RELEVANCE OF RISK FACTORS FOR DELINQUENCY AMONG SUBTYPES OF
ADOLESCENT MALE JUVENILE OFFENDERS: SIGNIFICANCE FOR
YOUTH WITH EMOTIONAL/BEHAVIORAL DISORDERS
OR LEARNING DISABILITIES

DISSERTATION

Presented to the Graduate Council of the
University of North Texas in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Leslie Brinkman-George, B.S., M.Ed.
Denton, Texas
December, 1998

The effectiveness of prevention programs is often assessed by examining program effects of a variety of factors that are known to elevate or reduce risk for delinquent involvement. Research, which focuses on identifying risk factors associated with specific subtypes of offenders, can provide information for use in setting federal research agendas and guiding funding decisions regarding what empirically-tested, effective strategies are appropriate: matching modality to need. It is necessary to identify whether differential programming is required for significantly represented offender subpopulations, including those with emotional/behavioral disorders (E/BD) or learning disabilities (LD). This study sought to determine the relevance of specific individual, family, and school-risk factors for delinquency across three categorical subtypes of juvenile offenders: (a) those with E/BD, (b) those with LD, and (c) those offenders considered nondisabled. Examination of individual risk factors included aggressive/acting-out behaviors, irresponsible/inattentive behaviors, fearful/anxious behaviors, social withdrawal behaviors, age at first arrest, and use of alcohol and other drugs. Investigation of family risk factors incorporated level of parental monitoring and supervision, parental discipline style, and level of attachment to and involvement in the family. Exploration of
school-risk factors embodied measurements of reading and math achievement, as well as school attitude and involvement.

The study found that juvenile offenders with E/BD, juvenile offenders with LD, and their NONDISABLED peers can be differentiated based on measures of reading and math achievement. Juvenile offenders with E/BD and NONDISABLED juvenile offenders performed in the average range in reading and math, while the LD group performed in the below average range with 80% of the LD group functioning two to ten years below grade level. This finding has practical implications, which warrant a focus on programs effective in remediating academic deficiencies for juvenile offenders with LD.
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CHAPTER I

INTRODUCTION

Often referred to as common cause theory (Elliott & Huizinga, 1984), established relationships among and between various shared risk factors and juvenile delinquent behavior have led researchers to explore these background factors with regard to prevention and intervention (Elliott & Huizinga, 1984; Elliott, Huizinga, & Ageton, 1985; Gottfredson & Hirschi, 1986; Hirschi & Selvin, 1996; Jessor & Jessor, 1977; Sutherland & Cressey, 1978; West & Farrington, 1977). Risk-focused prevention is based on the premise that, to prevent a problem from occurring, factors that increase the risk of that problem developing need to be identified, and strategies to reduce the identified risks need to be developed. A major challenge of risk-focused prevention is to reduce risk factors by reinforcing protective factors (Hawkins & Weis, 1985).

Protective factors include such individual characteristics as gender, resilient temperament, positive social orientation and intelligence, bonding with positive role models, healthy beliefs and clear standards for positive behavior. Risk factors, defined as biological or psychosocial conditions that increase the probability of an individual developing problem behaviors, have been identified within four primary categories: (a) community/peer, (b) family, (c) school, and (d) individual (Hawkins, Catalano, & Miller, 1992; Lehman, Hawkins, & Catalano, 1994). Generally, the greater the number of risk factors present, the greater the risk. Some evidence indicates that risk increases
exponentially with exposure to more than one risk factor (Donovan & Jessor, 1985; Dryfoos, 1990; Newcomb, Maddahian, Skager, & Bentler, 1987).

Risk for delinquency exists in many domains of life. There are risks in the broader community within which youth grow up. The norms and laws of society help define the context within which young people make decisions. If youngsters grow up in a community where there are high rates of mobility, they may have a greater risk of criminal behavior and substance abuse (Elliott & Huizinga, 1983; Greenwood, 1992). Life transitions for adolescents from elementary to middle school and middle school to high school are also associated with increased prevalence of alcohol use and delinquent behavior (Friedman, 1985). Additional community risk factors include community laws and norms favorable toward drug use, firearms, and crime, along with extreme economic and social deprivation (Hawkins et al., 1992; Hawkins & Weis, 1985; Lehman et al., 1994; Office of Juvenile Justice and Delinquency Prevention, 1992).

Criminological literature also weighs relationships with peers as highly influential (Berndt & Perry, 1986; Greenberg, 1977; Lasseigne, 1975; Merton, 1968). It appears that one of the most reliable indications that a youngster is involved in delinquency, is contact with friends who are offending. Status may be achieved and greater risk developed by behavior that is usually found among adults, such as smoking, drinking, and sex. While this behavior does not necessarily lead to criminality, it is found more often among delinquent than among non-delinquent youths (Box, 1981; Berndt & Perry, 1986).

Family risk factors have a major effect on crime. While serious crime is geographically concentrated in a small number of high crime communities, it is
individually concentrated in families with anti-social parents, rejecting parents, parents in
collection, parents imposing inconsistent punishment, and parents who supervise their
children loosely (Boss, 1980; Dryfoos, 1990; Fagan & Wexler, 1987; Free, 1991;
Johnson, 1986; Loeber, 1986; Rosen, 1985; Trimble & Craig, 1995). One of the most
frequently reported findings of criminological studies is that adverse family
circumstances contribute to the cause and maintenance of delinquent behavior (Dryfoos,
contributes to risk for all adolescent problem behaviors. Poor family management may
consist of failure to set clear expectations for behavior, failure to monitor children, and
imposing excessively severe and inconsistent punishment. Parents who set clear
expectations for their children and then monitor them in developmentally appropriate
ways diminish their risk. Beyond monitoring, reinforcement is important. Parental
attitudes that are tolerant towards risk behaviors increase the risk of development of these
behaviors (Free, 1991; Tremble & Craig, 1995).

Additionally, the less well children function in school in terms of academic
achievement and conduct, the greater the probability that they will show criminal
behavior. Early and persistent antisocial behavior, academic failure in elementary school,
and lack of commitment to school are all risk factors associated with delinquency (Alpert
& Dunham, 1986; Greenberg, 1977; Hawkins et al., 1992; Hawkins, Doueck, & Lishner,
1988). Moreover, individuals who do not function well in school usually do not like it
there or feel involved. Their relationship with school is distant and they often perceive
exclusion and discrimination. Accordingly, their adaptation to school deteriorates over
time and they become more susceptible to delinquency (Alpert & Dunham, 1986; Dryfoos, 1990).

A large number of variables have been identified within the classification of individual risk factors. Primary individual risks include early initiation or occurrence of problem behavior, acting-out, antisocial behavior, substance abuse, impulsiveness, aggressiveness, and lower intellectual functioning (Elliott et al., 1985; Hawkins et al., 1992; Jessor & Jessor, 1977). Often having a biological or physiological basis, constitutional factors that contribute to problem behaviors are frequently exhibited as sensation seeking, low harm-avoidance, and lack of impulse control. Further, these factors appear to increase drug abuse and heightened delinquent and violent behavior (Hawkins & Lam, 1987). The association between intelligence and delinquency is based on the belief that intelligent youths are better able to assess the disadvantages of delinquent behavior and therefore are more inclined to reject it. Moreover, they are more successful in reaching conventional goals, are therefore better integrated in conventional structures, and consequently feel less need for delinquency (Hirshi & Selvin, 1996).

While numerous programs have been initiated to address these universally accepted risk factors for delinquency (Berreuta-Clement, Schweinhart, Barnett, Epstein, & Weikart, 1985; Braithwaite, 1989; Mueller & Higgins, 1988), no direct attention has been given to specific offender subtypes which evaluators of the Office of Juvenile Justice and Delinquency Prevention's (OJJDP) Intensive Aftercare Program (IAP) have identified as special needs subpopulations (Altschuler & Armstrong, 1994). Identification of risk factors specific to special needs subtypes is an important strand in
assessing the needs of potentially delinquent youth and matching modalities to needs. Children and youth with emotional/behavioral disorders (E/BD), and children and youth with learning disabilities (LD) are two significant subpopulations delineated as high risk juveniles requiring distinct assessment and intervention (Altschuler & Armstrong, 1994); nevertheless, only one study has explored the possibility that offenders with E/BD or LD may have experienced unique risk factors on their way to delinquency (Fitzsimons-Lovett, 1997).

