The average number of convictions was 4.4 of those with any convictions. The adolescence-limited conviction group in

adulthood appeared to restrict their activity to behavior that did not jeopardize their work or marriage according to the authors, such as heavy drinking, barroom brawling, illicit drug use, and petty work theft. Continued adult drug use and job instability in the low and high chronic offenders may have reflected a lifelong inability to conform to societal norms of behavior. Juvenile offenders who found stable work and personal relationships such as marriage were better able to avoid in adulthood the type of offenses likely to lead to conviction, such as burglary (Nagin, Farrington, & Moffitt, 1995).

Social workers writing in the field of criminology have provided unique perspectives. In Britain, African-Caribbeans appeared to be viewed more often by the police as potential offenders rather than victims, according to the social work profession (Smith, 1995). The race effect in criminal justice in Western countries appeared pervasive. The race effect was defined as bias in the criminal justice system, as well as bias in social scientists studying criminal justice. With criminology at a professional impasse, the impact of social workers on the field offered great possibilities. Issues of race, class, and gender have traditionally occupied social work as a profession. The cooperation of social workers with the criminal justice system in the reformulation of definitions of retribution, punishment, incarceration, restitution, remediation, and justice indicated a greater sensitivity to the individual offender.

Victimology was a separate issue from race bias in treatment of offenders or alleged offenders. Feminists involved in victimology and criminal justice

contributed effectively to the field since the 1980s, when innovative restitution and mediation programs which emphasized victim rights were instituted in many areas (Smith, 1995). Rape centers and battered women shelters were other examples of feminist involvment.

An issue familiar to social workers was social marginalisation due to age, race, class, and gender. In economic decline or stagnation, a growing number of marginalised youth were more likely to resort to criminal offense to secure items they considered necessary for an adequate Western lifestyle. The concept of reintegrative shaming of the offender by the community may be less likely to work on this marginalised subculture. Real economic and social opportunity was a variable critical to the marginalised subculture that concerned social workers. This was an important limitation of the restitution approach from a social work perspective. Restitution and mediation programs generally presented a form of reintegrative shaming under the name of reconciliation between the offender and community and restoration to the victim of losses by the offender. Non-violent conflict resolution appealed to many feminist writers in the field of justice reform (Smith, 1995; Kennedy, 1990).

Victimology

Victimology was generally accepted as a discipline since the late 1940s (Walklate, 1989). The field of victimology developed further along with the growth of womens' movements since the 1960s, and feminist theorists were among the most well-known. The limited criminality of women across cultures

was a remarkable phenomenon which received limited research attention for several possible reasons. Cultural misogyny and male dominated social sciences were generally common reasons cited for lack of empirical studies on gender and crime (Davies, 1994). The failure of the field of criminology to address the limited criminology of females was questioned by feminist victimologists as well as sociologists (Leonard, 1982; Levine & Rosich, 1996). Other researchers believed crime was increasing among young females in the United States (Elliott, et al., 1989). Adult and juvenile female offenders and their victims of both genders deserved careful research on crime prediction, treatment, and recidivism.

Feminist Perspectives in Victimology

Female victims, female offenders, and female criminal justice workers were confronted with the cultural double standard regularly. Crimes against females resulted in fewer arrests, convictions, and incarcerations than crimes against males (Flowers, 1987). Often female victims were discredited or not believed, as in some rape and wife battering cases. Toleration of domestic violence in the courts and among police appeared to be gradually changing, at least on the books, as more states enacted legislation that protected the victims of domestic violence and rape. There was an important distinction between law and practice. Examples of legislation promoted by victimologists and feminist theorists included prohibition of spousal rape, laws that authorized jail terms for violation of protective orders and monetary compensation for victims, laws that

authorized police arrests in domestic violence and arrests without a warrant in cases of probable cause of violation of protective orders, and laws that required that agencies kept records of help to victims (Flowers, 1987).

Perpetrators of violent crime continued to be overwhelmingly male. National data in the United States indicated that in 1994, males represented 86 percent of individuals arrested for violent crimes. In cases of single murder victims by single offenders, 90 percent of female victims were slain by male offenders and 88 percent of male victims were slain by male offenders (Federal Bureau of Investigation, 1995).

It was suggested by victimologists and sociologists that sex roles, socialization by gender, hormonal factors, or any other factors that possibly affected the lack of female criminality needed to be addressed in empirical research on gender and violence (Leonard, 1982; Levine & Rosich, 1996). The role of sexism, misogyny, social control, and class in a political economy such as the free markets of the Western world may all be related factors in female lack of criminality compared to male criminality (Leonard, 1982). Race, class, and gender were historic issues in criminal justice and theorists still struggle with these issues. There was a lack of definitive research on these topics, presumably because the funding wasn't available for politically sensitive topics. Most research analyses included race and gender, but the theoretical perspective that informed the research did not appear to seriously consider the impact of racism and systematic disenfranchisement of females and minorities.

Explanations for offense and adjudication historically have appeared inadequate in figuring in race, class, and gender issues. Structural misogyny in Western economies even had the unique label "the glass ceiling." Female administrators and executives appeared to rise to middle management positions but hit an invisible ceiling which prevented them from rising to top management positions.

Victimologists also pointed to demographic forces, class systems, materialism, and depersonalization in urban society as factors in the etiology of crime and victimizing others (Geis, 1990). The obvious large discrepancies in wealth and resources between different classes of urban residents was considered a factor in property crime as well as violent crime. The anonymity of urban life was also conducive to crime as opposed to small community life where everyone knew their neighbor. One of the widely publicized examples of this type of urban crime was the 1964 street rape and murder by knifing of Kitty Genovese in New York City. Police found thirty-eight witnesses, including her male friend, who heard her cries for help and failed to respond. They also all failed to call the police (Geis, 1990). Social psychologists sought to understand why and under what conditions people would not intervene to help; their explanation was called the "bystander effect." Indifference to victimization was not a new phenomenon, but neither was heroism.

The historical women's movement of the 1960s focused on several issues of importance to females. Rape, childhood sexual abuse, incest, pornography, and wife-battering were several of the female victimization issues feminists have

pursued (Flowers, 1987). Generally a male perpetrator and a female victim were distinguishable, which was a reason feminists championed these causes and contributed to the development of the field of victimology (Geis, 1990). Juveniles were both offenders and victims in most of these crimes.

Differential treatment at the hands of the court varied from state to state. Southern states of the United States had the highest number of violent crimes in 1994 over any other region, with 37.4 percent of the total number of violent crimes (Federal Bureau of Investigation, 1995). Southern states were often recognized as more punitive in criminal justice sentencing.

Victim blaming, offender blaming, and community blaming were issues studied by certain Western victimologists (Walklate, 1989). The rise of neighborhood watch groups and interagency cooperation in community rehabilitation programs such as remediation and restitution programs were examples of community concern for the victims of crime (Walklate, 1989). Concern for the victim appeared to be increasingly important in the justice systems of many Western countries. Restitution and reparation to victims was a part of pretrial diversion or a release condition in cases (Castellano,1992). The development of battered women shelters and rape crisis intervention were other examples of community action in response to female victimization (Flowers, 1987).

Hate Crimes

Violence against females was equated with hate crimes in the minds of

some victimologists, although there were other hate crimes directed against minority populations (Wolfe & Copeland, 1994). Legislation that defined violence against female victims as a gender hate crime, classified along with violence against any group due to race, ethnic group, religion, age, disability, or sexual orientation, was one way to get community attention to a social issue. The Hate Crimes Statistics Act of 1990 (Public Law 101-275), which mandated data collection of hate crimes, did not include gender hate crimes, although Minnesota included gender hate crimes. The Act included only race, ethnicity, religion, and homosexuality or heterosexuality (Wolfe & Copeland, 1994). An explanation or rationalization for the failure to include gender hate crimes was the certain overload of the system, given statistics on male perpetrators and female victims. Another explanation was simple cultural patriarchal attitudes rooted in the bias of sexism and misogyny among legislatures as well as the general public.

Incest

Evidence of cultural misogyny and the oppression of females by males was epitomized by the female sexual victimization of incest. The vast majority of perpetrators were adult males, the vast majority of victims were minor dependent females, and the disparity in power was enormous (Herman & Hirschman, 1993). Earlier psychologists were quick to point out maternal collusion as a common factor, although more recent literature in the field was not as likely to condemn the mother as responsible on some level for the incest.

What was earlier condemned as maternal collusion in incest was often considered evidence of female lack of power in a patriarchal society, particularly in a male-dominated and isolated family. This type of male tyrant often believed he had a right to sex on demand with his spouse or daughter as substitute (Herman & Hirschman, 1993).

Victimology and Juvenile Justice

The current paradigm in criminology of retributive justice in the Western world prompted victimologists to question the status of the victim in criminal courts. Victim rights were being legislated in states to a degree, but not to the extent of a paradigm shift in criminal justice. Juvenile justice was an important issue for victimologists, as the trajectory of offender life-long convictions varied considerably. One thing remained constant, females continued to constitute the majority of victims and males continued to constitute the majority of offenders.

Victim compensation has been law in Austria and the United Kingdom since 1972; Finland, 1973; Germany and Denmark, 1976; France, 1977; Sweden, 1978; Norway, 1981(Boland & Martin, 1985). The movement in the Western world appeared to have resulted in widespread victim compensation legislation and restorative justice programs since the 1970s (Messmer & Otto, 1992). However, programs that promoted the right of the victim to recompense have historically been underfunded in the United States, and relegated to incarceration alternative programs for juveniles.

Victim-Offender Reconciliation Programs

The historical background of victim-offender reconciliation programs was the work of a Mennonite probation officer, Mark Yantzi, and the Mennonite Central Committee (MCC) of Ontario, Canada in 1974 and 1975. Mark Yantzi was a probation officer interested in noncoercive conflict resolution, a traditional stance of the pacifist Mennonite Church since it's origins in the sixteenth century of the Protestant Reformation (Peachey, 1989). Noncoercive conflict resolution was defined as voluntary participation by two antagonists, generally a crime victim and the offender, for agreement on a mutually satisfactory contract for restitution to the injured party by the offender as an indication that the conflict was resolved. Many Mennonites were conscientious objectors to combat service and served in prison work as an alternative. Mark Yantzi was assigned as probation officer to two juvenile offenders who were convicted of vandalism at 21 sites in Elmira, Ontario. The provincial Judge Gordon McConnell in Kitchener agreed to Yantzi's suggestion that "there would be some therapeutic value in these two young men having to personally face up to the victims of their numerous offenses" (Woolpert, 1991). Yantzi accompanied the boys to the 21 sites, and the boys admitted guilt and agreed to make restitution for uninsured damages amounting to $1,100 within three months. The juveniles were also given 18 months probation and a $200 fine, on condition they repaid the uninsured damages. The procedures of this intervention were formalized by the MCC and exported in 1978 to the United States to Elkhart County, Indiana

(Woolpert, 1991;Peachy, 1989). There were nearly 100 VORPs today working with juvenile offenders (Nugent & Paddock, 1995). Some VORPs continued to stress the voluntary aspect of the program for both victims and offenders, while other juvenile courts routinely sent first time juvenile property offenders to a VORP program in a coercive manner. The alternative was generally incarceration, fines, or entry to the typical juvenile probation and parole system.

The VORP model was also adapted for use in educational settings, and as a divorce mediation model (Duffy, et al., 1991). In educational settings, conflicts between school administrators and students who committed property offenses on school grounds were addressed in conflict mediation programs. Conflicts between teachers and students, or between teachers and parents of students were also addressed in mediation programs. Conflicts between divorcing parents were addressed in mediation programs.

The original VORP in Kitchener, Ontario saw a decline in court referrals since the Ontario Court of Appeal decision in *R. vs Hudson* (1982). It involved a high dollar case of misappropriation of funds of around $100,000, a prison sentence of two years, three years probation, and VORP for determination of restitution amount. The convict appealed, and the appeal court upheld the prison sentence but set aside the restitution because a trial judge could not delegate the responsibility of the decision on the amount of restitution to another party by Canadian law (Peachey, 1989). There were legal means to get around this issue, such as having the offender make a post-VORP court appearance to

have the agreed sum incorporated in the sentence. The legal problem was not addressed from 1974 until the court ruling in 1982 in Canada, and resulted in reduced referrals (Peachey, 1989; Wright, 1991).

The effect of VORP on juvenile reoffense rates was investigated by some researchers, as well as juvenile mental and psycho-social health (Duffy, Grosch & Olczak, 1991). The history, rationale, and effects of VORPs on victims and juvenile offenders was investigated by other researchers. A brief review of the history of criminal justice, criminology, and victimology as it related to juvenile offense was also considered relevant to a VORP study.

Researchers suggested that a benefit of VORP was the diversion of cases from an overloaded criminal justice system to a cost-effective, community-based mediation alternative (Woolpert, 1991). The goal of restorative justice rather than retributive justice for juveniles also appeared worthwhile to certain theorists in criminology and victimology (Lawrence, 1991). Restorative justice was defined as a system of justice that emphasized the social restoration and reintegration of the offender into the community. Restorative justice also emphasized recompense to the victim. Retributive justice was defined as a system of justice that emphasized the punishment of the offender and the protection of the community by isolation of the offender population. Reintegration models like VORP were particularly attractive for intervention in juvenile property crime due to the possibility of enhancement of an offender's sense of community. Theoretically an offender with an increased sense of

community connectedness may be less likely to reoffend (Zehr, 1990). Some counties utilized VORP in juvenile and adult assault cases as well, with mixed results. A number of counties referred certain homicides and other violent crime cases to mediation programs such as VORP because of the potential benefits to the surviving kin of the victim and the offender (Umbreit, 1994).

Researchers in the field had divergent views of VORP. Some stated VORP explored neither the roots of criminal behavior nor the social injustices and deprived environments that bred crime (Fattah, 1992). Others believed VORP attempted to address the deficiencies in moral development that juvenile offenders exhibited, such as lack of empathy for victims (Thornton, 1987).

Definitional Issues in VORP

Intervention with juvenile or adult offenders that involved a face-to-face meeting of the victim with the offender to work out a mutually satisfactory contract of recompense to the victim utilized different terminology depending on the program. The MCC used the term "reconciliation" which indicated that more than mere monetary reparation was involved. The offender ideally sensed a reinstatement to good standing within the community by completion of reparation to the victim. Other similar victim-offender programs developed in Western countries but not affiliated with the MCC or their VORP program used the terms "victim-offender mediation schemes, victim-offender reparation schemes, or victim-offender restitution programs" that indicated similar concepts. The term "mediation" indicated a neutral third party was involved in the contact between

two conflicted parties and helped the resolution of their differences through contracted reparation to the victim. The term "reparation" or "restitution" indicated a financial payment to the victim by the offender that compensated for the loss the victim endured in the crime. Reparation or restitution was also contracted in the form of personal or community service (Marshall & Merry, 1990).