There is increasing recognition that children and youth involved with the criminal justice system often have serious, multiple problems in the areas of emotional and mental functioning (Knitzer, 1984; Schuckit, Herrman, & Schuckit, 1977; Swank & Winer, 1976). Indeed, recent surveys of correctional populations reveal that individuals with disabilities are significantly overrepresented (Nelson, 1987; Rutherford, Nelson, & Wolford, 1985). Prevalence estimates for juvenile offenders with E/BD range from 4 to 99 percent (Rutherford et al., 1985). Morgan (1978) reported that emotional disturbance is the most prevalent disability among residents of juvenile correctional institutions, affecting 16.2% of the population, while Eggleston (1986) recounted 35.5%. Grosenick and Huntze (1980) estimated one half of the 10% to 50% labeled as disabled prior to commitment were youth with E/BD. Even though these findings are appraisals, they support the general conclusion that a sizable number of youth with behavioral disorders are in correctional facilities.

Youth with learning disabilities are also disproportionately represented among juvenile offenders (Grande, 1988; Hubble & Groff, 1981; Morgan, 1978; Rutherford et
al., 1985; Zimmerman, Rich, Keilitz, & Broder, 1981). Roughly one quarter to three quarters of recorded juvenile delinquents are youths with learning disabilities (Zimmerman et al., 1981). Where Broder, Dunivant, Smith, and Sutton (1981) proffer results indicating 36.5% of their juvenile delinquent group were classified learning disabled, Keilitz and Dunivant (1987) conclude that offenders with learning disabilities account for 10% to 50% of the adjudicated population. Principally, juvenile offenders with E/BD or LD represent significant subtypes of the general incarcerated juvenile population.

Differentiation of three juvenile offender subpopulations, E/BD, LD and nondisabled, based on individual, family, and school risk factors would allow, where indicated, greater individualization of preventive programming. Fitzsimons-Lovett (1997) found that the three groups could be differentiated on measures of individual risk factors. Most significant were the higher rates of irresponsible/inattentive and fearful/anxious behaviors of the E/BD and LD groups, as well as the aggressive/acting-out behavioral patterns of the E/BD classification.

Purpose

The purpose of this study was to replicate the methodology and procedures of the Fitzsimons-Lovett (1997) investigation to provide a critical test of objectivity and external validity for the findings reported. Replication research seeks to answer the question of whether a particular psychological aspect or phenomenon, which has been found to occur in a certain sample, occurs in similar samples. Such research can enable the discipline to determine which psychological phenomena are specific to a given group
and which are common to all (Amir & Sharon, 1991). Much of our knowledge relies on inductive generalizations that still have to be validated through replication research.

Replication research is often evaluated by equivalence. Replications conducted early in the history of a particular research question are usually more useful than replications conducted later (Rosenthal, 1991). In addition, differences accrue more value to and add generalizability to the total replicational effort (e.g., different investigator, population, facility, state). Finally, it is consummate when information concerning methodology and procedures are directly supplied by the original researcher (Amir & Sharon, 1991).

This study, as did the Fitzsimons-Lovett (1997) analysis, sought to determine the relevance of specific individual, family, and school-risk factors for delinquency across three specific subtypes of juvenile offenders: (a) those with E/BD, (b) those with LD, and (c) those offenders considered nondisabled. Examination of individual risk factors included aggressive/acting-out behaviors, irresponsible/inattentive behaviors, fearful anxious behaviors, social withdrawal behaviors, age at first arrest, and use of alcohol and other drugs. Investigation of family risk factors incorporated level of parental monitoring and supervision, parental discipline style, and level of attachment to and involvement in the family. Exploration of school-risk factors embodied measurements of reading and math achievement, as well as school attitude and involvement.

Significance

The effectiveness of prevention programs is often assessed by examining program effects of a variety of factors that are known to elevate or reduce risk for delinquent
involvement (Dishion, Patterson, & Kavanaugh, 1992). Research, which focuses on identifying risk factors associated with specific subtypes of offenders, can provide information for use in setting federal research agendas and guiding funding decisions regarding what empirically-tested, effective strategies are appropriate: matching modality to need. It is necessary to identify whether differential programming is required for significantly represented offender subpopulations, including those with E/BD or LD. If unique risk factors are determined, then further research aimed at strengthening prevention efforts is indicated.

Determining whether offenders with E/BD or LD experience group specific risk factors would further the prevention focus by rejecting strategies with no basis in research and utilizing interventions with plausibility. The magnitude and durability of effects could be improved. Efforts that specify how environmental features interact with individual-level processes to generate delinquent behavior could lead to refined program designs, which target the most potent theoretical variables.

Limitations

Fitzsimons-Lovett (1997) identified three limitations in her Oregon study: (a) subjects drawn from a narrow regional area, (b) use of self-reported data, and (c) use of cross-sectional information. While potential regional bias was considered, two factors served to correct this limitation. Like the initial study, the federal definitions of E/BD and LD used in most states are also utilized in the state where data for this replicative study was collected. Furthermore, replication in a divergent area can expand generalizability and validity (Amir & Sharon, 1991).
Presenting a potential problem, the use of self-reported data does rely on the memory and sincerity of the respondents. Nevertheless, self-reports can be discerned to furnish consistent information providing a credible or valid picture of juvenile delinquency (Clark & Tift, 1966; Farrington, 1973; Hirschi & Selvin, 1996). Additionally, the cross-sectional nature of the data can be limiting in that a longitudinal investigation of behavioral development could provide more details. Cross-sectional data collection, however, can provide an essential base for establishing important variables for further study (Pedhazur & Schmelkin, 1991). Another possible limitation could be related to the nature of the discriminant analysis. Discriminant analysis seems minimally successful in identifying members of a minority group. Yet, if one or more predictor variables highly related to the criterion classification is identified (e.g., significant differences are manifested with an isolated variable), differentiation can be successful (Kachigan, 1986).

Definition of Terms

1. **Aggressive/Acting Out behavior**: Behavior characterized by fighting, threatening, and generally being socially aggressive and hostile (Bullock & Wilson, 1989).

2. **Delinquent**: A person who falls within the legal age range of a juvenile in any given state of the federal codes, who, under that definition, commits an act that violates the norms of that state, federal codes, or society, which by law would be construed as criminal, deviant, or a status offense (Flowers, 1990).

3. **Emotional/Behavioral Disorder**: Exhibiting one or more of the following characteristics attributed to serious emotional disturbance over a long period of time and
to a marked degree which adversely affects educational performance: (a) an inability to learn which cannot be explained by intellectual, sensory, or health factors; (b) an inability to build or maintain satisfactory interpersonal relationships with peers and teachers; (c) inappropriate types of behaviors or feelings under normal conditions; (d) a general pervasive mood of unhappiness or depression; or (e) a tendency to develop physical symptoms, pains, or fears associated with personal or school problems. The term includes children who are schizophrenic. The term does not include children who are socially maladjusted, unless it is determined that they are seriously emotionally disturbed (Federal Register, August, 1977).

4. **Fearful/Anxious behavior**: Behavior characterized by tenseness, anxiety, and distrustfulness (Bullock & Wilson, 1989).

5. **Irresponsible/Inattentive behavior**: Behavioral patterns of interaction related to rule breaking, which may account for an individual's inability to meet demands of the situation (Bullock & Wilson, 1989).

6. **Learning Disability**: A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, or of environmental, cultural, or economic disadvantage (Federal Register, August, 1977).
7. **Nondisabled offender:** Any juvenile offender who does not qualify as disabled according to the eleven disability categories identified by the Individuals with Disabilities Act (1990). These categories include individuals with mental retardation, hearing impairments including deafness, speech or language impairments, visual impairments including blindness, serious emotional disturbance, orthopedic impairments, autism, traumatic brain injury, other health impairments, or specific learning disabilities.

8. **Protective factor:** Factors, which buffer the exposure to risk. A combination of individual traits, social connectedness, and clear healthy standards for behavior which reduce the probability of an individual developing behavior problems (Hawkins et al., 1992; Lehman et al., 1994).

9. **Risk factor:** Biological or psychosocial conditions that increase the probability of an individual developing problem behaviors (Hawkins et al., 1992; Lehman et al., 1994).

10. **Socially withdrawn behavior:** Behavior manifested in solitary play, shyness, timidity, self-consciousness, reluctance, and passivity (Bullock & Wilson, 1989).

With increasing recognition that children and youth with E/BD and LD involved with the criminal justice system are significantly overrepresented (Nelson, 1987; Rutherford et al., 1985), identification of risk factors specific to these special needs subtypes becomes an important strand in assessing the needs of potentially delinquent youth. Differentiation of E/BD, LD, and their nondisabled peers based on individual, family, and school risk factors could allow greater individualization of preventive programming. This study replicated the methodology and procedures of the
Fitzsimons-Lovett (1997) investigation to provide a critical test of objectivity and external validity for the findings reported.
CHAPTER II

REVIEW OF LITERATURE

In order to establish the existing literature base, a review of topics similar to the research issue was conducted. In addition to consideration of references cited by Fitzsimons-Lovett (1997), extensive examination of the available literature included searches utilizing MEDLINE, ERIC, OCLC FirstSearch, PsychLit, the Education Index, the National Archive of Criminal Justice Data, the Sourcebook of Criminal Justice Statistics, the Criminal Justice Periodical Index, and the General Publications Index on Crime and Justice. Terms used in these inquiries included “prediction of delinquency,” “classification of delinquency,” “risk factors for delinquency,” “prevention of delinquency,” “special education and juvenile delinquency,” “behavioral disorders and delinquency,” “learning disabilities and delinquency,” and “delinquency research.” The time period from 1950-1997 was explored.

Initially, this literature review will present an overview of individual, family, and school risk factors that have been identified as causes and correlates of juvenile delinquency. Subsequently, an examination of the hypothesized link between delinquency and learning disabilities will be presented. Finally, the results of the Fitzsimons-Lovett (1997) study will be outlined.
Introduction

Social sciences and behavioral research have generated considerable information concerning youngsters at-risk: those individuals for whom there is a high probability that negative consequences will occur (Sutherland & Cressey, 1978; Tremble & Craig, 1995). Most children at one time or another engage in behaviors that are destructive or troublesome for themselves or others. If these behaviors, however, result in illegal acts by juveniles, society labels such acts as delinquent (Dryfoos, 1990).

High risk of later delinquency is identifiable at early ages (Dryfoos, 1990). A large majority of the 12 million children under the age of three in the United States today are influenced by one or more risk factors that make healthy growth and future opportunities more difficult. Contributors to early risk exposure include changes in family structure, increased poverty, increased placement in foster homes, less time with parents, and physical abuse, neglect, and unintentional injury (Carnegie Task Force on Meeting the Needs of Young Children, 1991). Those who show deviant behavior as a child, very probably will also do so later in life (i.e., density theory). Of course, they do not necessarily have to display the same forms or specifications of deviancy; in fact they often show other forms as well (Elliott & Huizinga, 1983; Farrington, 1986; Mitchell & Rosa, 1981; West & Farrington, 1973). Early deviancy, to a certain extent, predicts subsequent delinquency. The greater number of different deviant activities children display at an early age, the greater the probability that they will get involved in delinquency during their later years (Mitchell & Rosa, 1981). Persistent deviancy often depends on the way the family responds to the behavior. Because the family plays
such an important role in children's personal and social development, the reaction of the family to the deviant actions is extremely important. If the response is inadequate (e.g., impatient, cold, inconsistent, strict, permissive) the undesired behavior may persist and be strengthened (Box, 1981; Farrington, 1986; Jessor & Jessor, 1977). Because such behavior is normally not accepted by society, the child will likely encounter additional problems and may enter a vicious cycle. Early deviant behavior has been found to be related to social adaptation problems at school, leading to difficulties with teachers and peers and resulting in academic underachievement, absenteeism, and dropping out of school. Additionally, peers often reject the child who will then be relegated to peripheral status (West & Farrington, 1977).

The relationship between early deviant behavior and subsequent delinquency is not an absolute one; typically, there is a pattern of factors that make a child vulnerable to delinquency (Hawkins et al., 1992; Lehman et al., 1994). Many factors have been identified as contributing to a child's risk profile. Biological factors, child rearing conditions, ineffective parenting, emotional and cognitive development, relations to peers, cultural milieu, social factors such as economic inequality and lack of opportunity all increase the probability of an individual developing problem behaviors; all are risk factors for delinquency (American Psychological Association Commission on Violence and Youth, 1993).

Risk factors and the problem behaviors they predict can be broken down into several domains: (a) community/peer, (b) family, (c) school, and (d) individual (Hawkins
et al., 1992; Lehman et al., 1994). Three longitudinal studies (i.e., Denver Youth Survey, Pittsburgh Youth Study, and Rochester Youth Development Study) commissioned by the Office of Juvenile Justice and Delinquency Prevention in 1986 as summarized by Huizinga, Loeber, and Thornberry (1994) have effectively delineated risk factors which exist in these multiple domains, increase exponentially with exposure to more than one risk factor, predict diverse problem behaviors, and show consistent effects across diverse groups.

Preliminary information from these on-going studies establishes correlations between delinquency and substance abuse, precocious sexual activity, poor family attachment and parenting behavior, childhood victimization, reduced levels of school commitment, low reading performance, peer involvement in delinquent behavior, and gun ownership (Huizinga et al., 1994). Additionally, these and other studies have found that resilient youth manage to evade these risks for delinquent behavior (Hawkins et al., 1992; Lehman et al., 1994; Masten, Best, & Garmezy, 1991). Among the family factors, parental supervision, attachment to parents, and consistency of discipline appear to be the most important. Commitment to school and especially avoidance of delinquent and drug-using peers also appear to be major protective factors. In sum, youth at risk who have more conventional lifestyles at home, at school, and with friends appear much better able to avoid the negative consequences of residing in high-risk, high-crime neighborhoods.
The challenge for risk-focused prevention is to identify the factors that put people at risk and somehow buffer the effect of exposure to the risk. In order to prevent adolescent health and behavior problems, it is necessary to reproduce the protective factors resilient youth experience (Hawkins et al., 1992; Huizinga et al., 1994; Lehman et al., 1994; Masten et al., 1991). With effective prevention programs, providers identify individual needs by conducting a precise and thorough ecological evaluation (Taylor, 1980). The impact of this primary prevention approach is determined by the accuracy with which risk factors are identified (Mulvey, Arthur, & Repucci, 1993). To create successful strategies, prevention programs must address known risk factors and must have an impact on the targeted factors so as to change the degree of risk. In addition, it is essential for prevention programs to increase protective factors, be developed at appropriate developmental stages, intervene before problem behavior stabilizes, and match interventions to diagnosis (Hawkins et al., 1992).

Indeed, underlying causes of delinquent behavior may operate differently for distinct subpopulations (Altschuler & Armstrong, 1994; Huizinga, Esbensen, & Weiher, 1991). Currently, it is unclear whether the general risk factor model adopted by the juvenile justice system applies to all offenders. With increasing attention given to identifying specific subtypes, ineffectual concentration has been directed toward answering whether these individuals experience unique risk paths: specifically in regard to the significantly represented E/BD and LD offender subpopulations. Fitzsimons-Lovett (1997) reports that even when children and youth with E/BD or LD are included in study samples, data is not disaggregated.
Individual risk factors.