Research Questions in VORP

Researchers in juvenile offense occassionally addressed research problems concerning VORP programs such as: What key factors moderated the recidivism rate of juvenile delinquents who completed VORP as a result of conviction of a property crime? What key factors moderated the recidivism rate of juvenile offenders who completed VORP as a result of conviction of an assault? Definitive results from a substantial body of empirical research were lacking on the question of recidivism and VORP. Often male juveniles were targeted for research because they constituted a large majority of the juvenile offender population for property crimes as well as assault (Fattah, 1992).

Recidivism was not the only variable studied by VORP researchers. Others compared completion rates of restitution contracts between VORP and other types of interventions that involved restitution to the victim without a mediated face-to-face contact. Restitution in some cases was simply court ordered by the judge in sentencing. Some studies measured victim and offender satisfaction with a perceived sense of justice served between the VORP and

non-VORP interventions. Other studies attempted to measure changes in empathy of the offender for the victim, as well as empathy of the victim for the offender.

VORP Assumptions

VORPs operated on a number of possible assumptions:

Assunption 1: Enhancing the empathy of the offender for the victim by face-to-face contact and joint responsibility for satisfactory recompense decreased the likelihood of recidivism of juvenile offenders.

Assumption 2: Enhancing the empathy of the victim for the offender by face-to-face contact and joint responsibility for satisfactory recompense allowed the victim to reach an emotional closure regarding the crime, as well as monetary or service compensation.

Assumption 3: Enhancing the sense of community connectedness of the offender by participation in VORP reduced recidivism of juvenile offenders.

Assumption 4: Enhancing the offenders sense of justice served by service or monetary compensation to the victim for crimes committed reduced recidivism of juvenile offenders.

The relation of empathy to aggression and anti-social behavior in children and adults was studied by researchers who believed they saw evidence of a modest negative relationship between the variables (Miller & Eisenberg, 1988). Children and adults who scored low in levels of empathy on a measure tended to score high in measures of aggression and anti-social behavior. Children and

adults who scored high in levels of empathy on a measure tended to score low in measures of aggression and anti-social behavior. Childhood anti-social behavior was often a precursor to juvenile offense. The meta-analyses conducted on 10 studies of empathy and the relationship to aggression and anti-social behaviors resulted in common correlations ranging from low to moderate (-0.06 to -0.46). The estimates of correlation were squared to provide an estimate of the amount of variance in aggression and anti-social behavior accounted for by empathy (0.0036 to 0.2116). These figures indicated less dramatic results. Further research was indicated on the relationship of empathy to victimization of others through criminal offense (Miller & Eisenberg, 1988).

Dynamics of VORP

Face-to-face restitution programs such as VORP included the exercise of conflict resolution skills of both parties with a third party mediator. Some programs used community volunteers trained in mediation, while other programs hired professional mediation staff to arrange and sit in on the interview. Generally the juvenile court judge or the probation office determined the suitability of the offender for VORP referral. Some communities had blanket referrals to VORP for first-time property offenses for juveniles. The mediator then contacted the offender and the victim, met with each one separately, explained procedures, assured consent, and set the VORP date for the initial face-to-face meeting. Often the meeting was held on neutral community territory such as a community center. The mediator conducted the meeting and collected

both parties' signatures on the contract once they agreed to a mutually satisfactory recompense to the victim. The mediator then returned the case file and contract, and reported to the VORP office. VORP staff or the probation office was usually charged with tracking payments to the court which were forwarded to the victim. If the mutually agreed upon restitution also included community service, the hours served were also tracked. Mutually agreed upon contracts were monitored until they were fulfilled (Chupp, 1993). Variation between communities of VORP operation was an indication of the ability to tailor the program to individual community needs. Victims had a chance to communicate with the offender and ask questions, while offenders had a chance to offer some explanation for their behavior, as well as apologize in instances. If the profile of a successful graduate of a VORP showed a significantly reduced recidivism rate, then as a cost-effective alternative to incarceration VORP could be expanded. There was a lack of definitive research on the effectiveness of VORP in the reduction of recidivism. Appealing aspects of the community-based VORP were the possible holistic health benefits for the psychological, mental, emotional, and social health needs of juvenile offenders as well as victims. Theoretically, with a successful VORP model, victims and offenders emerged with healthier problem-solving skills. One life changed for the better meant a better community for all (MCS, 1992; Zehr, 1990; Zehr & Umbreit, 1982). There was an assumption that the community would be willing to welcome and reintegrate the offender who cared to rejoin. This was not necessarily the case

for African American or other poor minority juveniles.

Theory and Theology of VORP

The director of the Mennonite Central Committee United States Office of Criminal Justice, Howard Zehr, Ph.D., received a doctorate in European history from Rutgers University and wrote much of the VORP theoretical literature. He stated believers of the Judeo-Christian religion had an obligation and responsibility to help victims of crime, the oppressed, and the powerless. He cited the story of the "Good Samaritan" as a New Testament example of how believers put action to their faith by compassionate treatment of crime victims. The story was about a Jewish traveler who was attacked by thieves and nearly beaten to death. Co-religionists passed him by and ignored his need. Finally one Samaritan gentleman took compassion on him. Samaritans were considered a mixed-blood race of apostates by the Israeli Jews of the era (Josephus, 1987 edition). He treated the victim's wounds, took him to an innkeeper, and paid for his continued care until the Jewish victim was healed (Zehr, 1988).

Effects of Crime on Victims

The Mennonite Central Committee literature stated it was not a sin to be the victim of crime trauma such as rape, assault, murder, or property offenses. The feelings of vulnerability, anger, shame, fear, helplessness, and self-blame were often overwhelming to victims of crime. Regrets, doubts, depression, frustration, loneliness, sadness, loss of faith, and other conflicting feelings were

often possible effects of victimization. Physical responses such as disturbed sleep, loss of appetite, nervousness, lowered immunity, and accidents often plagued a victim of crime. Victims reported a sense of a loss of power, diminishment, and loss of a sense of an orderly, safe world. Victimization was often devastating to many individuals, and resulted in financial loss, loss of a sense of health and well-being, reduced job performance, and social withdrawal (Zehr, 1988; Zehr & Umbreit, 1982).

The Mennonite Central Committee literature suggested some possible victim responses to the trauma of crime. Some victims expressed a need to feel a sense of autonomy and control over their own lives. They needed to express their feelings, grieve their loss, and experience some sense of justice. Remediation and restitution programs were developed to help victims recover from the trauma of crime victimization. Another goal of restitution programs was the rehabilitation and restoration the offender to good standing in the community, rather than simply punishment for crime. Personal empowerment of the victim in regaining a sense of autonomy and power was a goal of VORP. Some victims of crime expressed an experience of empowerment through active participation in the criminal justice procedures surrounding the crime, such as sentencing or remediation. However, not all victims who completed a VORP perceived justice served regarding the crime and offender (Zehr, 1988; Zehr & Umbreit, 1982).

The Mennonite Central Committee also stated victims appeared to need the reassurance that the crime was wrong and unfair, and that they did not

deserve the violation. Expectation of justice and compensation should be available to each individual victim. Victims tempted to seek vengence on the offender may have felt they were denied justice by the criminal system if the offender was acquitted, or even if the offender received a tough sentence. Those who have tried to help victims have mentioned their own traumatization after the victim shared the crime details. Victims were blamed for crimes because people refused to face their own vulnerability to crime. Families and friends were often less than helpful to victims. The crimes were unfair and tragic violations. The victims needed to hear that they were worthwhile individuals who were not to blame for the offenses (Zehr, 1988; Zehr & Umbreit, 1982).

Retributive Versus Restorative Justice

Punishment of criminals rather than rehabilitation was the recent trend in United States criminal justice. The "just deserts" philosophy was espoused by dissatisfied liberals and conservatives who have not seen effective results from other experimental, nonpunitive rehabilitation programs. The "get tough on crime" attitude logically resulted in higher incarceration rates and prison overcrowding. The death penalty thrived even though costly appeals made life imprisonment more cost effective (Prejean, 1993). Evidence on the deterrent effect of the death penalty was mixed at best (Cochran, et al., 1994). As a society we were aware that the innocent were also unjustly condemned (Zehr, 1989).

Solutions attempted by the criminal justice systems in some states

included the privatization of prisons, electronic monitoring, and intensive probation. However, an area of continued neglect was the crime victim. Assistance and compensation programs for victims served only a small minority of victims. The paradigm of criminal justice in the Western world was based on retributive justice. It defined crime as rule-breaking, and the state was the victim, rather than the individual. Crime was viewed as an offense against the state that merited punishment of criminals. The state gave the justice system the power to prosecute, determine blame, and administer punishment. The adversarial conflict was between the state and the offender. Intention outweighed outcome, as in homicide cases (Zehr, 1989; Van Ness, 1989).

Restorative justice, on which VORP was based, viewed crime as a violation of people by people. Victims and offenders were the major players, rather than the state and the offender as in retributive justice. Justice was a mutually satisfactory restoration or recompense to the victim in nonviolent conflict resolution rather than imprisonment of the offender as punishment. Persons convicted of nonviolent crime were diverted from incarceration to restitution programs (Zehr, 1989; Van Ness, 1989). However, critics of VORP pointed out that VORP and restorative justice supporters readily admitted that violent and dangerous criminals needed to be isolated from the community for the safety of law abiding citizens (Harris, 1989). Critics also pointed out that VORP and restorative justice failed to address the social, structural, and institutional forces that affected crime. Placement of crime on a strictly individual

level in restorative justice revealed that the theory was not rooted in a commitment to social change, according to certain critics (Harris, 1989).

Sociological aspects of crime indicated the complexity of cause and effect in a free market economy considering race, class, and gender issues (Levine & Rosich, 1996). Social structural factors, including the way race, class, and gender were embedded in social institutions, affected every aspect of the criminal justice system. Researchers needed to focus on questions of why poor African American male juveniles and adults were overrepresented as offenders and victims. Effective interventions for minority populations in juvenile justice needed to address social, structural, and institutional forces that affected crime.

Theorists of VORP continued to stress that justice needed the active participation of four major players: victims, offenders, government, and community. The current retributive system normally involved just the government and the offender. Offenders had the right to due process and the state had the right to exact punishment for violation of the order and security of society (Van Ness, 1989). Victims generally had no rights, unless they managed to get into a mediation program with the offender.

Mediation was marketed to the justice industry but was also successfully adapted to community needs such as divorce mediation, school mediation, and consumer mediation. Noncoercive conflict resolution appealed to citizens reluctant to tackle the criminal justice court system, but anxious for a solution.

Research on VORPs

Anderson County, Tennessee

Actual empirical research on VORP was limited, although they existed in the United States since 1978. A study by a University of Tennessee professor and doctoral student in Anderson County, Tennessee was limited due to the lack of random assignment to groups. It was a correlational, ex-post-facto design that used simple random samples of VORP and nonVORP juvenile property offenders (N=243) matched on admission of guilt. The correlational results indicated males were three times more likely to reoffend than females, and juveniles from single parent households were more likely to reoffend. Also the odds of reoffense doubled for each prior offense. The authors also mentioned research that indicated the average juvenile offender committed 50 crimes for every crime caught (Nugent & Paddock, 1995; 1996). The authors published two articles regarding the effects of VORP on reoffense and severity of reoffense. VORP graduates tended to have lower reoffense rates and offenses of lesser severity than nonVORP offenders. A moderating effect regarding family size was found, with constant results for VORP graduates but higher reoffense rates for nonVORP offenders from larger families with more siblings (Nugent & Paddock, 1995; 1996). The study was unable to use income or race control variables.

Recidivism in an Indiana VORP and a Michigan Restitution Program

Another study investigated the first United States VORP in Elkhart

County, Indiana compared with a preadjudication restitution program for juveniles in Kalamazoo, Michigan. The Michigan program was run by the Juvenile Probate Court. Restitution was determined by the court rather than by the victim and offender in the Michigan program. No significant differences were found in recidivism between the two restitution programs. The researchers found that nine percent of first-time offenders reoffended while 37 percent of offenders with three or more prior convictions reoffended (Roy, 1993).

Minneapolis Case Study of Victim and Offender Perceptions

A case study from the Center for Victim Offender Mediation in Minneapolis involved a burglarized couple, the 20 year old male offender, and two social worker co-mediators. The mediators used a nondirective, empowerment style. They set up the meeting in the neutral community center, defined the procedure and responsibilities, and monitored the meeting. The participants expressed satisfaction with the mutually agreed upon restitution payments of $50 a month for ten months. Both parties said the outcome was fair. Non-violent property offenses from first or second conviction offenders were suggested to be appropriate for this type of program, although some communities were experimenting with mediation and violent crime (Umbreit, 1993;1994). Case studies, although interesting, have no generalizability (Cook & Campbell, 1979).

Survey of United States Mediation Program Leaders

A British researcher sent a survey to over 50 project leaders in Canada

and the United States of victim-offender reconciliation programs selected from an American Bar Association mediation directory and a report on mediation projects. The author did not specify how the leaders were selected. There were only fourteen responses to the eight page questionnaire, although the author stated the views of 24 people were included. Eight of the fourteen respondents called their program VORP. The survey asked the leaders to comment on their perceived impact on the victims, fairness to the offenders and victims, reparation, relationship to the existing state criminal justice system, and the future of mediation. Sample size and the low response rate (14 of 50) indicated the study has extremely low generalizability (Cook & Campbell, 1979). However, the respondents indicated the offender should remain responsible for monetary reparation to the victim, not the state (Wright, 1985).

Minneapolis Victim Perceptions of VORP

A small study of 50 burglary victims in Hennepin County, Minnesota in 1986 and 1987 attempted to address victim perceptions of VORP in a qualitative study, such as the definition of fairness and satisfaction with VORP. All victims were referred to VORP but only 31(62%) participated in VORP. Of the 31 participants, 28 (93%) indicated the restitution was fair, 30 (97%) stated they were fairly treated in mediation, 29 (94%) stated the mediator was fair, and 24 (86%) stated the mediation was helpful in a face-to-face interview after VORP (Umbreit, 1989). The small sample size and the sampling technique from Minneapolis severely limited the generalizability of the study (Cook & Campbell,

1979).