The antecedents, which influence the behavior of youth, are biological, cognitive, emotional, and social in nature (Agnew, 1985; Canter, 1982; Krohn & Massey, 1980). Some begin in childhood, while others influence behavior as the individual approaches adulthood. Consensus among researchers about the individual risk factors for delinquency is substantial. Intellectual functioning, impulsivity, aggression, and immaturity have been the subjects of considerable criminological study (Box, 1981; Braithwaite, 1989; Donovan & Jessor, 1985; Elliott & Huizinga, 1984; Elliott et al., 1985; Greenberg, 1977; Jessor & Jessor, 1977). Research into the relationship between these basic traits and juvenile delinquency began in the 1950’s, and has progressed as the psychological understanding of these concepts increases (e.g., Cole, 1952; Lewis, 1955).

Current findings suggest that there is an inverse relationship between intelligence and juvenile delinquency. When testing the intellectual level of delinquents, below average IQs are generally found. Research indicates that delinquents’ IQs are typically between 60 and 100. Generally, the lower an individual’s IQ, the greater the risk for engaging in delinquent behavior (Hirschi & Hindelang, 1977; Wilson & Herrnstein, 1985). People with very low IQs, below 60, are less often involved in criminality (Hirschi & Hindelang, 1977). The association between intelligence and delinquency is often based on the belief that intelligent youths are better able to assess the disadvantages of delinquent behavior and therefore are more inclined to reject it. Moreover, they are more successful in reaching conventional goals and in becoming integrated in conventional
structures, and consequently feel less need for delinquency (Hirschi, 1969). As far as this relationship applies to recorded delinquents, it may be noted that intelligent persons are less likely to get caught (West & Farrington, 1977).

The correlation between low intelligence and juvenile delinquency may also be explained by the uniformity with which less intelligent youths do less well in school. They particularly have difficulty with a primary measurement of school success, theoretical-abstract subject matter. This often results in alienation from school, thereby encouraging delinquency (Berman & Siegal, 1976; Hargreaves, 1982). Juvenile delinquents primarily lack verbal intelligence. They encounter difficulties when confronted with verbally coded information. The problem is apparent in their vocabulary, formulation, and verbal reasoning, and expresses itself in inadequate reading ability (Berman & Siegal, 1976; Hirschi, 1969; West & Farrington, 1973). Subsequently, an impoverished mastery of languages confuses social interaction and is frequently a social handicap (Wilson & Herrnstein, 1985).

Hyperactivity, aggressiveness, and other forms of antisocial behavior at early ages are additional risk factors for delinquency. Additionally, alienation, lack of conformity, rebelliousness, and substance abuse are documented antecedents of delinquency. Moreover, the earlier antisocial behavior starts, and the more frequent the occurrences, the more likely that serious offenses will take place during adolescence (Dryfoos, 1990; Elliott & Huizinga, 1985; Newcomb et al., 1987; Schuckit et al., 1977). Children who act out as early as kindergarten, or are overly anxious, hyperactive, or aggressive, are at high risk of developing antisocial behaviors (Dryfoos, 1990).
Substance abuse is significantly related to delinquency in children and youth, regardless of race. Regularly, drug use appears to precede delinquency. Additionally, increases in drug use result in corresponding increases in delinquency (Greenwood, 1992; Huizinga et al., 1994).

Many juvenile delinquents stand out because of their impulsiveness. This impulsiveness causes them to easily engage in activity without considering consequences often exhibit restricted time perspective; both qualitatively as expressed in negative future outlook and quantitatively with a relatively short perspective of the future. Anticipating significant consequences is essential for adequate behavior (Davids & Falkof, 1975; Wilson & Herrnstein, 1985). Immaturity is likewise a trait repeatedly mentioned in publications concerning risk for juvenile delinquency (e.g., Glueck & Glueck, 1972; Quay, 1987). Compared to their peers, immature youths often have an unclear identity lacking goal directedness. Immature individuals tend to look up to others, accommodate themselves to others, and allow themselves to be led (Quay, 1987).

The risk factor of aggressiveness is also highly correlated with juvenile delinquency (Compagna & Harter, 1975; Fodor, 1972). Aggressive delinquents frequently come from disharmonious families where child rearing is cold and inconsistent (Fodor, 1972). The children usually have a poor relationship with their parents and experience their child rearing as cool and rejecting and sometimes even openly hostile. Finally, aggressive delinquents commonly are recidivists and often come in contact with police and justice officials (Quay, 1987).
Family risk factors.

One of the most frequently reported findings of criminological studies is that adverse family circumstances contribute to the cause and maintenance of delinquent behavior (Loeber, 1986; Riley & Shaw, 1985; Wells & Rankin, 1986; West & Farrington, 1973, 1977). Loeber and Dishion (1982) identified family functioning and parental child rearing as best predictors. The interaction between structural and functional factors in conjunction with determinants external to the family forms the basis for understanding and explaining juvenile delinquency. Family size, birth order, family incompleteness in interaction with family atmosphere, family relationships, and child rearing provide important risk indicators.

There is a modest but noticeable relationship between family size and juvenile delinquency (Hirschi, 1969; West & Farrington, 1973; Wilson & Herrnstein, 1985). Some authors suggest that the factors of material disadvantage, limited space, and less parental supervision result in large families having less socializing ability than small families. Compared to children of small families, those of large ones encounter greater difficulties internalizing norms, forming an identity, and developing positive self-images. Small families are regarded as a buffer against delinquent behavior (Biles & Challenger, 1981; Werner, 1987).

Presently, literature concerning birth order and delinquency indicates that middle and to a lesser extent, last-born children are more likely to be juvenile offenders (Biles & Challenger, 1981; Hirschi, 1969; West & Farrington, 1973). West and Farrington (1973) report that the larger the family, the greater the influence of birth order. They further
proffer that the birth order effect may be explained to a large extent by the effect of family size.

The effect of family incompleteness as a risk factor for juvenile delinquency depends on the extent to which the absence of a parent affects the identity and particularly the self-image of the child. Specific family status in isolation is not as effective a predictor as a conglomerate of factors including socioeconomic standing, social background of the family, and internal family relationships (Rosen, 1985; Wright & Wright, 1994). The fact that a family is not physically complete does not necessarily mean that it cannot function properly as a group. Boss (1980) noted that it is psychological rather than physical completeness that matters. Nevertheless, the effect of family incompleteness on children generally places children at higher risk for delinquency. There may be fewer material goods, less supervision, and insufficient affection and guidance (Free, 1991; Rosen, 1985).

Families function better when they are characterized by a positive internal atmosphere. Juvenile delinquents often come from disharmonious homes where there are many conflicts between parents, between the parents and the children, and between the children themselves. Anger, irritations, and disagreements are expressed in behaviors such as fighting, blaming each other, and avoiding responsibilities (Fagan & Wexler, 1987; Hirschi, 1969; Johnson, 1986). The atmosphere in a family is to a greater dimension a function of the quality of the relationship between parents. The more positive and warm the interaction, the better the family climate. Moreover, inappropriate interaction between parents and children emerges as an important risk factor in a
preponderance of juvenile delinquency investigations independent of the definition of
delinquency that is used and the subject groups under consideration. Juvenile
delinquents, generally, do not enjoy an ideal relationship with their parents (Hirschi,
1969). The combination of weak family bonds and a disharmonious environment is a
significant precursor to juvenile delinquency (Fagan & Wexler, 1987). Additionally,
children who have criminal parents are at greater risk of becoming delinquent themselves
(Wright & Wright, 1994).

Finally, there is a strong relationship between particular approaches to child
rearing and juvenile delinquency (Burchard & Burchard, 1987; Hirschi, 1969; Sutherland
are extremely few delinquents among children who have experienced warm child rearing.
Lack of warmth in the parent-child relationship is a major risk factor for delinquency.
Delinquent children perceive their parents as cold and deficient in their provision or
expression of love. They believe their elders are not interested in them and often feel
treated unjustly or rejected (Wright & Wright, 1994).

Children raised in a cold environment are often indifferent to their parents, reject
them, and even rebel against them. This hampers identification and transference of
norms and customs. These youngsters are overrepresented in all areas of deviant
behavior, including delinquency. Delinquency is more likely when normative
development is incomplete, and when children are unable to distinguish right from
wrong, feel little or no obligation toward standards of behavior, and have little respect for
rights and welfare of others. Parents play a critical role in moral development
(Thornberry & Christenson, 1984; Wright & Wright, 1994). The literature further indicates that there is a link between child abuse and delinquency. Factors such as frequency, duration, and termination of the abuse influence delinquent behavior. While being abused increases the risk of delinquency, most abused children do not become delinquents (Wright & Wright, 1994).

Parental supervision of children's behavior inhibits the development of juvenile delinquency. The quality of supervision is consistently and strongly related to delinquency (Hirschi, 1969; Loeber & Dishion, 1982). There is a direct relationship between delinquency and the amount of time children spend away from the family (West & Farrington, 1973). The families of juvenile delinquents often do not actively intervene at the right time with the correct measures. Adequate supervision reduces risk (West & Farrington, 1977). Children who are inadequately supervised by parents who fail to teach them right from wrong, who do not monitor their whereabouts, friends, or activities, and who discipline them erratically and harshly are more likely to become delinquent (Wright & Wright, 1994).

School risk factors.

The less well children function in school in terms of academic achievement and conduct, the greater the probability that they will show criminal behavior (Loeber & Dishion, 1982; West & Farrington, 1973; Wilson & Herrnstein, 1985). School records show that juvenile delinquents score relatively low in school achievement or teacher-rated reading performance, and retention in grade relate to delinquency. The relationships appear even for first graders. Delinquency is more likely for
African-American males than for white males after adjusting for the effect of performance level and retention (Huizinga et al., 1994). Although poor functioning in school may lead youths to get involved in delinquency, the reverse also happens, although to a lesser degree (Thornberry & Christenson, 1984).

In most cases, the relationship between non-functioning in school and delinquency must be ascribed to deeper causes, which foster both problems at the same time. Individual risk factors such as impulsivity, low intelligence, and immaturity foster school failure (Wilson & Herrnstein, 1985). School related experiences and attitudes, which often precede delinquency, include low attachment to school and low commitment to schooling. Peer related experiences, many of which are school-centered, include rejection by peers and association with delinquent peers (Gottfredson & Hirschi, 1986).

Several school related precursors to delinquency identified by research include characteristics of school and classroom environments as well as individual-level experiences and attitudes. School related environment factors include availability of drugs, alcohol, and other criminogenic commodities such as weapons.

Two phenomena that are associated with delinquency are truancy and dropping out behavior (West & Farrington, 1973, 1977). The relationship between truancy and juvenile delinquency increases with age. Habitual truants commit offenses more frequently than occasional truants do, and their crimes are more varied in form. They also come more often in contact with the police and the justice system (Fogelman, Tibbenman, & Lambert, 1980). Absenteeism often precedes dropping out behavior.
Youths who leave school before obtaining their diploma are at a greater risk for delinquency than individuals who finish their education (West & Farrington, 1977).

**Emotional/Behavioral Disorders and Juvenile Delinquency**

Since early in the 20th century, researchers have studied the relationship between emotional difficulties and delinquency. Cyril Burt (as cited in Flowers, 1990) found that 85% of the criminals he studied in the 1930s were emotionally impaired. Morgan (1978) surveyed juvenile correctional administrators in all 50 states and 5 US territories with results indicating E/BD affected 16.2% of the incarcerated population. Following these results, he concluded that emotional disturbance was the most prevalent disability in juvenile correctional facilities. Indeed, there is increasing recognition that children and youth with E/BD constitute an astonishing number of juvenile offenders (Dembo, LaVoie, Schmeidler, & Washburn, 1987).

Knowledge, however, about offenders with E/BD is limited. One explanation for this condition is confusion concerning terminology. The terms emotional disturbance and behavioral disorders come from educational and mental health fields. The terms have not been widely used in correctional systems and relatively few correctional educators are aware of the accompanying characteristics (Gilliam & Scott, 1987). While numerous definitions of E/BD have been proposed, the federal definition under the Individuals with Disabilities Education Act (1990) is the only one that has attained national acceptance and has had significant impact on public policy.

Although limited information is available to describe the characteristics of E/BD youth served in correctional facilities, the literature indicates that these individuals
manifest various problems of inappropriate behavior, faulty thinking, excessive variations
in moods, and developmental lags in social/emotional maturity (Gilliam & Scott, 1987;
Rutherford et al., 1985). In a study conducted by Gilliam and Scott (1987), they found
that their emotionally disturbed sample displayed more acting-out and externalized
behaviors than the nondisabled peer group. Many of these characteristics fall within the
individual risk factor pattern for correlation with delinquency indicating that the E/BD
subpopulation is more susceptible to engaging in delinquent behaviors
(Fitzsimons-Lovett, 1997). Researchers conclude that traditional interventions and
methods of assessment have been unsuccessful in producing lasting change in the
behavior patterns of E/BD offenders (Gilliam & Scott; Quay, 1979). Identification of
unique risk paths could serve to further the development of successful approaches to
prevention.

Learning Disabilities and Juvenile Delinquency

Beginning in the late sixties, the literature has increasingly shown an association
between juvenile delinquency and learning disabilities (Broder et al., 1981; Grande,
Roughly between one quarter and three quarters of recorded juvenile delinquents are
youths with learning disabilities (Zimmerman et al., 1981). In an examination of the
available evidence, Murray (1976) focused on two prominent explanations of the
hypothesized link between LD and juvenile delinquency. Foremost, the school failure
rationale proposes that LD leads to poor academic achievement, labeling as a problem
student, and negative self-image, leading to increased opportunities and incentives to
engage in delinquent behavior. The second explanation, the susceptibility construction, proposes that LD children are most susceptible to delinquent behavior as a consequence of the personality and cognitive characteristics associated with LD (e.g., impulsiveness and low verbal reasoning).

Broder et al. (1981) propose a third explanation for the correlation between LD and delinquency, a theory of differential treatment. They proffer that the behavioral characteristics and deficits associated with LD, often combined with poor school performance, operate to the detriment of the LD youths and their interaction with the system. They further state that LD should be added to the list of nonlegal variables that affect court decision-making.

A longitudinal study sponsored by the OJJDP and comprised of 351 boys was conducted by the National Center for State Courts between 1976 and 1983 with the purpose of exploring the connection between LD and delinquency. As explained in Keilitz and Dunivant (1987), the results provided evidence that learning disabilities were associated with increases in delinquent activities and official contacts with the juvenile justice system. Adolescents with LD reported that they had committed, on average, 266 delinquent acts during their lives: a greater mean number than nondisabled participants. Further, the samples differed significantly in that the LD group perpetrated a greater frequency of violent acts, used larger amounts of alcohol and marijuana, and had more school discipline problems. Encounters with the juvenile justice system were reported at 36%, indicating that a substantial proportion of adolescents with LD were at-risk for adjudication.
Adjudicated youth with E/BD or LD represent significant subpopulations of the general juvenile offender group. Several researchers contend that this reality implies that juvenile justice, human services, and educational agencies should design special prevention and rehabilitation programs for these populations (Broder et al., 1981; Dembo et al., 1987; Keilitz & Dunivant, 1987). Not taken into consideration is whether or not these subtypes experience particular risk paths, or whether their needs could be met by prevention programs serving all high-risk youth. Of further interest is the fact that, currently, the OJJDP has identified these E/BD and LD subgroups as requiring specialized post-incarceration programs tailored to their needs (Altschuler & Armstrong, 1994).