Survey of United States Juvenile Justice Organizations

One study received survey responses from 240 juvenile justice organizations (over 70% response rate). Seventy-nine organizations reported a victim-offender program, and 171 indicated a mediation program in 31 states. The study examined goals of the programs, target populations, administration, mediation and mediators, contracts, program support, and evaluation. Results indicated the most important mediation goal was to hold the offender accountable (9.5 out of 10 average). Violent offenders were excluded in about 80% of programs. Private nonprofits ran most programs (43%), probation ran some programs (21%), the state or county ran a similar number (17%), and courts, police and schools ran the remainder (7%). Government funding provided most of the support (84%) for the 30 (38%) of respondents who provided figures. Courts and probation provided most of the referrals. Staff mediators were utilized in 55 percent of the programs, while 37 percent used staff as well as volunteers, and 8% utilized volunteers exclusively. Only 4 percent of the mediation programs reported no training required for mediators. The average mediation session lasted one hour, usually with one session for each case. The contracts were usually monetary restitution to the victim, and in 91 percent of programs the contract was monitored by staff (35%), probation (33%), personnel (25%), or the mediator (6%). Juvenile court judges were viewed as the most supportive of the programs among all members of the

community. Evaluations had been done in the last five years in only 41 percent of the programs, usually by staff (57%). Mediation was given an average of 8.4 out of 10 possible points regarding effectiveness by respondents, while individual programs received 7.9. Mediation was viewed as more effective than probation or incarceration, while probation was seen as more effective than incarceration by administrators. The definition of effective was subjective and in this case meant whether the goals of the 240 different programs were met. However, staff had more favorable views of incarceration and probation than administrators, and less favorable views of mediation (Hughes & Schneider, 1989). The study provided a useful overview of the status of mediation for juveniles.

Cross-site Analysis of Four City Mediation Programs

A large cross-site analysis was conducted of victim-offender mediation programs in the four cities of Albuquerque, Minneapolis, Oakland, and Austin comprising 1,153 interviews. Two comparison groups (417) were interviewed, premediation (304) interviews, and postmediation (432) interviews were conducted. The comparison group offenders were also ordered to pay restitution through the probation office but were not referred to a victim-offender program. The comparison group was also matched for variables of age, sex, race , offense, and monetary amount of restitution. The study attempted to investigate the effect of mediation on restitution and recidivism (Umbreit & Coates, 1993; Umbreit, 1993; 1994).

Results indicated that juvenile courts and probation made most of the referrals to the private, nonprofit agencies that operated the first three city programs (Austin was added later). In 1990 and 1991, victims (2,799) and offenders (2,659) totalled 5,458 individuals who were referred to mediation in the four cities. Property crimes such as burglary, theft, or vandalism comprised 83 percent of the cases, while 17 percent were considered violent crimes, usually minor assault. Preadjudication/diversion referrals comprised 85 percent of the cases. Offenders were of the average age of 15, 86 percent of offenders were male, while 46 percent of offenders were considered of minority race (Hispanic 27%; Black 14%; other 5%). Most victims (91%) and offenders (81%) believed the program was voluntary, an important aspect of the victim movement. Coercion of either victim or offender was not an acceptable form of mediation to many. The researchers found a statistically significant difference between Minneapolis offenders who rated their participation as voluntary (90%) and Albuquerque offenders who rated their participation as voluntary (71%). In other words, significantly more Albuquerque offenders than Minneapolis offenders perceived their participation as coerced. The Albuquerque offenders were caucasian (30%), black (2%), Hispanic (65%), and other (3%) while the Minneapolis offenders were caucasian (70%), black (23%), Hispanic (2%), and (5%) other (Umbreit & Coates, 1993). It was possible that cultural differences of race or ethnic group affected offender perception of voluntariness in mediation. Technically, all four city programs stressed the voluntariness of the victim-

offender mediation program. The question of why the predominantly Hispanic offender group in Albuquerque viewed their participation as voluntary (71%) was lower than Minneapolis offenders (90%) was perhaps a function of living as a minority in a caucasian-dominant North American culture. Their perceptions were quite likely to be rooted in reality, whether from previous experience or differential treatment in the mediation program.

This study also found that victims rated restitution for their losses just as important as help for the offender. Next in importance to victims was telling the offender what effects the crime had on them personally as victims. Last in importance was getting answers to questions regarding the crime such as "why me?" Offenders rated "making things right" as the most important aspect of mediation, followed by apologizing to the victim. Almost 80 percent of offenders in mediation and the two comparison groups were satisfied with the results of their juvenile justice case, with no significant differences between groups. The comparison groups also paid restitution, but did not go through mediation. There was a significant difference between victim satisfaction at the .05 level of significance between the mediation group (79%), the referred/no mediation group (57%), and the nonreferral to mediation group (57%). Overall, nine out of ten victims and offenders expressed satisfaction with mediation outcomes. There were no statistically significant differences in recidivism between the three groups at the four sites, possibly since all had to pay restitution. Another study could look at comparison groups who did not pay restitution like offenders in

mediation, but simply went through the traditional incarceration, probation, and parole. There was a statistically significant difference (p=.0001) between successful completion rates of 167 Minneapolis and Albuquerque mediation offenders (81%) who completed restitution compared to 221 nonreferred matched comparisons (58%) who were ordered to pay restitution but did not go through mediation face-to-face with their victims (Umbreit & Coates, 1993). The findings were encouraging to proponents of victim-offender mediation.

New Zealand Reparation Completion

Victim-offender mediation by New Zealand probation officers was the subject of a recent study (Galaway, 1995). A data set of 1,672 cases of fines and reparation was studied for compliance. These offenders were sentenced between January and March of 1988, and the follow-up was one year later. Fifty-eight percent of the offenders were in compliance, while 48 percent of the money due had been paid. Interpretation of the data was limited, however, because the researcher did not compare results of compliance in reparation between an mediated experimental group and a nonmediated control group.

Other data sets were used in the study to investigate attitudes of a random sample of twenty-two out of sixty-seven judges and 341 of 402 total New Zealand probation officers (85% response) to reparation and mediation. Results indicated ambivalence towards sentencing reparation in cases of unemployed offenders. Employed offenders received a reparation sentence in 67 percent of cases and unemployed offenders in 58 percent of cases.

Probation officers viewed reparation favorably in 36 percent of responses (172), unfavorably in nine percent of responses (42), and neutrally in 55 percent of responses (262). Concern by subjects about reparation as an appropriate sentence for property or assault crimes was evident. Also, most judges and probation officers believed victims did not want to meet their offender to work out a reparation plan (Galaway, 1995). These results were not consistent with other North American studies.

Six Juvenile Courts

A random-assignment experiment that involved offenders from six juvenile courts across the country indicated that offenders who completed a formal restitution program rather than traditional programs had a lower 2.4 year recidivism rate. The restitution effect meant that offenders who participated in a formal restitution program committed eight fewer offenses per 100 youths a year than offenders who completed traditional programs. The authors concluded that restitution progams rewarded juvenile offenders for positive action taken by the youths in their successful reparation to the victim and community. The 876 offenders were from Ventura, California; Washington, D.C.; Clayton County, Georgia; Boise, Idaho; Oklahoma City, Oklahoma; and Dane County (Madison), Wisconsin. Eighty-seven percent were male and twenty-six percent were black. The mean age was 15.8 years. Sixty-seven percent were convicted of burglary or larceny. Sixty-one percent had one or more prior convictions. The demographic data on the offenders were similar to other studies, and results of

eight fewer offenses per 100 youths per year indicated possible benefits of formal restitution programs (Ervin & Schneider, 1990).

Northwest Territories

Native communities of Dene Indians in northwestern Arctic Canada and Inuits in eastern Arctic Canada had a tribal justice tradition of reparation to the victim and reintegration to the community. The Northwest Territories covered three million kilometers but had a population of only 53,000, which was 22 percent Dene Indian and 35 percent Inuit. Conflict resolution among the Native people had traditionally been a matter of community tribal custom. The Canadian government had experienced difficulty importing formal restitution programs to the Northwest Territories. Native communities appeared to consider the non-Native programs a threat to community empowerment and cultural integrity. The Royal Canadian Mounted Police and the circuit courts of the area were challenged by the highest rates of violent crime and property offenses in Canada. The average offender committed a property offense and was between 18 and 24 years of age. The authors stated victim-offender reconciliation programs and community service appeared to be more congruent with Native justice traditions than simple restitution orders. The restoration of community order through community service by the offender and reparation to the victim were valued especially if the Native community had the responsibility of oversight. Programs perceived as run by government agencies rather than community operated had limited credibility. Native empowerment through

localized justice programs was a culturally sensitive step toward a return to Native traditions, such as tribal autonomy (Griffiths & Patenaude, 1990).

Three VORPS in Germany

Braunschweig, Cologne, and Reutlingen were the sites of three German VORPs studied from June 1985 through December 1987. The author stated German criminal law had a theoretical term called "wiedergutmachung," or making good again. However, modern criminal justice in Germany tended to be punishment oriented or retributive. Reutlingen had only 204 offender referrals in this time period, or only 15 percent of the yearly caseload. Braunschweig referred 145 juvenile offenders in 1986, or one third of their total number of juvenile offenders. Cologne had only 63 referrals in 1986. Statistics were presented on only the Reutlingen site. Successful completion of reparations occurred in 155 of 204 cases (76 percent). Male offenders numbered 194 out of 204 cases (95.1 percent). About half (78 offenders) had no prior convictions (45.1 percent). Ninety-one of the offenders were 16 and 17 years old (44.6 percent). Due to the lack of a control group, meaningful inferences were not made regarding effectiveness between programs. However, the demographics were similar to other studies of VORPs in North America. A reparation rate of 76 percent was one result of the study. The reluctance of the courts to refer juvenile offenders to victim-offender reconciliation programs despite an historical tradition of reparation was the result of many factors. One factor was the religious connotations and values related to the German word for reconciliation,

which is "versohnung, aussohnung." Reconciliation in the English language lacked the same overt religious inference. Mediated conflict resolution was an alternative to traditional sentencing which had no evidence of a deterrent effect on reoffense rates in Germany (Trenczek, 1990).

Four United Kingdom Mediation and Reparation Schemes

The Home Office of Britain funded four VORP sites in Coventry, Leeds, North East Essex, and Wolverhampton as well as an evaluation study of their effectiveness. Results interpreted by the author indicated an ambivalence towards reparation and various operational problems regarding mediation, manifested by a reluctance on the part of the courts to refer and process mediation cases. Pre-court diversion to mediation as an alternative to prosecution was used in some sites in Britain, while other sites got referrals from the courts after conviction but before sentencing. The statistics were not presented regarding evidence of effectiveness, but the author did indicate future policy considerations. He suggested schemes should operate independent of the criminal justice system to encourage community ownership of restorative justice. He also suggested schemes should be more sensitive to the needs of victims. Finally, he suggested the offender must be accountable to the victim for reparation, rather than the victim relying on court ordered compensation orders (Marshall, 1990).

Research on Other Interventions for Juveniles

The variety of juvenile justice programs in the Western world suffered

from a lack of definitive empirical research on effectiveness. The mediation programs were not the only alternative, community-based programs that were met with skepticism by certain members of the justice community.

Vermont Juvenile Court Diversion Restitution Program

A six-year followup study of sixty male juvenile first-time offenders in Vermont (1981-1987) who completed a diversion restitution program rather than traditional juvenile probation indicated some important differences between the two groups. The matched sample control group in traditional juvenile probation cost the community $750 per case, while the diversion restitution group cost $216 per case. Juvenile incarceration cost the community $17,000 per case, excluding court costs. Restitution to the victim was completed in 46 percent of the diversion cases and only 13 percent of the probation cases. Elements of the Vermont program are similar to VORP such as financial restitution to the victim or community service work. However, the contact the offender had with the victim was occassionally a simple letter of apology or personal apology. The author concluded the sample size was too small to make inferences regarding effects on recidivism (Rowley, 1990).

Police Cautioning in the United Kingdom

England and Wales practiced a form of pre-court diversion for juvenile offenders called "police cautioning." In 1992 alone, 90,100 minor offenders were simply cautioned for offenses. Only 20,400 juveniles were charged with offenses in 1992. Police cautioning was simply a device for the appearance of a

reduction in crime among juveniles, when in fact they still committed the crimes, but were given a first caution instead of prosecution for offenses. The cautioning was a verbal lecture to the juvenile at the police station witnessed by a parent or parents. The practice had no evidence of any social value regarding recidivism (Lee, 1995).

Boot Camps for Juvenile Offenders

Another interesting phenomenon was the boot camp for juvenile offenders, modeled on the military boot camp. One study investigated boot camps in eight states (Florida, Georgia, Illinois, Louisiana, New York, Oklahoma, South Carolina, and Texas) for recidivism of over 1,000 subjects. The quasi-military programs stressed physical labor, exercise, strict rules, discipline, and military drill for juveniles convicted of nonviolent crime. Results suggested boot camp graduates recidivated at similar rates to comparison groups who were assigned to probation/parole. In four of the states, Texas, Oklahoma, Florida, and South Carolina, no significant impact on recidivism was discovered. In Georgia, boot camp graduates did even worse than the control group in probation/parole. Graduates of boot camps in Illinois, Louisiana, and New York had lower recidivism rates for some of the measures. In Illinois boot camp graduates committed fewer new crimes, but had more technical revocations such as rule infractions. In New York boot camp graduates did better than dropouts of the program, but there were no significant differences with control group parolees. In Louisiana, boot camp graduates had lower recidivism rates

than both dopouts and parolees. There were differences in the theraputic elements between the state programs, such as none in Georgia, and these differences could have affected results (MacKenzie, Brame, McDowall, & Souryal, 1995).

A Meta-Analysis of Juvenile Justice Programs

A meta-analysis was conducted on over 400 control/treatment group delinquency studies, both unpublished and published (Lipsey, 1992). The author chose to examine effect size rather than statistical significance between treatment and control groups due to differences in sample sizes. Results in many studies were problematic due to small sample sizes with inadequate statistical power, resulting in an inability to obtain statistical significance in results (Cook & Campbell, 1979). The magnitude of the difference between treatment and control group means was standardized among the different measures. The resulting standardized mean difference was called an effect size. The effect size was the difference between the treatment and control group mean divided by the pooled standard deviation. The estimated mean effect size for each treatment modality was given after partialling out methodological variance (Lipsey, 1992). Effect size criteria given in correlation coefficients were generally expressed as small (.1), medium (.3), and large (.5). A small effect size was a difference of .2 of a standard deviation between means, a medium effect size was .5 of a standard deviation between means, and a large effect size was .8 of a standard deviation between means (Cohen,

1988; Pedhazur & Schmelkin, 1991).