Results of Original Study

Conducted with a male adolescent population of 150 students (fifty from each subgroup) at the Hillcrest State School in Salem, Oregon, the Fitzsimons-Lovett (1997) study demonstrated that juvenile offenders with E/BD, juvenile offenders with LD, and nondisabled offenders were significantly different across individual risk factors. In contrast, no significant differences were found across family and school risk factors. Individual risk factors of (a) aggressive/acting-out behaviors, (b) irresponsible/inattentive behaviors, (c) fearful/anxious behaviors, (d) social withdrawal, (e) age at first arrest, and (f) history of substance abuse presented significant differences and discriminating abilities when utilizing a discriminant function. The proportion of variance explained by this group of risk factors, however, was less than what would be expected by chance.
When examined in isolation, three of the six risk factors did provide successful differentiation. These were aggressive/acting-out behaviors, irresponsible/inattentive behaviors, and fearful/anxious behaviors. Juvenile offenders with E/BD exhibited higher rates of aggressive/acting-out behaviors than the LD and nondisabled subpopulations, while both the LD and E/BD groups experienced higher degrees of irresponsible/inattentive behaviors and fearful/anxious behaviors. These results imply that the risk-focused delinquency prevention programs currently being developed and implemented with general high risk population have equal relevance for juvenile offenders with E/BD and LD with the addition of elements to address the significant individual risk factors indicated. Replication of the Fitzsimons-Lovett (1997) study provided a critical test of objectivity and external validity for these reported findings. The current analysis replicated the methodology and procedures of the initial investigation with information directly supplied by the original researcher.
CHAPTER III

METHODOLOGY AND PROCEDURES

The methodology and procedures of the Fitzsimons-Lovett (1997) investigation provided a template with which to validate findings. This replicative study sought to determine the relevance of specific individual, family, and school risk factors for delinquency across three specific subtypes of juvenile offenders: (a) those with E/BD, (b) those with LD, and (c) those offenders considered nondisabled. Examination of individual risk factors included aggressive/acting-out behaviors, irresponsible/inattentive behaviors, fearful/anxious behaviors, social withdrawal behaviors, age at first arrest, and use of alcohol and other drugs. Investigation of family risk factors incorporated level of parental monitoring and supervision, parental discipline style, and level of attachment to and involvement in the family. Exploration of school risk factors embodied measurements of reading and math achievement, as well as attitude towards and involvement in school.

Replication

Replication research poses the question as to whether a particular psychological aspect or phenomenon, which has been found to occur in a certain sample, occurs in similar samples (Amir & Sharon, 1991). Replication provides a critical test of objectivity and external validity (Chaplin & Krawiec, 1979). Single findings limit the possibility of generalization. While much of our knowledge relies on inductive generalizations,
findings often require validation through replication research. Only by means of a systematic effort through repeated replications can reliable conclusions as to the validity and generality of psychological and other laws be reached. Replication helps establish functional universals and common dimensional identity (Amir & Sharon, 1991).

Values affecting the utility of any particular replication are (a) when, (b) how, and (c) by whom. Replications conducted early in the history of a particular research question are usually more useful than replications conducted later (Rosenthal, 1991). The Fitzsimons-Lovett study was conducted in 1997. This replication was completed in close temporal proximity. Nevertheless, replications are possible only in a relative sense. Systematic replication incorporates strict replication with variation in the conceptual variables of interest. The methodology and procedures utilized in this investigation vary primarily in context variables (e.g., setting, researcher). Similar findings, therefore, increase generalizability (Hendrick, 1991).

A replication, which obtains similar results, is maximally convincing if it is maximally separated from the first experiment along such dimensions as physical distance and personal attributes of the experimenters. The literature indicates that replications by different investigators are worth more than replications by the same investigator (Rosenthal, 1991). The initial experiment was conducted in Oregon, while this replication was conducted in Texas by a different experimenter. Generally, differences accrue more value to the total replicational effort while also increasing the confidence of the results (Rosenthal, 1991).
Research Questions

This study explored the possibility that juvenile offenders, who have, by federal
definition, been identified as E/BD or LD, experience unique risk factors for delinquency.
Further, this analysis utilized the three research questions of the initial Fitzsimons-Lovett
(1997) investigation.

Research Question #1

Do juvenile offenders with E/BD and juvenile offenders with LD demonstrate individual
risk factors for delinquency that can differentiate them from their nondisabled delinquent peers?

Corollary 1A: Does the age at first arrest differ for these three groups?

Corollary 1B: Does the substance abuse history differ for these three groups?

Corollary 1C: Is there a difference in the aggressive and acting-out behavioral
patterns exhibited by these three groups?

Corollary 1D: Is there a difference in the socially withdrawn behavior exhibited
by these three groups?

Corollary 1E: Is there a difference in the irresponsible/inattentive behaviors
exhibited by these three groups?

Research Question #2

Do juvenile offenders with E/BD and juvenile offenders with LD demonstrate family risk
factors for delinquency that can differentiate them from their nondisabled peers?

Corollary 2A: Is there a difference in the level of parental monitoring and
supervision received by members of these three groups?
Corollary 2B: Is there a difference in the attachment level to parents exhibited by members of these three groups?

Corollary 2C: Is there a difference in the disciplinary procedures used by parents of members of these three groups?

Research Question #3

Do juvenile offenders with E/BD and juvenile offenders with LD demonstrate school risk factors that can differentiate them from their nondisabled peers?

Corollary 3A: Is there a difference in the math achievement scores of individuals in these three groups?

Corollary 3B: Is there a difference in the reading achievement scores of individuals in these three groups?

Corollary 3C: Is there a difference in the involvement in and attitude towards school exhibited by these three groups?

Setting

Subjects for this study were male juvenile offenders, ages 14 to 17, incarcerated in the Gainesville State School in Gainesville, Texas. At the time of the study, 371 juveniles were incarcerated. The majority (approximately 80%) of the population was adjudicated for person to person offenses. The ethnic breakdown of the offenders was 34% African-American, 30% Caucasian, 32% Hispanic, and 4% other ethnic classifications. Roughly 38% of the population qualified to receive special education services. The Gainesville State School, a facility operated by the Texas Youth Commission (TYC), provides for the care, custody, rehabilitation, and re-establishment in
society of persons who are committed by the court for having engaged in delinquent conduct. Youth who are committed must serve a minimum length of time set by TYC policy before they can be discharged. The minimum length of stay varies, depending on the offense committed and the classification of each youth. All TYC institutional facilities operate year-round accredited secondary schools. The Texas Youth Commission provided permission to randomly select from the students incarcerated at the time of the study.

Subject Selection

Permission to conduct this investigation was obtained from the Director of Research of TYC. In addition, the study was approved by the Institutional Review Board at the University of North Texas (See Appendix A). Forming a total sample of 150, three random groups of student participants were selected: 50 juvenile offenders identified as having E/BD, 50 juvenile offenders identified as having LD, and 50 nondisabled peers. A random table of numbers was used to select subjects for each of the three groups using a coded list. The 50 participants with E/BD were randomly selected from a pool of 67 eligible students. The second group was comprised of a random sample of 50 students with LD from a population of 72. A final group of 50 students who had not been identified as disabled were randomly selected from a population of 228 students. Four students were not considered eligible for any group because of an IDEA disability coding which was neither E/BD nor LD.

To protect confidentiality of student participants, the Assistant Principal of the facility compiled a list identifying three distinct subpopulations at the Gainesville State
School: (a) all students with E/BD, (b) all students with LD, and (c) all nondisabled
students. She then assigned a code number to each of the students. The Assistant
Principal kept a master list of the students eligible to be selected for each of the three
groups with their assigned code number and names. The researcher received a list
identifying eligible subjects by assigned code number only. In addition, the researcher
signed a Research Confidentiality Agreement with TYC (See Appendix B) and had
informed consent forms signed by all youth included in the study (See Appendix C).

Instrumentation

Record review, results of the Behavior Dimensions Rating Scale (BDRS)
(Bullock & Wilson, 1989), and an individualized student questionnaire were used to
collect data. The only standardized scores recorded from the students’ records were their
scores on the math and reading sections of the Tests of Adult Basic Education (TABE)
(McGraw-Hill, 1994). Psychometric properties of the BDRS, TABE, and the
individualized student questionnaire are discussed in the following sections.

BDRS.

The BDRS (Bullock & Wilson, 1989) is a screening instrument designed to
examine patterns of behavior related to E/BD. The BDRS is composed of 43-items in the
format of bipolar descriptors between which the rater selects a position on a 7-point
continuum. The rating form is designed to encourage the rater to focus on observing and
recording the subject’s behavior rather than on assigning numerical values. The BDRS
has a convenient one-page format that can be completed and scored in less than 30
minutes.
The BDRS is composed of four subscales: (a) “aggressive/acting-out,” (b) “irresponsible/inattentive,” (c) “socially withdrawn,” and (d) “fearful/anxious.” The aggressive/acting-out subscale is comprised of behavior characterized by fighting, threatening, and generally being socially aggressive and hostile. The irresponsible/inattentive subscale consists of irresponsible/inattentive patterns of interaction related to rule breaking, which may account for an individual’s inability to meet the demands of the situation. The socially withdrawn subscale measures behavior manifested in solitary play, shyness, timidness, self-consciousness, reluctance, and passivity. The fourth subscale, fearful/anxious includes behavior characterized by tenseness, anxiety, and distrustfulness.