The effect size for a delinquency measure was coded as recidivism, along with 156 other variables for methods, treatment, and context. The dependent variables were the main delinquency effect size, as well as effect sizes for nondelinquency variables such as attitude, school performance, and self-esteem. The treatment modality "probation/parole restitution" in thirteen studies resulted in an effect size of .08. "Individual counseling" treatment modality in twenty studies and "probation/parole reduce caseload" in eleven studies resulted in the same effect size of .08. "Group counseling" modality in 39 studies and "probation/parole with other enhancements" modality in seven studies resulted in an effect size of .07. "Skill oriented" treatment modality in fifteen studies and "institutional-other" modality in nine studies resulted in an effect size of .20. These results indicated that juvenile justice programs, contrary to popular opinion, worked to an extent in the reduction of recidivism for certain individuals in suitable programs. Further research was indicated in the direction of juveniles to the most effective treatment modality possible for them as individuals (Lipsey, 1992).

The meta-analysis of over 400 delinquency treatment studies indicated three other modalities with higher effect sizes than the seven previously mentioned. The seven modalities with smaller effect sizes were "probation/parole with other enhancements, group counseling, individual counseling, probation/parole with restitution, probation/parole with a reduced

caseload, skill oriented, and institutional-other." "Employment" modality in four studies resulted in an effect size of .37. "Multimodal" modality in twelve studies and "behavioral" modality in eight studies resulted in an effect size of .25. Clearly, many of the possible juvenile justice treatment modalities worked to an extent, indicating small to medium effect sizes for certain individuals in the reduction of recidivism (Lipsey, 1992).

Juvenile Justice Possibilities

A number of researchers with different theoretical leanings have investigated the social problem of juvenile offense. Many have studied specific interventions, such as the Victim-Offender Reconciliation Program, and the relationshi[p with recidivism rates. Some appeared to be concerned with the social, mental, psychological, and emotional health of the offenders as well as the victims. Most appeared to recognize the social implications of rising juvenile offense statistics and rising rates of family violence. Some juvenile offenders learned aggressive behavior in order to survive in the hostile environment of the streets, the schools, and their own homes (Fraser, 1996).

Juveniles' beliefs in their own personal efficacy impacted their psychological health, their goals and successes, and their future careers. Opportunity structures must be opened for youths to succeed and experience self-efficacy. The interaction of parenting efficacy within the family, socioeconomic factors, academic success, and a juvenile's personal efficacy influenced his or her future accomplishments (Bandura, 1995; Fraser, 1996).

Juvenile social health involved adult assumption of responsibility for the development of a stimulating yet protective home environment, a challenging school environment, positive modeling of social peer contact, and positive modeling for intergenerational social contact.

Another consideration of juvenile justice was the sociological perspective on the causes of crime, including juvenile offense. This included oppression due to race, class, and gender, institutional discrimination, and alienation (Levine & Rosich, 1996). These factors were not covered by social learning theory. This was a very important issue and illustrated the inadequacy of social learning theory as a theoretical basis for juvenile justice interventions, particularly with male African Americans and other disenfranchised populations.

Juvenile offenders were more effectively treated when the juvenile court system took a more holistic view of their problematic behavior. Alternatives based in the community such as the Victim-Offender Reconciliation Programs (VORP) appeared to be cost-effective programs. The empirical studies available on VORP indicated they tended to reduce recidivism rates of juvenile offenders under certain circumstances, such as with younger, first-time offenders. Further studies were needed to investigate other issues such as recidivism rates among female juvenile offenders in VORP. Studies of the differences in opportunity structures for youth who differed in race, class, and gender would also be useful. Other risk factors needed to be identified and treatment modalities tailored to the individual juvenile's profile.

Another issue pertinent to VORP was related to victimology and victims' rights. The history of the criminal justice system in the Western world indicated the victim was the forgotten party, but this was not always the case in the era of blood feuds and vendetta. Perhaps the reason VORP respected the rights and needs of the victim was because VORP was created within the Mennonite Central Committee (MCC) of Ontario, Canada. The MCC had roots in the pacifist branch of Judeo-Christian theology. Many Mennonite conscientious objectors served in prison work for the government as an alternative to military combat service. Their ideas of restorative justice, satisfactory recompense to the victim, and the offender's need to own responsibility for the crime were ideals rooted in Judeo-Christian theology (Umbreit, 1995). Secular researchers preferred to consider VORP as built upon or congruent with a theoretical base of social learning theory (Bandura, 1977), although this was clearly debatable. A short explanation of this theory was incorporated as well. Noncoercive conflict resolution ideally enhanced the skills of both the victim and offender.

Sociological Perspective

The effects of social structure, economic, and political factors have resulted in differential opportunities for juveniles and differential treatment in the juvenile justice system. The imbeddedness of race, class, and gender in social institutions was not reflected in social learning theory. Social learning theory was inadequate in the explanation of crime and was also inadequate as a theoretical base for a program for all juveniles. However, VORP never self-

identified as a blanket program effective for all juveniles. VORP directors appeared to be aware of the population limitations of their program based on their own practice experience. Who was "left out" of VORP was an important question for social workers.

The community also had a part to play in the reintegration of the juvenile offender. Poor deprived communities may not have the interest, ability, or resources to function as required by VORP in intervention effectiveness. The social causes of violence and juvenile crime, such as neighborhood and family violence, were unexplained factors in social learning theory. Socioeconomic status (SES) based on income and education and the relationship of SES to race, class, and gender was another factor in juvenile crime not explained by social learning theory.

Hypotheses

The purpose of the study was to investigate the effects of VORP on juvenile property offender recidivism and severity of reoffense. Specific hypotheses tested in the proposed research were:

(1) Juvenile property offenders who have participated in a VORP face-to-face mediation will exhibit lower one year recidivism rates than those who received a traditional juvenile justice sentence of probation, incarceration, or fines (nonVORP).

(2) Juvenile property offenders who have participated in a VORP face-to-face mediation will exhibit a lower level of severity of reoffense within one year

than those who received a traditional sentence of probation, incarceration, or fines (nonVORP).

(3) The number of prior offenses will moderate the effect of VORP on recidivism and severity of reoffense (as the number of priors increases, the VORP effect decreases).

(4) The number of siblings will moderate the effect of VORP on recidivism and severity of reoffense (as sibling number increases, the VORP effect decreases).

(5) Age will moderate the effect of VORP on recidivism and severity of reoffense (as age increases, the VORP effect decreases).

(6) Race will not moderate the effect of VORP on recidivism and severity of reoffense.

(7) Household composition will moderate the effect of VORP on recidivism and severity of reoffense (VORP will be more effective if the offender lives with married biological parents rather than remarried parents, single parents, or other situations).

(8) Income will moderate the effect of VORP on recidivism and severity of reoffense (VORP will be more effective with higher income households).

(9) Last grade completed of parents will moderate the effect of VORP on recidivism and severity of reoffense (VORP will be more effective in households with parents who have higher education).

(10) Gender will moderate the effect of VORP on recidivism and severity

of reoffense (VORP will be more effective with females).

III. Methodology

Sampling Time Frame

Data was gathered from existing case records from three eastern Tennessee county Juvenile Courts and the private nonprofit VORP programs in these counties. The case records were computerized in some cases and were in locked paper files in other cases. Sites chosen were Putnam, Cumberland, and Anderson counties because they were within driving distance of Knox county, a consideration based on time and finances. Simple random samples from two comparison groups were computer generated for the analysis, juvenile property offenders who completed a VORP(VORP group) and juvenile property offenders who received a traditional sentence of fines, probation, or incarceration (nonVORP group). The offenders were not randomly assigned to VORP or nonVORP groups. Juveniles who admitted guilt to property offenses have been routinely referred to VORP in Anderson county since January 1, 1989. This was not the case in Putnam and Cumberland counties. The judges, juvenile court officers, and VORP staff utilized discretion in referral of cases to VORP in Cumberland and Putnam counties. There was also the possibility that although the offenders all volunteered for VORP, they may have sensed coercion from the court to volunteer in order to please the judges and probation officers (Regehr & Antle, 1997).

Walter Hudson's Statistical Programs for Personal Computers (SPPC) random number computer program generated a simple random sample of VORP

cases out of the total population of VORP cases. Included were all cases dating from January 1, 1993 to September 30, 1995 selected from Anderson (N=118) and Putnam counties (N=9). The small sample size in Putnam county was due to an unforeseen diversion program for shoplifter property offenders that diverted most of that group from the official VORP group and eliminated the face-to-face mediation meeting. Cases dating from January 1, 1990 to September 30, 1995 were drawn from VORP in Cumberland (N=76) county in order to get a larger sample size.

The same procedure of simple random samples (computer generated) was followed for the nonVORP group who received traditional sentences of probation, incarceration, and fines (VORP juveniles=203, nonVORP juveniles=217, total N=420). A master list of cases from VORP and nonVORP was numbered for the time frame indicated. Confidentiality was preserved by leaving the master lists in the locked files of the VORP offices and the locked files of the juvenile court officers. The random numbers indicated by the computer were used to select random cases from the hand numbered master lists prepared by the researcher. The master lists provided by the VORP directors and the juvenile court officers were all numbered by the researcher because case numbers were not consistent between VORP and juvenile courts. Confidentiality was also preserved by the use of number identification rather than the names of the juveniles. The juvenile's case was pulled from the locked files or brought up on the computer screen by the researcher and the VORP

employee or juvenile court officer responsible for records. January 1, 1993 was chosen as the start date for referrals to VORP in order to avoid pulling some of the same sample data cases from 1989 to 1992 utilized by earlier researchers in an Anderson county VORP recidivism study (Nugent & Paddock, 1995; 1996). Also the Putnam county VORP began in 1993. The VORP programs dated their cases from the date of referral while the Juvenile Courts used the date of offense. The date of referral was usually the same date the petition was signed. The VORP juvenile offenders were followed for one full year from the face-to-face mediation date for recidivism data in Juvenile Court records.

Recidivism was defined as another referral to Juvenile Court within one year of the mediation meeting that resulted in adjudication for a delinquent offense or a status offense. Sometimes juveniles were referred again to Juvenile Court but were not adjudicated again. In order to allow time for the adjudication process following a referral, the cutoff date for the VORP sample data collection was September 30, 1995 for the mediation meeting. The juveniles were followed for one full year in Juvenile Court, until September 30, 1996 at the latest. This allowed 4-6 months for the adjudication to occur after the next referral before all the data for this study were collected.

The control sample of juvenile offenders who were not referred to VORP but received the traditional sentence of probation, incarceration, or fines was a randomly selected matched sample from Anderson county (N=69), Cumberland county (N=61), and Putnam county (N=87) for a total N=217 of nonVORP

juvenile offenders. The control sample was matched to the VORP sample on admission of guilt to the particular crime of property offense. The Anderson county nonVORP group consisted of original VORP referrals in which the victim only declined to participate. The admission to guilt data were available from court records. The year of followup study for recidivism in the control group was dated from the court sentencing date, which occurred no earlier than January 1, 1993 and no later than September 30, 1995 in Putnam and Anderson counties. The control group was randomly selected from Cumberland county from January 1, 1987 to December 31, 1989 in order to get a larger sample size (N=61) from the pre-VORP population. The recidivism followup year ended no later than September 30, 1996 in order to allow 4-6 months for adjudication.

The Cumberland county nonVORP juvenile offenders were drawn from records previous to December 31, 1989 when nearly blanket VORP referrals were instituted for property offenders who admitted guilt. This was not the case in Putnam and Anderson counties, where the nonVORP data was collected from the same years that the VORP data was collected. A case can be made that juvenile offenders in Cumberland county from January 1, 1987 to December 31, 1989 were not fundamentally different than juvenile offenders from January 1, 1993 to September 30, 1995. The late 1980s and the early 1990s in this county were not fundamentally different in any obvious social or economic respect. The nonVORP group in Anderson county was drawn from the time frame of January 1, 1993 to September 30, 1995 due to the number of cases available in which

the victim refused to participate in VORP (N=69) although the offender was willing to participate and admitted guilt. Statistical analyses were used to determine whether there were differences between the three counties. The analyses looked for differences in outcomes associated with the programs. Different outcomes would have indicated selection bias. The analysis compared sites by demographics to test the comparability of populations between the three counties.

The VORP juvenile offenders in many cases were also assigned a probation officer in addition to the VORP intervention. The nonVORP juvenile offenders were sentenced to probation, incarceration, and/or fines. Juveniles in both samples admitted guilt for property offense. In instances where the juvenile originally admitted guilt to the property offense but later changed his or her story to "not guilty" or "I don't know," the mediation process was terminated. In instances where the victim chose not to participate at any point in the intervention, the mediation program was terminated and the case was referred back to court. The juvenile court judge in Anderson county referred juveniles to VORP who admitted guilt to a property offense. Cumberland and Putnam counties do not have blanket referrals to VORP for juvenile offenders who admit guilt to property offenses, which may indicate a selection bias. A juvenile offender may have multiple victims after a particular crime spree, such as after bashing in 20 mailboxes. The subjects in this study were individual offenders, while some had multiple victims. The indended subjects of the sample were

juveniles who completed the VORP mediation or nonVORP juvenile court sentencing before the age of seventeen in order for the one year followup to conclude before the offender reached the age of majority at eighteen.

Design

The research design chosen was correlational, an ex-post-facto design. Original data was collected from archival sources in both computer and paper files in the county VORP offices and the juvenile county court records.

The attempt to control for threats to external validity in order to generalize findings to the larger population of juvenile property offenders in the three counties included the use of a simple random sample (N=420). The sample size of 420 was chosen due in part to time constraints of data collection and in part to maximize statistical power.

There were no controls for threats to internal validity due to selection, history, regression to the mean, instrumentation, mortality, maturation, and testing. This was due to the lack of random assignment to VORP and nonVORP groups. Causal inferences were not made about the variables in this correlational study.

It should be noted that the three VORP programs were all considered to be private nonprofit organizations. Funding for VORP was derived from several sources including the state, county, United Way, private funding, and churches in the community. All three VORPs served juvenile offenders and their victims from throughout their county. The Juvenile Courts and judges of the three

counties have been supportive of the programs and cooperative.

Independent Variables

The treatment variable of focus was group membership in VORP (0=nonVORP, 1=VORP). The variable was dichotomous and nominal.

Demographic control variables of the juvenile offenders who admitted guilt to property offenses included age (in years), race (caucasian, African American, Asian, Native American, other), gender (male or female), last grade completed in school (numbered grade), number of siblings (living in the home), number of household members (living in the home), marital status of parents (biological parents are married and living together, biological parents are divorced and custodial parent is living single with juvenile offender in the home, biological parents are divorced and custodial parent is remarried to a stepparent or lives with a person acting in the role of stepparent in the home as in mother/stepfather or father/stepmother, biological parents were never married and custodial parent is a single male or female), household composition (juvenile lives in adoptive home, foster home, with biological parents, with father/stepmother, with mother/stepfather, with single mother, with single father, with relatives/guardian, in a group home, in an institution, in a residential center, independently, or unknown), gender of custodial parent if divorced or single (male or female-custodial parent means parent granted legal custody for the majority of days in the month), household yearly income (in $10,000), last grade completed of father (numbered grade), last grade completed of mother

(numbered grade), number of prior delinquent offenses, and number of prior status offenses.

The correlates chosen for the study were based on available data from all three county juvenile courts and all three VORPs. It was not possible to use socio-economic status based on income in two counties and parental education level in Anderson county as a correlate, due to a problematic proxy variable. Also unacceptable percentages of the data were missing for the variables and they were eliminated from the logistic and ordinal logistic regressions (missing income data=25.7%, missing father's last grade data=55%, missing mother's last grade data=55%). Anderson county juvenile courts collected data on the parental educational level but not on household income, while the other juvenile courts collected data on household income but not parental education level. These variables were chosen based on the earlier studies listed in the research on VORP chapter as well as VORP and other juvenile justice theories.

Dichotomous Dependent Variable "Reoffense"

The dichotomous nominal dependent variable "reoffense"(0= no roffense, 1= reoffense) was used in the logistic regression. A more complete definition of the variable was "1=reoffense referral to juvenile court that resulted in a status offense, unruly, or adjudication for a delinquent offense (against persons, property, or for illegal conduct) within one year of VORP face-to-face mediation date or nonVORP court sentencing date" or "0=no reoffense referral resulting in a status offense, unruly, or adjudication for a delinquent offense (against

persons, property, or for illegal conduct) within one year of VORP mediation date or nonVORP court sentencing date." Reoffense was defined as another referral to juvenile court for a status offense, unruly, or delinquency offense (against persons, property, or for illegal conduct) that resulted in adjudication. A delinquent adjudication for illegal conduct such as attempted burglary or theft, possession or sale of a controlled substance, inhaling intoxicants, driving under the influence, driving while impaired, unlawful possession of a weapon, public intoxication, disorderly conduct, harassment, criminal trespass, resisting stop/frisk/halt/arrest, evading arrest, traffic offenses, driving without a license, driving on a suspended license, speeding, reckless driving, failure to yield, improper registration, leaving the scene of an accident, local city ordinances, littering, discharging firearms, discharging fireworks, failure to appear, contempt of court, possession of alcohol, and consumption of alcohol was considered reoffense in the recidivism dichotomous dependent variable (Anderson County Juvenile Court Annual Report, 1994). Status offenses were in-state runaway, out-of-state runaway, truancy, violation of curfew, or ungovernable or unruly behavior. Property offenses in Juvenile Court were divided into losses of under $500 which were misdemeanor property offenses and losses over $500 which were felony property offenses. The distinction was not relevant in the dichotomous recidivism dependent variable. Delinquent against property and delinquent against persons were defined in the Juvenile Offense section (Anderson County Juvenile Court, 1994).

Ordinal Dependent Variable "Severity of Reoffense"

"Severity of reoffense" was analyzed as an ordinal dependent variable in the ordinal logistic regression. The five ordered categories were from zero to four (0-4), with an underlying concept of "harm to others." No reoffense was coded as "0," with no harm to others. A status offense or unruly was coded as "1," with potential emotional harm to others. A status offense included offenses such as runaway, truancy, violation of curfew, or ungovernable and unruly behavior. An adjudication of delinquent for illegal conduct or violation proceedings was coded as "2," with potential harm. An exhaustive list of offenses in this category was listed earlier. An adjudication of delinquent against property was coded as "3," with indirect harm to others through property. The adjudication of delinquent against property included; burglary, aggravated burglary, theft of property, theft of money, arson, reckless burning, vandalism, forgery, unauthorized use of a vehicle, or illegal possession or use of a credit card. An adjudication of delinquent against persons was coded as "4," with direct harm to others. Delinquent against persons included offenses such as assault, aggravated assault, robbery, rape, aggravated rape, sexual battery, reckless endangerment, or attempted first degree murder. The underlying continuous dimension of "harm to the victim" was the conceptualization behind the ordered categories of "severity of reoffense" with four as the most severe (Nugent & Paddock, 1995; Anderson County Juvenile Court Annual Report, 1994).

Data Collection--Missing Data

The independent variable "last grade completed" of the offender was missing in 26 of 420 cases (6.2 percent). Mean substitution was utilized in order to include these cases in the analysis. Mean substitution was generally used with 5 percent or less of missing data. The mean substituted was the value 7.67. Logistic regressions with and without mean substitution indicated no differences in the significance of any variable. The significance levels of the variables changed slightly but no variable moved into or out of significance. Mean substitution was retained (Orme, 1991; Gibson, 1992).

Parental marital status data was missing in 5 of 420 cases (1.2 percent). Mode substitution was utilized in order to include these cases in the analysis since the missing data was less than 5 percent of the total cases for this nominal variable. The mode substituted was the value 1, which indicated the biological parents were married. The variable was eliminated due to redundancy.

Five independent variables had excessive missing data and were eliminated from the analysis. These included the variables "number of household members" which was missing in 125 out of 420 cases (29.8 percent missing), "number of siblings" which was missing in 124 of 420 cases (29.5 percent missing), " total household income" which was missing in 108 of 420 cases (25.7 percent missing), "father's last grade completed" was missing in 233 of 420 cases (55 percent missing), and "mother's last grade completed" was missing in 233 of 420 cases (55 percent missing) (Orme, 1991; Gibson, 1992).

Race as an independent variable was also eliminated from the logistic regression analysis due to the extremely small number of minority offenders in the sample (28 of 420 or 6.6 percent). There was a risk that several of the 28 minority members were extreme examples of offenders and results would have been unduly affected. Gender as an independent variable was retained in the analysis although only 106 of the 420 cases were female offenders (25.2 percent). The variable "gender of custodial parent" was determined redundant and eliminated from the logistic regression analysis. The same data were indicated in the variable "household composition."

Data Analysis

Logistic regression on SPSS 7.5 for Windows '95 was used to analyze the data regarding recidivism (N=420) because it was the most appropriate analysis for the dichotomous dependent variable with less stringent assumptions than discriminant analysis. Multiple independent variables of any level such as nominal, ordinal, interval/ratio level, and categorical or dichotomous independent variables were used in logistic regression.

The Assumptions of Logistic Regression

The logistic regression assumptions were: (1) the distribution of errors did not have to be normal, there was no assumption of a normal distribution, (2) values were independent, (3) predicted values fell between 0 and 1, and were interpreted as probabilities, (4) the dependent variable was dichotomous, and the independent variables were at any level (5) the underlying relationship

between the dependent variable and the independent was the sigmoid curve, a slanted S-shaped function (Hosmer, Jr, & Lemeshow, 1989; Morrow-Howell & Proctor, 1992).

Linear discriminant analysis was not appropriate because it had an assumption of normality of independent variables, and could not directly predict membership in groups like logistic regression. With multiple independent variables, logistic regression estimated the probability of occurrance of an event with the model:

$$\text{prob(event)} = 1/(1 + e^{-z})$$

where the logit $z = a + b_1 x_1 + b_2 x_2 + ... + b_p x_p$

e = base of natural logarithms 2.7182, and a = the constant.

Transformation of the logit gave the probability of the event occurring, such as the probability of the event of recidivism.

The Assumptions of Other Statistical Tests

The control variables were used to predict group membership. If the groups were statistically equal, then no relationship existed between the control variables and the group membership variable. Differences that may have existed between subjects were controlled statistically in an attempt to avoid confounded conclusions about the relationships between the independent and dependent variables. Initial tests of the sample statistics to reveal differences between the groups included Chi-square tests for nominal independent and dependent variables, t-tests for dichotomous nominal independent variables and

interval/ratio dependent variables (nonparametric equivalent test for independent groups Mann-Whitney when assumptions were violated), ANOVAs for >2 category nominal independent and interval/ratio dependent variables (nonparametric equivalent test for independent groups Kruskal-Wallis when assumptions were violated), a logistic regression of "counties" dichotomized (0=Anderson, 1=Cumberland and Putnam) and an interaction term (counties by VORP), and a MANOVA of quantitative dependent variables (age, priors, last grade completed) and a dichotomized predictor variable "counties" (0,1).

The assumptions for the t-test for independent groups were: (1) independent random samples, (2) level of measurement was interval/ratio, (3) equal population variances, and (4) sampling distribution was normal. If the assumptions of normality or homogeneity of variances were violated, the independent nonparametric equivalent Mann-Whitney test was used. The assumptions of the Mann-Whitney were: (1) independent random samples, and (2) the values were interval-ratio. The independent nonparametric Mann-Whitney was also used to test a dichotomous independent variable (VORPs) and an ordinal dependent variable (severity of reoffense). The assumptions were: (1) independent random samples, and (2) the values were ordered (Norusis, 1991).

The assumptions for the parametric ANOVA test were: (1) independent random samples within and between groups, (2) interval ratio measurement, (3) populations were normally distributed, and (4) homogeneity of variances. If the

normality or homogeneity of variances assumptions were violated, the independent nonparametric equivalent Kruskal-Wallis test was used. The assumptions were: (1) the samples were random samples, (2) the samples were independent within each sample and mutual independence among the samples, (3) the measurement was ordinal, at the least, and (4) the distributions for the groups were identically distributed. The distributions did not need to be normally distributed (Conover, 1980).

The assumptions for the Chi-square tests were: (1) categories of the independent and dependent variable were mutually exclusive and exhaustive, and (2) each observation was independent of the other, independent random samples (Norusis, 1991).

Cook's Distance was used to reveal outliers >1, which were then temporarily eliminated and the logistic regression was rerun without the outliers. Outliers that were not influential were retained. Studentized residuals, R squared, goodness of fit, logit, and probabilities for the variables were other options computed.

The Assumptions of Ordinal Logistic Regression

Ordinal logistic regression (OLR) on SAS 6.12 for Windows '95 was used to test the other dependent variable "reoffense severity," which had five ordered categories (0-4). The assumptions of OLR were: 1) categorical dependent variable, with limited ordered categories, 2) independent observations, 3) ordinal dependent variable was indicator of continuous underlying variable with logistic

distribution, 4) predictors were fixed, 5) large sample size, and 6) exact colinearities did not exist in independent variables (DeMaris, 1992).

Control of Overall Type I Error

Two methods of control of overall Type I error were the Bonferroni inequality and the Fisher's Protected t (Pedhazur & Schmelkin, 1991; Cohen & Cohen, 1983). The Bonferroni inequality was indicatd because the number of independent variables inflated Type I error. The Bonferroni inequality for six hypotheses with testwise alpha set at <.0083 (6 X .0083 = .0049, or .05/6 = .0083) was used to minimize Type I arroe (rejection of a true null). Type I error meant significance was found when it wasn't there, or a relationship was found that didn't exist.

The second method of control of Type I error was the Fisher's Protected t (Cohen & Cohen, 1983). A significant model Chi-square indicated that the individual independent variables were significant at a less conservative level ($p<.05$) than the Bonferroni inequality ($p<.0083$ for 6 hypotheses).
The two methods of control of Type I error were used in both the logistic regression and the ordinal logistic regression.

IV. Results

Sample Statistics

County

Data from a total of 420 cases indicated there were 203 VORP cases (48%) and 217 nonVORP cases (52%). Data from a crosstab and Chi-square test of the dichotomous nominal independent variable "VORP" and the >2 category nominal dependent variable "county" indicated Anderson county provided 118 VORP offenders and 69 nonVORP offenders from the time frame of January 1, 1993 to September 30, 1995 (N=187, or 44.5%). Cumberland county provided 76 VORP offenders from the time frame January 1, 1990 to September 30, 1995, and 61 nonVORP offenders from the time frame of January 1, 1987 to December 31, 1989 (N=137, or 32.6%). Putnam county provided 9 VORP offenders and 87 nonVORP offenders from the time frame of January 1, 1993 to September 30, 1995 (N=96, or 22.9%). The reasons for the small number of Putnam county VORP offenders (N=9) were mentioned earlier, such as an unexpected diversion program for shoplifters that eliminated the VORP face-to-face mediation meeting, the discrepancy of the judge and VORP staff in referrals, and the reluctance of several retailers in the county to file charges on shoplifters. Many of the Putnam county juvenile offenders who went through the VORP were referred by the community, rather than the juvenile courts, and were not included in the study because they were not adjudicated. The Chi-square test indicated a significant difference between counties and VORPs [Chi-sq (2,

N=420)=77.476, p<.0005]. The Cramer's V measure for association also indicated a significant difference (p<.0005). The unfortunate difference in cell size with Putnam VORP (N=9), was unexpected and unavoidable. This group was retained in the analysis.

Last Grade Completed

The mean of last grade completed for offenders was 7.67 (SD=1.78). Data was missing in 26 cases (6.2%) and mean substitution was used in order to include these 26 cases in the analysis. Mean substitution was often used when 5 percent or less of data was missing in a variable. Logistic regressions with and without mean substitution indicated that mean substitution changed the significance of variables slightly, but none moved into or out of significance. Mean substitution was retained (Orme, 1991; Gibson, 1992). An ANOVA of independent groups for the >2 category nominal independent variable "counties" and the dependent variable "last grade completed," which was treated as interval/ratio data, indicated no significant differences between counties in terms of "last grade completed" [F(2,417)=1.152, p=.317]. The test for homogeneity of variance resulted in nonsignificant differences between groups [Levene(2, 417)=2.094, p=.124]. The 187 Anderson county offenders "last grade completed" averaged 7.547; the 96 Putnam county offenders "last grade completed" averaged 7.664; and the 137 Cumberland county offenders "last grade completed" averaged 7.842.