Test-retest reliability coefficients range from .82 for the socially withdrawn subscale to .91 for the instrument as a whole. The content validity of the BDRS was established through research projects and an expert review process. Construct validity was verified through the use of both exploratory and confirmatory factor analyses.

The BDRS was normed using an ethnically and geographically representative sample. Students with and without disabilities were included in the sample. Moreover, response patterns of ratings of special education, regular education, and correctional facilities demonstrated similar response interpretations that demonstrated the validity of the BDRS interpretation for use with juvenile offenders. The BDRS is factorially equivalent for regular, special, and juvenile offender populations (Campbell, Bullock, & Wilson, 1988).
The TABE (McGraw-Hill, 1994) is a nationally normed assessment instrument (i.e., 49 states and 415 institutions). It can be used as both a norm-referenced and a criterion-referenced test. The TABE was designed to measure achievement of basic skills commonly found in basic education curricula. Reading, language, mathematics, and spelling are the content areas measured. To ensure that examinees’ performance on the TABE is comparable with that of their contemporaries, reference group data were collected for four groups: participants in adult basic education programs, juvenile offenders, students in vocational/technical institutes, and college students.

The TABE was developed to facilitate testing at each examinee’s functional level of achievement. The test can measure skills precisely for pre-readers through high school level and beyond. The aim of functional-level testing is to obtain the most reliable diagnosis of an examinee’s basic-skills achievement level.

Test developers ensured correspondence between test content and instructional content by conducting a comprehensive curriculum review and through meeting with educational experts to determine common educational goals and the knowledge and skills emphasized in today’s curricula. Evidence for construct validity is comprehensive and integrates evidence form both content and criterion-related validity.

Student Questionnaire.

All study participants were asked to complete a 35-item questionnaire (See Appendix D). The items on the questionnaire and the scoring procedures were adapted by Fitzsimons-Lovett, the original study researcher, from the Denver Youth Survey.
(Huizinga et al., 1991). This project involves annual data collection from a probability sample of five different birth cohorts and parents from Denver, CO and surrounding areas. The subjects, who are at an increased risk for delinquency, consist of 802 boys and 728 girls. At the point of the first annual survey covering 1987, the subjects were 7, 9, 11, 13, and 15 years of age.

Psychometric information for questionnaire items was obtained by Fitzsimons-Lovett with information based on the fifth wave of data that was collected in 1992. The questionnaire was normed on a population of 1257 high-risk boys and girls from the Denver, CO area. Ages of the subjects ranged from 12 to 20 years old. Fitzsimons-Lovett (1997) reported that alpha reliability coefficients for questionnaire items ranged from .52 to .79. Parental monitoring items demonstrated a reliability index of .52. The items discussing the discipline methods were .58, and the family attachment items presented a reliability index of .79. Content validity was established through research projects and an expert review process.

The questionnaire proffers eleven items exploring the individuals' attitudes towards and involvement in school. Six items focus on the type of monitoring and supervision that was provided in the participants' homes. An eleven additional items center on the discipline approach used in the individuals' homes, and the level of family attachment was examined by the final seven items.

Data Collection

Data were collected on-site by the researcher. Data collection required a records review, collection of teacher-completed BDRS forms for each student, and administration
of the questionnaire. Table 1 specifies the risk factors that were measured for each participant and the source of these measures. The table is followed by a description of the procedures utilized during the records review and administration of the questionnaires.

Table 1

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<td>Ethnicity</td>
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<td>Socio-economic status</td>
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<td>Current incarceration offense</td>
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<td>Living arrangement prior to incarceration</td>
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<td>Individual Factors</td>
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<td>Age at first arrest</td>
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<td>Substance abuse history</td>
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<td>Irresponsible/inattentive behaviors</td>
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<td>Reading achievement</td>
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<tr>
<td>Attitude toward and involvement in school</td>
<td>Questionnaire</td>
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Records review.

Participant records were reviewed at the Gainesville State School in Gainesville, TX. Information concerning risk factors were recorded on the documentation form (See Appendix E) developed by Fitzsimons-Lovett (1997). Demographic data recorded included (a) ethnicity, (b) offense for which the student was currently incarcerated, and (c) date of birth. Risk factors measured through record review included (a) history of substance abuse, (b) achievement scores, (c) age at first arrest, and (d) living arrangements prior to incarceration. Additionally, zip codes were recorded for comparison to the most current US Census data in order to aid analysis of student characteristics based on general socioeconomic status.

BDRS.

The Assistant Principal contacted teachers whose students were randomly selected as study participants and asked them to complete BDRS student protocols. Student protocols for the assessment instrument include definitions of the bipolar terms and general completion information. A brief explanation of the instrument and directions for completion was provided to the teacher group, as well as questions teachers had answered. The researcher collected the completed ratings forms on-site.

Questionnaire.

Each randomly selected student participant was asked to complete the 35-item questionnaire. The researcher administered questionnaires, individually or with student groups of 2 to 10. Teachers were requested to identify students who needed the
questionnaire read to them or who required their answers to be recorded for them. The researcher complied with teacher recommendations.

Data Analysis

The fundamental research question of this replicative study, employing the premise of the original study (Fitzsimons-Lovett, 1997), concerns whether juvenile offenders with E/BD, juvenile offenders with LD, and nondisabled offenders could be differentiated based on measures of specific factors for delinquency. To decrease analysis-wise alpha levels and to less adversely effect the level of statistical significance, as well as to allow for consideration of the interactive nature of the variables being studied, a multivariate analysis was conducted (Dillon & Goldstein, 1984; Pedhazur & Schmelkin, 1991). All statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS) (Norusis, 1994).

Discriminant analysis techniques were used as a means to delineate the relationships among and between the qualitative criterion variable (i.e., three levels of group membership) and qualitative predictor variables. Discriminant analysis is a procedure for identifying relationships among and between qualitative criterion variables and quantitative predictor variables. This procedure is utilized for identifying boundaries separating groups of related objects, the boundaries being defined in terms of those variable characteristics, which distinguish or differentiate the objects in the respective criterion groups. Discriminant analysis is designed specifically for situations in which the criterion variable is qualitative rather than quantitative in nature. Additionally, if the
nominal-level criterion variable has three or more constituent categories, multiple discriminant functional analysis should be used (Kachigan, 1986).

The qualitative criterion variable in this study is group membership at three levels: membership in the juvenile offenders with E/BD group, membership in the juvenile offenders with LD group, and membership in the nondisabled offender group. The predictor variables are the study participants' scores on each of the risk factors measured in the investigation. Effectiveness of discriminant analysis is based on the actuality of predictor variables, which differ in mean value from one criterion group to another. There are two key assumptions with regard to the variances of the predictor variables and their inter-correlations: (a) the variance of a given variable must be the same in each criterion group population, and (b) it is necessary that the correlation between any two predictor variables is the same in the respective populations from which the alternative criterion groups have been sampled (Kachigan, 1986).

Since it is not feasible to test the normality of all linear combinations produced by discriminant analysis, data will be plotted and checked for the presence of outliers and skewness. While skewed distributions may not pose a threat to statistical soundness, outliers do. Additionally, a sample size that produces $df > 20$ in the univariate analysis ensures robustness to violations of multivariate normality if the sample sizes are equal (Tabachnick & Fidell, 1985). An additional assumption is the homogeneity of variance-covariance. A generalization of a Monte Carlo test of robustness, however, supports the adequacy of equal sample sizes in ensuring homogeneity of
variance-covariance (Hakstian, Roed, & Lind, 1979). This study satisfies the assumption by having 50 subjects in each of the three criterion groups.