A t-test of the independent dichotomous nominal variable "VORP" and the

dependent variable "last grade completed" treated as interval/ratio data resulted in nonsignificant differences between groups in a Levene's Test for equality of variances (F=.000, p=.990). The t-test for equality of means with equal variances assumed resulted in nonsignificant differences between the VORP and nonVORP groups [t(418)=-.584, p=.560].

Gender

Male offenders constituted 314 of 420 cases (74.8%). Female offenders constituted 106 of 420 cases (25.2%). A crosstab was constructed for the dichotomous nominal independent variable "VORP" and the dichotomous nominal dependent variable "gender" that indicated 165 males did not receive VORP and 149 males did receive VORP, while 52 females did not receive VORP and 54 females did receive VORP. A Chi-square test indicated the differences between genders were nonsignificant [Chi-sq(1, N=420)=.387, p=.534]. The Phi measure of association was also nonsignificant (p=.534).

A crosstab and Chi-square of the >2 category nominal dependent variable "county" by the dichotomous nominal independent variable "gender" indicated no significant differences between counties [Chi-sq (2, N=420)=2.038, p=.361]. The Cramer's V measure of association was also nonsignificant (p=.361).

Age

The mean age of offenders was 14.25 (SD=1.70). The mean age of the 217 nonVORP offenders was 14.28 (SD=1.86) and the mean age of the 203 VORP offenders was 14.23 (SD=1.52). An ANOVA of independent groups for

the >2 category nominal independent variable "county" and the dependent interval/ratio variable "age" indicated no significant differences between counties [F(2,417)=.651, p=.522]. The mean age of the 187 offenders in Anderson county was 14.16; the mean age of the 96 Putnam county offenders was 14.27; and the mean age of the 137 Cumberland county offenders was 14.37. The oneway test of homogeneity of variance indicated a significant difference (<.05) in variances in age between counties [Levene (2,417)=3.132, p=.045). The results suggested that the assumption of homogeneity of variance had been violated. The test for independent nonparametric groups called Kruskal-Wallis indicated no significant differences between the >2 category nominal grouping variable "county" and the interval/ratio variable "age" [Chi-sq(2)=3.222, p=.200, Monte Carlo p=.203, 99% Confidence Interval=.192 to .213].

A t-test of independent groups for the dichotomous nominal independent variable "VORP" and the dependent interval/ratio variable "age" resulted in variances with nonsignificant differences between VORP and nonVORP groups (F=2.347, p=.126). A t-test for equality of means with equal variances assumed resulted in nonsignificant differences in age between VORP and nonVORP groups [t(418)=.300, p=.764, 95% Confidence Interval=-.28 to .38].

Gender of Custodial Parent

Analyses of the variable "gender of custodial parent" indicated that custodial males constituted 34 of 420 cases (8.1 %); and custodial females constituted 209 of 420 cases (49.8 %). Households with two parents or those

offenders living with relatives or guardians constituted 177 of 420 (42.1%). A crosstab of the independent groups of variables for the dichotomous nominal independent variable "VORP" and the >2 category nominal dependent variable " gender of custodial parent" indicated that 25 of the 34 cases of offenders living with male custodial parents did not receive VORP, while 9 of the 34 cases did receive VORP. Female custodial parents of offenders were involved in 111 of nonVORP cases and 98 of VORP cases. Two-parent households or relative/guardian placements involved 81 nonVORP cases and 96 VORP cases. The mode (2) of the nominal variable on custodial parent gender indicates that the average offender with divorced parents lived with a female custodial parent, as males custodial parents were coded 1, female custodial parents were coded 2, and not applicable was coded 3. Both the measure of statistical significance [Chi-sq(2)=9.153, p=.010] and Phi measure of association on symmetric measures (p=.010) indicated significant differences between the groups, presumably due to the only 34 out of 420 cases with a custodial male parent and only 9 of those in VORP. The same information was provided in two other variables, household composition and parental marital status. Due to redundant variables and in order to increase power for the overall model, this variable was eliminated from the logistic regression. Household composition provided the information of parental marital status where the offender actually resided.

Household Composition

Household composition data indicated that only one offender of 420 lived

in an adoptive home (.2 %), 155 offenders lived with their biological parents (36.9%), 17 offenders lived with their father and stepmother (4.0%), 65 offenders lived with their mother and stepfather (15.5%), 145 offenders lived with a single mother (34.5%), 17 offenders lived with a single father (4.0%), 17 offenders lived with a relative/guardian (4.0%), one offender lived independently (.2%), and two offenders household composition was unknown (.5%). A crosstab and Chi-square was run on the dichotomous independent nominal variable "VORP" and the >2 category nominal dependent variable "household composition" that indicated no significant differences between VORP and nonVORP groups [Chi-sq(8)=15.028, p=.059]. The Cramer's V test of association for symmetric measures also indicated no differences (p=.059). These data were condensed for the logistic analysis and recoded to four groups using dummy coding of "household." The group living with biological parents included 155 cases (36.9%); the group living with a biological parent and a stepparent included 82 cases (19.5%); the group living with a single parent included 162 cases (38.6%); and the remaining types of household composition were collapsed into a category called "other" which included 21 cases (5%).

A crosstab and Chi-square of the >2 category nominal dependent variable "county" and the >2 category nominal independent collapsed variable "houshold" indicated a significant difference between groups possibly due to the small number of offenders (N=21) living in group 4 "other" situations [Chi-sq (6, N=420)=19.179, p=.004]. The Cramer's V measure of association was also

significant (p=.004). This difference due to cell size was not considered an important difference between groups. This control variable did not have a significant effect in the logistic regressions.

Number of Household Members

The number of household members was missing data in 125 of 420 cases (29.8 %), but a mean of 4.01 (SD=1.40) was indicated in the other 295 cases. Due to the unacceptable amount of missing data for this variable it was eliminated from the logistic regression analysis.

Mother's and Father's Last Grade Completed

Mother's last grade completed and father's last grade completed were eliminated from the analysis due to missing data. Anderson county is the only county of the three that collected this data on some cases. Due to the unacceptable amount of missing data (55 %) these variables were eliminated from the logistic regression analysis.

Parental Marital Status

Parental marital status was missing in 5 of the 420 cases (1.2 %) so mode substitution was indicated due to less than 5 percent of missing nominal data. The mode substitution value was 1 (SD=.89). Indicator or dummy coding was indicated for the logistic regression analysis of married parents, divorced parents, remarried parents, or never married parents. A crosstab of independent variables of the dichotomous independent variable "VORP" and the >2 category nominal dependent variable "parental marital status" was run prior to mode

substitution. The biological parents were married in 159 of 415 cases (38.31%). The biological parents were divorced, separated, or widowed and living single in 152 of 415 cases (36.62 %). A remarried custodial parent with a stepparent in the home constituted 82 of 415 cases (19.76 %). The biological parents were never married and the custodial parent was single in 22 of 415 cases (5.3 %). A crosstab of VORP and parental marital status indicated that of the 159 cases with married biological parents, 71 offenders did not receive VORP and 88 did receive VORP. The 152 cases with divorced, separated, or widowed single parents indicated that 88 of the offenders did not receive VORP and 64 did receive VORP. The 82 cases with remarried custodial parent and stepparent indicated 48 offenders did not receive VORP and 34 did receive VORP. The 22 cases with unmarried single biological parents indicated 6 did not receive VORP and 16 did receive VORP. The Chi-square test indicated a significant difference between VORP and nonVORP groups [Chi-sq(3)=12.260, p=.007]. The Cramer's V measure of association was also significant (p=.007). The difference between groups is noted as possibly due to the smaller number of cases with unmarried biological parents (N=22). Due to redundant variables and in order to increase power, the collapsed variable "household composition" was used instead in the logistic regression to provide data about the marital status of parents sheltering offenders. This variable was the only one that indicated the marital status of parents where the offender resided.

Race

Race was eliminated as a variable in the logistic regression due to the small number of minority offenders in the three counties. Caucasian offenders constituted 392 of 420 cases (86.9%). African American offenders constituted 26 of 420 cases (6.2 %). One offender was Native American (.2%) and one offender listed race as "other" (.2%). Only 28 of 420 offenders were minority members (6.6%). This indicated that results from the analysis can only indicate correlations among juvenile offenders in general, rather than making a distinction between caucasian and minority offenders. Also there was a risk that several extreme examples of juvenile offenders in this small group would unduly affect the results.

Number of Siblings

Number of siblings was eliminated as a variable due to the amount of missing data in 124 of 420 cases (29.5%). The mean number of siblings for the 296 cases with the data was 2.29 (SD=1.10).

Total Household Income

Total household income was eliminated as a variable due to the amount of missing data in 108 of 420 cases (25.7%). The mean income for the 312 of 420 cases with the data was 2.06 (SD=1.28). This indicates the code 2 for yearly total household income between $10,000 to $19,999 was the average for offender households that provided the data.

Number of Prior Status Offenses

The statistics on the number of prior status offenses in 420 cases indicated 365 offenders had no prior status offenses (86.9%); 39 of 420 offenders (9.3%) had one prior status offense; 15 of the 420 cases (3.6%) had two prior status offenses; and only one offender of the 420 cases (.2%) had three prior offenses. A t-test of independent groups for the dichotomous nominal independent variable "VORP" and the interval/ratio dependent variable "number of prior status offenses" was used to test the assumption of equality of variances. The results of the equality of variances test were significant ($F=25.355$, $p<.0005$), and suggested a violation of the assumption of homoscedasticity. A t-test for equality of means with equal variances not assumed indicated significant differences between groups [$t(403.494)=2.657$, $p=.008$]. The 217 offenders who did not receive VORP had a mean number of prior status offenses of .23 (SD=.53). There were no prior status offenses in 178 of the 217 nonVORP cases (82.0%), one prior status offense in 28 of the 217 nonVORP cases (12.9%), and two prior status offenses in 11 of the 217 nonVORP cases (5.1%). The 203 offenders who did receive VORP had a mean number of prior status offenses of .11 (SD=.41). There were no prior status offenses in 187 of the 203 VORP offender cases (92.1%), one prior status offense in 11 of the 203 VORP cases (5.4%), two prior status offenses in 4 of the 203 VORP cases (2.0%), and three prior status offenses in one of the 203 VORP cases (.5%). The nonparametric equivalent test of means when assumptions

are violated is the Mann-Whitney. Results of the Mann-Whitney also indicated significant differences in mean number of prior status offenses between groups (Mann-Whitney U=19818, p=.002).

The mean number of prior status offenses in Anderson county was .11 (SD=.37), for Cumberland county .15 (SD=.47), and for Putnam county .32 (SD=.62). The overall mean number of status offenses was .17 (SD=.48). The test for homogeneity of variances indicated significant differences in variances between the counties [Levene(2,417)=22.323, p<.0005]. This result suggested the assumption of homogeneity of variances had been violated. An ANOVA indicated a significant difference in number of prior status offenses between counties [F(2,417)=6.810, p=.001]. An independent nonparametric Kruskal-Wallis test was also conducted and indicated that there were significant differences between groups [Chi-sq(2)=13.875, p=.001, Monte Carlo p<.0005, 99% Confidence Interval <.0005 to .001]. The nonparametric Mann-Whitney test (two Kruskal-Wallis tests are the same as a Mann-Whitney test in two groups) between Anderson and Cumberland county and the number of prior status offenses indicated no significant differences between groups (Mann-Whitney U=12407.500, p=.351). The Mann-Whitney test between Anderson and Putnam county indicated a significant difference between groups in terms of number of prior status offenses (Mann-Whitney U=7575.500, p<.0005). The Mann-Whitney test between Cumberland and Putnam indicated a significant difference between counties and number of prior status offenses (Mann-Whitney U=5754.500,

p=.012). The average number of prior status offenses in Anderson county (.11) was similar to Cumberland county (.15), but neither Anderson nor Cumberland were similar to Putnam county (.32).

Number of Prior Delinquent Offenses

Analysis of the "number of prior delinquent offenses" variable indicated 341 of 420 cases had no prior delinquencies (81.2%), 56 of 420 had one prior delinquent offense (13.3%), 12 of 420 had two prior delinquent offenses (2.9%), 9 of 420 had three prior delinquent offenses (2.1%), and 2 of 420 had four prior delinquent offenses (.5%). The overall mean number of prior delinquent offenses was .27 (SD=.67). A t-test for the dichotomous nominal independent variable "VORP" and the interval/ratio dependent variable "number of prior delinquent offenses" suggested a significant difference in variances of number of prior delinquent offenses between VORP and nonVORP groups (F=6.426, p=.012). The t-test for equality of means between groups with equal variances not assumed resulted in nonsignificant differences between groups [t(408.900)=1.418, p=.157].

The mean number of prior delinquent offenses in Anderson county was .24 (SD=.53); the mean was .20 (SD=.58) for the 137 offenders from Cumberland county; and .45 (SD=.94) for the 96 offenders from Putnam county. The overall mean number of prior delinquent offenses was .27 (SD=.67). The test for homogeneity of variances indicated a significant difference in variances between counties [Levene(2, 417)=16.447, p<.0005]. The results suggested the

assumption of homogeneity of variance had been violated. The data were reanalyzed using the nonparametric Kruskal-Wallis test. Results between the grouping variable "counties" and "number of prior delinquent offenses" indicated no significant differences between the groups [Chi-sq(2)=4.541, p=.103, Monte Carlo p=.103, 99%Confidence Interval=.095 to .110].

Reoffense or No Reoffense: The Dichotomous Dependent Variable

The dichotomous dependent variable "reoffense or no reoffense" indicated a subsequent status offense or adjudicated delinquent offense within one year of the VORP face-to-face mediation meeting or the court sentencing date for the nonVORP group. Statistics showed a reoffense in 115 of the 420 cases (27.4 %). Results further showed that 144 of those offenders who did not receive VORP did not reoffend, while 73 of those who did not receive VORP did reoffend. There were 161 cases in which those who did receive VORP did not reoffend, and 42 of those who did receive VORP did reoffend. The Chi-square test for the dichotomous nominal independent variable "VORP" and the dichotomous nominal dependent variable "Reoffense" indicated there was a relationship between reoffense and VORP [Chi-sq (1, N=420)=8.847, p=.003]. The conversion of the data to percentages indicates that 73/217 X 100=33.64% of the nonVORP group reoffended within one year of the court sentencing date and 42/203 X 100=20.69% of the VORP group reoffended within one year of the face-to-face mediation date. The difference between the VORP and nonVORP groups (12.95%), indicated that VORP graduates had lower one year recidivism

rates than nonVORP graduates, without controlling for other variables.

Reoffense Severity: Categorical Dependent Variable

Analysis indicated that of the 305 out of 420 who did not reoffend, 144 were in the nonVORP group and 161 received VORP. The 17 who reoffended with a status offense or unruly offense included 11 from the nonVORP group and 6 from the VORP group. The 46 reoffenders who were adjudicated delinquent for illegal conduct or violation proceedings included 33 from the nonVORP group and 13 from the VORP group. The 42 reoffenders who were adjudicated delinquent against property included 25 from the nonVORP group and 17 from the VORP group. The 10 reoffenders who were adjudicated delinquent against persons included 4 from the nonVORP group and 6 from the VORP group. An independent nonparametric Mann-Whitney test indicated a significant difference between the independent dicotomous variable "VORP" and the dependent ordinal variable "severity of reoffense" (Mann-Whitney U=19417, p=.007).

A crosstab and Chi-square was done on the ordinal variable "reoffense severity" and the >2 category nominal grouping variable "county" indicating no significant differences between groups [Chi-sq(8)=6.361, p=.607, Monte Carlo p=.615, 99% Confidence Interval=.602 to .627].

Logistic Regression of Recidivism Dependent Variable

A total of 217 subjects had not received VORP and 203 subjects did receive VORP. The outcome variable was whether or not the subject reoffended within one year of the VORP face-to-face mediation meeting or the nonVORP

court sentencing date (no reoffense=0, reoffense=1). Reoffense was defined as adjudication for a delinquent offense or a status offense.

Age (in years), last grade completed (by full numbered grade level), gender (male=0, female=1), number of prior delinquent offenses combined with number of prior status offenses (number of priors), and household composition (categorical dummy coded variable) were used as control variables. The indicator or dummy coding scheme in logistic regression on SPSS 7.5 for Windows '95 was coded for the first category of household composition (offender living with married biological parents) as the reference category.

A product term was created to check for a nonlinear relationship in "last grade completed." A product term was also created for the original variable before mean substitution for 6.2 percent of missing data (26 cases). A previous study found that the squared term for "last grade completed" was significant (Nugent & Paddock, 1996). In the current study , the squared terms were not significant, which indicated a linear rather than nonlinear relationship. The use of mean substitution in "last grade completed" for missing data (6.2%) did not make a difference in significance for any of the variables in logistic regressions. "Last grade completed" with mean substitution was chosen as a control variable rather than the original variable in order to include the 26 cases.

A logistic regression analysis was conducted to test the effect of VORP on subsequent reoffense when controlling for the other variables listed (age, gender, household, priors, last grade completed). It was predicted that the

VORP intervention would reduce recidivism when controlling for all other variables, although a non-directional hypothesis was tested because a result in either direction was considered important. The independent variables entered into the equation in the first step resulted in significant main effects (Bonferroni sig<.0083 for 6 hypotheses) for "priors" [B=.3237, SE=.1123, t(1)=2.88, p=.0039, Odds Ratio=1.3823] and "VORP" [B=-.6140, SE=.2316, t(1)=-2.65, p=.0080, Odds Ratio=.5412]. The model for main effects in step one was: [-2LL=468.229, R^2=.083, Model Chi-sq(8)=24.860, p=.0016, overall agreement=71.90%, sensitivity=96.72%, specificity=6.09%, false positives=3.28%, false negatives=93.91%, Kappa=.0382].

The product terms for interaction effects "age by VORP, priors by VORP, gender by VORP, and household by VORP" were entered into the equation in the second step to test for significant interactions. None of the interactions in the second step were significant at the Bonferroni level. The set of interactions entered at step two of the logistic regression did not add to the model [Model Chi-sq(14)=32.133, p=.0038, Block and Step Chi-sq(6)=7.273, p=.2964]. The model of main effects in step one was retained.

At this point two Cook's Distance outliers >1 were removed from the regression to check if they were influential outliers (IDNUM 419=1.00167, and IDNUM 144=1.08805). The regression was rerun (N=418) and there were no differences in significance for any of the variables. The significance levels moved slightly but no variables moved into or out of significance. The outliers

were not influential and were retained in the regression analysis (N=420).

The first step model indicated significant main effects in "priors" (p=.0039) and "VORP" (p=.0080). The model fit [-2LL=468.229, R^2=.083, Model Chi-sq(8) =24.860, p=.0016, Overall agreement=71.90%, sensitivity=96.72%, specificity=6.09%, false positives=3.28%, false negatives=93.91%, Kappa=.0382]. Only 8.3 percent (R^2=.083) of the variance in the dependent variable "reoffense" was accounted for by the independent variables, taking account that the independent variables were correlated. The particular specialized Nagelkerke R^2 (overall R^2 for the logistic regression model) was reported as recommended by the SPSS 7.5 manual. The model fit only 3.82 percent over and above chance, after the observed percentage of agreement was corrected for chance (Kappa=.0382). Possibly the low Kappa was influenced by the high false negative rate (93.91 %) of the model in the classification table of the logistic regression that compared observed to predicted outcomes.

The odds ratio was also a measure for effect size. The odds ratio for the significant main effect variable "priors" (p=.0039) in the first step indicated that for each one unit change in "priors" (from 0 to 1) an offender was 1.3823 times more likely to reoffend, controlling for the other variables. The odds ratio for a two unit change in "priors" (from 0 to 2) was 2(b)=2 X .3237=.6474, and $e^{.6474}$ =1.91. An offender with two priors was nearly twice as likely to reoffend as an offender with no priors, controlling for the other variables. The odds ratio for a

three unit change in "priors" (from 0 to 3) was 3(b)=3 X .3237=.9711, and $e^{.9711}$ =2.64. An offender with three priors was 2.64 times more likely to reoffend than an offender with no priors, controlling for other variables.

The odds ratio >1 indicated that the independent variable increased the odds of occurance of reoffense, while the odds ratio <1 indicated that the independent variable decreased the odds of occurance of reoffense. The null odds ratio = 1 indicated no relationship between the independent variable and the dependent variable. The odds ratio (.5412) for the significant main effect variable "VORP" (p=.0080) in the first step indicated that VORP decreased the odds of the occurance of recidivism. The probability of occurance of recidivism was < the probability of nonoccurance among those offenders who received VORP. The odds ratios <1 was expressed as a reciprocal. The reciprocal of the <1 odds ratio for "VORP" was 1.848 (1/.5412). The offenders who did not receive VORP were nearly twice (1.848 times) as likely to reoffend within a year as those who received VORP, controlling for the other variables. NonVORP juveniles were nearly twice as likely to reoffend as VORP juveniles, controlling for the other variables. Results are in Tables 1 and 2.

Control of Overall Type I Error in Recidivism Regression

Two methods of control of overall Type I error were the Bonferroni inequality and the Fisher's Protected t (Pedhazur & Schmelkin, 1991; Cohen & Cohen, 1983). The Bonferroni inequality was indicated because of number of independent variables inflated Type I error. The Bonferroni inequality for six

Table 1. Effect of IV on Recidivism when controlling for other main effect variables in step one (N=420).

Statistics					
Variables	B	SE	OddsRatio	t	p (2-tailed)
AGE	.0849	.1154	1.0887	.7357	.4618
GENDR	-.1878	.2741	.8288	-.6852	.4933
HOUSREF					.2939
HOUS 1	-.1944	.3238	.8234	-.6004	.5483
HOUS 2	.0894	.2626	1.0935	.3404	.7335
HOUS 3	-1.2927	.7759	.2745	-1.6661	.0957
PRIORS	.3237	.1123	1.3823	2.8825	.0039
EDUCMN	-.0734	.1124	.9292	-.6530	.5137
VORPS	-.6140	.2316	.5412	-2.6511	.0080
-2LL=468.229, R^2=.083, Model Chi-sq(8)=24.860, p=.0016, Overall agreement=71.90%, sensitivity=96.72%, specificity=6.09%, false positives=3.28%, false negatives=93.91%, Kappa=3.82%					

Table 2. Effect of IV on Recidivism when controlling for other main effect and interaction variables in step two (N=420).

Statistics					
Variables	B	SE	OddsRatio	t	p (2-tailed)
AGE	.0269	.1214	1.0273	.2216	.8246
GENDR	.2658	.3515	1.3045	.7562	.4495
HOUSREF					.4382
HOUS 1	-.0984	.4137	.9063	-.2379	.8120
HOUS 2	-.0842	.3523	.9192	-.2390	.8110
HOUS 3	-1.7769	1.0797	.1692	-1.6457	.0998
PRIORS	.4026	.1454	1.4957	2.7689	.0056
EDUCMN	-.0728	.1125	.9298	-.6471	.5176
VORPS	-2.6050	2.1744	.0739	-1.1980	.2309
AGE by VORPS	.1542	.1480	1.1667	1.0419	.2973
PRIORS by VORPS	-.1985	.2415	.8200	-.8219	.4111
GENDR by VORPS	-1.2223	.6049	.2945	-2.0207	.0433
HOUS by VORPS R					.4777
HOUS by VORPS 1	-.4045	.6998	.6673	-.5780	.5632
HOUS by VORPS 2	.4167	.5312	1.5169	.7845	.4328
HOUS by VORPS 3	1.6323	1.5680	5.1156	1.0410	.2979
-2LL=460.957, R^2=.107, Model chi-sq(14)=32.133, p=.0038, Overall agreement=72.38%, sensitivity=97.38%, specificity=6.09%, false positives =2.62%, false negatives=93.91%, Kappa=6.09%					

hypotheses with testwise alpha set at <.0083 (6 X .0083 = .0049, or .05/6=.0083) was used to minimize Type I error (rejection of a true null). Type I error meant significance was found when it wasn't there, or a relationship was found that didn't exist.

The second method of control of Type I error was the Fisher's Protected t (Cohen & Cohen, 1983). A significant Chi-square model indicated that the individual independent variables were significant ($p<.05$) at a less conservative level than the Bonferroni level of significance ($p<.0083$ for 6 hypotheses).

The Bonferroni inequality indicated "priors" ($p=.0039$) and "VORP" ($p=.0080$) were the only significant main effects ($p<.0083$), and none of the interactions were significant. The other method to control for Type I error, Fisher's Protected t ($p<.05$), was also reported as a less conservative test of significance. The logistic regression of the recidivism dependent variable indicated that since the model Chi-square [Model Chi-sq(8)=24.860, $p=.0016$] was significant at step one, the individual independent variables were considered significant at $p<.05$. The results with Fisher's Protected t test indicated that the only significant main effects ($p<.05$) were "priors" and "VORP" and none of the interactions were significant.

Hypotheses Not Supported by the Recidivism Results

Four hypotheses were not supported by the recidivism logistic regression results:

(3) The number of prior offenses will moderate the effect of VORP on recidivism

(as the number of priors increases, the VORP effect decreases).

(5) Age will moderate the effect of VORP on recidivism (as age increases, the VORP effect decreases).

(7) Household composition will moderate the effect of VORP on recidivism (VORP will be more effective if the offender lives with married biological parents rather than remarried parents, a single parent, or other situations).

(10) Gender will moderate the effect of VORP on recidivism (VORP will be more effective with females).

Hypothesis Supported by the Recidivism Results

One hypothesis was supported by the recidivism logistic regression results: (1) The VORP group will exhibit lower one year recidivism rates than the nonVORP group.

Ordinal Logistic Regression: Dependent Variable Reoffense Severity

SAS 6.12 for Windows '95 was used to test the second dependent variable "reoffense severity" that included five ordered levels. The response profile indicated:

Value	Reoffsev	Count
1	0	305
2	1	17
3	2	46
4	3	42
5	4	10

The ordinal logistic regression analyses of "severity of reoffense" indicated no significant main effects or interactions (Bonferroni p<.0083) in three separate runs. The first run (N=420) included a 5 category dependent variable (0-4); the second run (N=420) included a 3 category dependent variable (0=category 0, 1=category 1 and 2, 2=category 3 and 4); and the third run (N=187) included a 3 category dependent variable (0= category 0, 1=category 1 and 2, 2=category 3 and 4). A simple random sample (N=72) of the 305 juveniles who did not reoffend was used in the third run. Analyses indicated that there were no significant main effects or interactions at the Bonferroni significance level (p<.0083) in the three runs.

Control of Overall Type I Error in Reoffense Severity Regression

The Bonferroni inequality for six hypotheses (p<.0083) indicated no significant main effects or interactions in three ordinal logistic regressions of the dependent variable "severity of reoffense" (Pedhazur & Schmelkin, 1991). The less conservative method of control of Type I error (rejection of a true null) was the Fisher's Protected t (p<.05). Results indicated that the model chi-square was significant (p=.0053) in the three category run (N=420), so the individual independent variables were retested at a less conservative level (p<.05). The two variables "priors" (p=.0137) and "VORP" (p=.0151) had significant main effects on severity of reoffense in one ordinal logistic run with the three category dependent variable "severity of reoffense" (N=420).

Hypotheses Not Supported by Reoffense Severity Results

Five hypotheses were not supported by the reoffense severity ordinal logistic regression results:

(2) The VORP group will exhibit lower levels of severity of reoffense within one year than the nonVORP group.

(3) The number of prior offenses will moderate the effect of VORP on severity of reoffense (as the number of priors increases, the VORP effect decreases).

(5) Age will moderate the effect of VORP on severity of reoffense (as age increases, the VORP effect decreases).

(7) Household composition will moderate the effect of VORP on severity of reoffense (VORP will be more effective if the offender lives with married biological parents rather than remarried parents, a single parent, or other situation).

(10) Gender will moderate the effect of VORP on severity of reoffense (VORP will be more effective with females).

Possible Selection Bias

The extensive preliminary tests of the groups prior to the logistic regression indicated there were no significant differences between counties, VORP or nonVORP groups and the independent control variables of the logistic regression "last grade completed, gender, age, and number of prior delinquent offenses." There was a significant difference between counties and the collapsed categorical variable "household" possibly due to the small cell size

(N=21) in group 4 "other" [Chi-sq (6, N=420)=19.179, p=.004]. However, there were no significant differences between VORP and nonVORP groups and "household composition."

The only significant difference between counties and VORP or nonVORP groups was in the independent control variable "number of prior status offenses." The Anderson county mean (.11) was comparable to the Cumberland county mean (.15), but not the Putnam county mean (.32). The t-test between VORP and number of prior status offenses indicated a significant difference between groups [t(403.494)=2.6571, p=.008]. The ANOVA between counties and number of prior status offenses indicated a significant difference between groups [F(2,417)=6.810, p=.001].

Sample statistics indicated that the VORP and nonVORP groups were alike by county, except in the number of prior status offenses. The VORP and the nonVORP groups were also alike overall, except in the number of prior status offenses. Only 55 of 420 offenders had prior status offenses, while 79 of 420 offenders had prior delinquent offenses. The combination of the two independent control variables into one variable "priors" reduced the problem of restriction of range (55 +79 = 134 with priors out of 420). The primary issue was the variance (standard deviation squared) of the variable "priors." Also the combination of these variables reduced the number of control variables. The new variable "priors" also enabled the current research to replicate results of previous studies that combined prior status and delinquent offenses (Nugent &

Paddock, 1995; 1996).

Results of the Chi-square test of the dichotomous dependent variable "reoffense" and the dichotomous variable "VORP" indicated a significant difference between groups [Chi-sq(1, N=420)=8.847, p=.003], without controlling for other variables. Results of the Mann-Whitney test between the ordinal dependent variable "reoffense severity" and the independent variable of interest "VORP" indicated a significant difference between groups (MWU=19417, p=.007). These results indicated VORP had a significant difference on both dependent variables, without controlling for other variables.

Results of a MANOVA with quantitative dependent variables (age, priors, last grade completed) and the dichotomized predictor variable "counties" (0=Anderson, 1=Cumberland and Putnam) indicated no significant differences between groups (p=.141). "Counties" was dichotomized in this manner because if there was a selection bias, it would have been most likely to appear due to the difference between the Anderson county referral system (blanket referrals to VORP for first time property offenders) and the Cumberland and Putnam referral system (near blanket referrals but left to the discretion of the judges and VORP staff). If there was a selection bias, then the juveniles in Cumberland and Putnam counties would have been different than in Anderson county. Age, priors, and last grade were important predictive variables of reoffense in other studies (Nugent & Paddock, 1995; 1996). If there had been selection bias, then Cumberland and Putnam would have been expected to have lower priors and

younger ages. The judges and VORP staff exercised discretion in referrals to VORP in these two counties, so presumably they would refer juveniles they believed were amenable to the intervention. This would probably include younger offenders with fewer priors. Results did not indicate that offenders in Cumberland and Putnam were younger or had fewer offenses because none of the variables were significant in the logistic regression of the model with the dichotomized "counties" variable and the interaction variable "counties by VORP." No evidence was found to support selection bias.

Results of a logistic regression of the full model with the additional dichotomized control variable "counties" (0=Anderson, 1=Cumberland and Putnam) and an interaction term for the dichotomized "counties" by VORP indicated no significant main effect or interaction for the new control variables. The effect of VORP was the same across all counties. If there was selection bias, Cumberland and Putnam would have had a larger VORP effect than Anderson. The judges and VORP staff in Cumberland and Putnam would have referred juveniles they believed were amenable to VORP. The results were not consistent with selection bias, because the variables were nonsignificant.

V. Discussion, Limitations, and Implications

Discussion: Objective 1

The first objective of the study was to investigate the effects of VORP on juvenile property offender recidivism and severity of reoffense. The results of the recidivism logistic regression suggested lower recidivism rates among the VORP group compared to the nonVORP group. VORP had a significant main effect on reoffense (p=.0080), controlling for age, number of priors, gender, last grade completed, and household composition. The number of prior offenses also had a significant main effect on recidivism (p=.0039). The odds ratio of VORP(.5412, reciprocal=1/.5412=1.848) indicated that a nonVORP juvenile was nearly twice as likely to reoffend as a VORP juvenile, controlling for the other variables.

None of the eight main effect variables or the six interaction variables were significant in the ordinal logistic regression of " reoffense severity" (Bonferroni sig<.0083). One of the three ordinal logistic regressions indicated that with the less conservative Fisher's Protected t test, both "priors" (p=.0137) and "VORP" (p=.0151) had significant (p<.05) main effects on "reoffense severity."

The first objective of the study was met, although important missing variables such as socioeconomic status, child psychopathology, parental crime rates, an intelligence measure, and race may have made significant differences in the results. The significant main effect of VORP on recidivism may have been

eliminated by the inclusion of one or more of these missing variables. Even with the significant main effect of VORP on recidivism, this correlational study did not indicate causality. The difference in recidivism between VORP and nonVORP groups could have been caused by some unforeseen variable.

Discussion: Objective 2

The second objective of the study was to replicate previous studies on the effects of VORP on recidivism and severity of reoffense (Nugent & Paddock, 1995; 1996). One interesting result of this study was the percentage of reoffenders in both VORP (20.69 %) and nonVORP groups (33.64 %). The difference (12.95 %) was significant [Chi-sq(1)=8.847, p=.003] without controlling for other variables. The earlier Anderson county (N=243) correlational study involved a random sample of juvenile property offenders from several years up through 1992. Their percentages of reoffenders in both VORP (20.5 %) and nonVORP (33.6 %), and the difference (13.1 %) which was significant ($p<.05$) were remarkably similar to results in this current study (Nugent & Paddock, 1996).

The analyses of this study did not replicate the results of the earlier studies except for the significant main effects of both "VORP" and "priors" on recidivism. The reason for the lack of other significant main effects or interactions in this study could be differences in the samples (N=420 for this study, N=243 for earlier studies). The cohort of juvenile property offenders for several years prior to and including 1992 in Anderson county may have been

different in some manner from the cohort of this current study of Anderson and Putnam county juvenile property offenders from 1/1/93 to 9/30/95; and from 1/1/90 to 9/30/95 for the Cumberland VORP group; and from 1/1/87-12/31/89 for the Cumberland nonVORP group (Nugent & Paddock, 1995; 1996).

Limitations

The lack of minority offenders (6.6% of total number of offenders) indicated the elimination of "race" as a control variable. Several unusual juveniles could have unduly influenced the results. If there had been an adequate number of minority juveniles, the results may have been different. Other studies have indicated the predictive relationship between race, SES, and recidivism. The main effect of VORP in this study (p=.0080) may have been eliminated with SES and race as control variables. The lack of potentially important control variables in the regression was a form of model misspecification. Four of the hypotheses were not tested due tc missing data (H4, H6, H8, & H9).

The ordinal logistic regression treated the ordinal dependent variable "reoffense severity" as the representation of an underlying continuous variable "harm to others." In this study the dependent variable was ordinalized in five categories (0-4). An earlier study ordinalized the dependent variable in four categories (0-3) (Nugent & Paddock, 1995). Their study did not separate "status offense or unruly" from "delinquent due to illegal conduct" offenses. In this study, "status offense or unruly" (coded 1) was a distinctly different level of

offense than "delinquent due to illegal conduct" (coded 2). The lack of replication of their reoffense severity results in this study may have been due to the difference in ordinalization of the dependent variable "reoffense severity," particularly "delinquent due to illegal conduct" (Nugent & Paddock, 1995).

The lack of a test of interrater reliability was a limitation of the study (Pedhazur & Schmelkin, 1991). The reliability of the data was unknown. The findings might have been due to missing something important in the study. Measurement error would have attenuated correlation and reduced statistical power. Invalid inferences would have been made with poor measurement, and individuals would have suffered negative social consequences (Messick, 1989). It was possible that inaccurate data was entered into the VORP and nonVORP paper and computer files in both the VORP offices and the juvenile court records. At times the written record did not concur with the computer record. The data on the computer was consistently chosen by the researcher when a discrepancy arose. Data may have been entered inaccurately into the data collection program by the researcher.

The combination of base rate and sampling strategy (simple random sample rather than stratified sample) and a small population was another possible limitation of the study. The relatively low rate of delinquent adjudication for offense and reoffense meant that prediction of recidicism was more difficult. Delinquent adjudication for juvenile property offense was a relatively rare event. Many offenders were probably never caught or prosecuted. Base rate was the

relative infrequency of the event of adjudicated property offense as well as reoffense (Meehl & Rosen, 1955). A stratified sample would have been preferable with an equal number of randomly selected subjects in each level of reoffense (0-4). The simple random samples utilized in this study had a large discrepancy in cell sizes (305 with no reoffense, 115 with varying levels of reoffense from 1-4). The small population of juvenile property offenders available for random samples from the three counties, combined with the sampling strategy (simple random) and the base rate all interacted as a possible limitation to the study.

Important variables which should have been entered into the equation may have been missed. Socioeconomic status (SES), child psychopathology, parental crime rates, an intelligence measure, and race may have had significant effects on recidivism. Omission of other unnamed possibly important predictor variables could be a limitation of the study (Cook & Campbell, 1979). The analysis of the results of the study may have been considerably different with any of these variables. Children from higher income homes may have been less amenable to VORP intervention because their parents may habitually bail them out of trouble. An analysis with more independent control variables may have indicated that VORP did not have a main effect on recidivism. The analysis of this study also made no claim that the reduced recidivism of the VORP group was caused by their participation in VORP. This correlational study made no claim of causality for the results.

intervention to reduce recidivism for 12 years, or throughout a juvenile career.

Implications for Practice, Policy, and Research

The results of the study for social work practice may indicate further exploration and expansion of the VORP model. Practitioners who work with juvenile offenders were often willing to experiment with interventions based on empirical indications of effectiveness. Funding of community intervention usually required evidence of treatment effectiveness as well as cost effectiveness. The expansion of the mediation model of intervention to assault, murder, rape and other serious crimes was attempted by some communities at both the juvenile and adult offender level (Umbreit, 1994). Definitive results on effectiveness were lacking. The mediation model was adaptable to community needs and interests for diverse problems. School systems have adapted the mediation model for conflict resolution between students and teachers, or parents and teachers. Divorce issues such as visitation have been mediated with an adapted model.

There may be implications for policy regarding juvenile court sentencing once replication studies indicate generalizability of the findings of the recidivism study. Juvenile court judges and officers were often willing to divert offenders to intervention programs provided the programs had credibility and established effectiveness. Many of the VORPs were private, nonprofit enterprises dependent on community fund raising for support. Court funded VORPs may be indicated.

Further research in VORP and other mediation programs was indicated. Research on characteristics of offenders likely to benefit in reduced recidivism was needed. The question of who did and who did not tend to experience positive outcomes in VORP was still unanswered. Also the identification of characteristics of offenders and victims who tended to experience negative outcomes was useful research.

Further research with stratified sampling was indicated. A study with equal random sample sizes for all levels of severity of reoffense (0-4) would be useful. The simple random samples used in this study were limited by the small numbers of reoffenders (115) in each level of reoffense (1-4). A much larger population of juvenile property offenders would be needed for a stratified sample. Research could be expanded to other sites and other crimes. Other control variables could be used along with random assignment to control for threats to internal validity. Generalizability would improve with studies of more sites.

A study of victims' perception of their own mental health after VORP for a violent crime could be compared to victims' perception of their own mental health after a death penalty or life imprisonment of their offender. The possible side effects experienced by family members of the victim who witnessed the offender's death penalty execution have been explored by some authors (Prejean, 1993).

Concluding Statement

The results of the logistic regression indicated that the "number of prior offenses" had a significant main effect (p=.0039) on recidivism when controlling for age, gender, household compositon, VORP, and last grade completed. Also "VORP" had a significant main effect (p=.0080) on recidivism in juvenile property offenders when controlling for age, gender, household composition, number of prior offenses, and last grade completed. The conservative Bonferroni inequality method (sig<.0083) of controlling for type I error with 6 hypotheses indicated significant main effects on recidivism for both "number of prior offenses" and "VORP." The less conservative Fisher's Protected t also indicated significance (p<.05) for only these two variables.

The logistic regression model predicted recidivism 3.82% (Kappa=.0382) over and above that due to chance. Only 8.3% of the variance in the dichotomous recidivism dependent variable was accounted for by the independent variables, taking account that the independent variables were correlated (Nagelkerke R^2=.083).

Hypothesis (1) stated that the VORP group will exhibit lower one year recidivism rates that the nonVORP group. This was the only hypothesis of six that was supported by results of the recidivism logistic regression. VORP had a significant main effect (p=.0080) on recidivism when controlling for age, gender, household composition, number of priors, and last grade completed. NonVORP offenders were nearly twice as likely to reoffend as VORP offenders (VORP

Odds Ratio=.5412, reciprocal=1.848). However, this correlational study made no claim of causality for the results. It may be that VORP had little or nothing to do with the difference between the VORP and nonVORP groups.

Results of the ordinal logistic regression on "reoffense severity" indicated that none of the variables had significant main or interaction effects (Bonferroni $p<.0083$), when controlling for other variables. Fisher's Protected t in one of three regressions (3 rather than 5 category dependent variable, N=420) indicated "priors" ($p=.0137$) and "VORP" ($p=.0151$) had significant main effects ($p<.05$) on "reoffense severity."

Future studies may avoid some of the problems encountered in this study by careful prescreening of sites, careful selection of variables, random assignment, and stratified sampling. Replication of results may indicate VORP effectiveness in reducing recidivism among juvenile property offenders.

Random assignment to VORP and nonVORP groups was not used in the study, which meant no inference of causality was possible due to methodological limitations. Correlational study results involved uncontrolled variables that may have had significant differences on outcomes. No random assignment meant there were no controls for threats to internal validity.

State custody offenders were not included in the study due to a pending court decision regarding informed consent for research on custody children. The researcher was not allowed to view their records. The inclusion of this group may have indicated different results in the analysis. State custody offenders may have had a higher number of priors, as well as higher recidivism and severity of reoffense rates. The significant main effect of VORP on recidivism may not have been a result of the study if state custody offenders were included.

Another limitation of the study was the definition of recidivism as an adjudicated reoffense within one year. In order to follow the juvenile offenders in juvenile court for one full year after their VORP face-to-face mediation meeting or their nonVORP court sentencing date, seventeen year olds had to be eliminated from the study. Generally, juvenile courts do not process individuals who have reached their eighteen year age of majority. Offenders may have reoffended shortly after their one year mark. Other offenders may not have been caught by the police. The youngest offender was age 5, and had 12 more years of potential juvenile offense. It may be speculated that the effects of an intervention may last about a year. It may be unreasonable to expect the

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Vita

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