Because this study utilizes three criterion groups, two discriminant functions are needed. The first of these functions is designed to differentiate the members of one of the groups from the members of the other two groups. The second discriminant function then discriminates between the two remaining two groups (Kachigan, 1986). Wilk's Lambda, a canonical discriminant function which indicates measure of association, and the proportion of variance of the dependent criterion variable that cannot be accounted for by the independent predictor variables, provides summary measures of the differentiation achieved in the discriminant function analysis. The major differences among groups are revealed through the use of uncorrelated linear combinations of the original variables. Using the multivariate procedure, discriminant analysis, this replicative study sought to determine the relevance of specific individual, family, and school risk factors for delinquency across three specific subtypes of juvenile offenders: (a) those with E/BD, (b) those with LD, and (c) those offenders considered nondisabled.
The purpose of this study was to replicate the methodology and procedures of the Fitzsimons-Lovett (1997) investigation to provide a critical test of objectivity and external validity for the findings reported. Further, this study sought to determine the relevance of specific individual, family, and school risk factors for delinquency across three specific subtypes of juvenile offenders: (a) those with E/BD, (b) those with LD, and (c) those offenders considered nondisabled. Examination of individual risk factors included aggressive/acting-out behaviors, irresponsible/inattentive behaviors, fearful/anxious behaviors, social withdrawal behaviors, age at first arrest, and use of alcohol and other drugs. The first four items were measured using the Behavior Dimensions Rating Scale (BDRS) (Bullock & Wilson, 1989), while age at first arrest and history of substance abuse were gleaned from student records reviewed by the researcher. Investigation of family risk factors incorporated level of parental monitoring and supervision, parental discipline style, and level of attachment to and involvement in the family. Each family risk variable was assessed using a questionnaire. Exploration of school risk factors embodied measurements of reading and math achievement, as well as attachment to and involvement in school. Reading and math achievement were measured using scores obtained on the Tests of Adult Basic Education (TABE) (McGraw-Hill, 1994), while attitude towards and involvement in school was measured using a
questionnaire. The findings of the study are presented as follows: (a) description of subjects, (b) tests of assumptions, (c) overall findings of significance, (d) summary of findings, and (e) comparison with the Fitzsimons-Lovett (1997) analyses.

Description of Subjects

Subjects for this study were juvenile offenders incarcerated in the Gainesville State School in Gainesville, Texas. The Gainesville State School, a facility operated by the Texas Youth Commission (TYC), provides for the care, custody, rehabilitation, and re-establishment in society of persons who are committed by the court for having engaged in delinquent conduct. Youth who are committed must serve a minimum length of time set by TYC policy before they can be discharged. The minimum length of stay varies, depending on the offense committed and the classification of each youth. All TYC institutional facilities operate year-round schools. At the time of the study, 371 male juveniles ages 14 through 17 were incarcerated at the Gainesville State School. For the purpose of this study, a random sample of 50 students out of 67 eligible students with E/BD was selected. The second group was comprised of a random sample of 50 students with LD from a population of 72. A final group of 50 students who had not been identified as disabled was randomly selected from a pool of 228 students. Four students were not considered eligible for any group because of an IDEA disability coding which was neither E/BD nor LD.

Complete information was collected for all subjects and visual inspection of plotted variables revealed no outliers, therefore, all subjects were included in the discriminant analyses. Further, an analysis case-processing summary indicated no
missing or out-of-range group codes or missing discriminating variables. Group statistics were summarily generated exploring demographic information including ethnicity, living environment prior to incarceration, current age, socio-economic status, and offense for which the subject was currently placed. This information is depicted in Table 2.

Table 2

Demographic Information

<table>
<thead>
<tr>
<th>Group</th>
<th>NON DISABLED</th>
<th>E/BD</th>
<th>LD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African-American</td>
<td>18</td>
<td>18</td>
<td>21</td>
</tr>
<tr>
<td>Caucasian</td>
<td>8</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>Hispanic</td>
<td>23</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Living Arrangements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both parents</td>
<td>11</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Mother only</td>
<td>18</td>
<td>19</td>
<td>25</td>
</tr>
<tr>
<td>Father only</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Mother &amp; Stepfather</td>
<td>8</td>
<td>9</td>
<td>8</td>
</tr>
</tbody>
</table>

(table continues)
## Table 2 (continued)

**Demographic Information**

<table>
<thead>
<tr>
<th>Demographic Information</th>
<th>NON DISABLED</th>
<th>E/BD</th>
<th>LD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Living Arrangements</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father &amp; Stepmother</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Relatives</td>
<td>7</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Alone</td>
<td>2</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td><strong>Current Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 years</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>15 years</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>16 years</td>
<td>7</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>17 years</td>
<td>40</td>
<td>38</td>
<td>39</td>
</tr>
<tr>
<td><strong>Annual Family Income</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$5,000-9,999</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>$10,000-14,999</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>$15,000-24,999</td>
<td>28</td>
<td>31</td>
<td>27</td>
</tr>
<tr>
<td>$25,000-34,999</td>
<td>17</td>
<td>12</td>
<td>20</td>
</tr>
</tbody>
</table>

*(table continues)*
An examination of Table 2 reveals the demographic similarities and differences among the three groups. A breakdown of ethnic composition displays an equal number of African-American students in the NONDISABLED and E/BD groups, while the LD
group held a slightly higher amount. Caucasian students were more equally represented in the E/BD and LD groups, where Caucasian students in the NONDISABLED group counted for a lower 16% of the total. The E/BD and LD groups had a close to equal number of Hispanic students, while representation in the NONDISABLED group was a greater 46%. Finally, the only other ethnic classification identified was one Middle-Eastern student in the NONDISABLED group. No other ethnic categories were discovered during the record review.

Analysis of the living arrangements of the selected juveniles prior to incarceration indicates that a larger number of the NONDISABLED group, 22%, lived with both parents, while 10% of the E/BD group and 16% of the LD group lived with both parents. The largest number of each group lived with their mother only: 36% of the NONDISABLED group, 38% of the E/BD group, and 50% of the LD group. Much smaller numbers lived with their father only: 4% of the NONDISABLED group, 6% of the E/BD group and 2% of the LD group. The numbers of students who had resided with their mother and stepfather were relatively close for each of the groups: 16% of the NONDISABLED group, 18% of the E/BD group, and 16% of the LD group. Living with their father and stepmother reflected the father only arrangement with 4% of the NONDISABLED group living with their father and stepmother, 4% of the E/BD group, and 2% of the LD group. A slightly higher number lived with relatives: 14% of the NONDISABLED group, 12% of the E/BD group and 12% of the LD group. Only 4% of the NONDISABLED group and 2% of the LD group lived alone, where 12% of the E/BD group lived alone.
Ages of students in the NONDISABLED and LD groups ranged from 15 to 17 years. The E/BD group had one member who was 14 years old with the remaining subjects ranging from 15 to 17 years. The average ages of the groups were uniform with a mean of 16.7 years for each group.

The majority of subjects in each group resided in families that had an annual income of between $15,000 and $24,999: 56% of the NONDISABLED group, 62% of the E/BD group, and 54% of the LD group. The next highest representation was in the $25,000 to $34,999 range with 34% of the NONDISABLED group, 24% of the E/BD group, and 40% of the LD group. A fairly even number of students had family annual incomes that fell close to the poverty level including 2% of the NONDISABLED group, 2% of the E/BD group, and 4% of the LD group.

Some differences among the groups were revealed upon examination of the reasons why juveniles in each of the groups were currently incarcerated. Students in the E/BD sample were more likely to be placed due to sexual offenses (28%) compared to 8% of the NONDISABLED sample and 8% of the LD sample. The LD group was most often incarcerated as a result of status offenses such as violation of probation. Status offenses accounted for 34% of the LD sample where only 6% of the NONDISABLED sample and 10% of the E/BD sample were incarcerated due to such violations. Theft and assault counted for large representations in each of the groups. Theft was the most frequently occurring offense in the overall sample with 40% of the NONDISABLED group, 22% of the E/BD group, and 32% of the LD group being adjudicated. Assault characterized 24% of the NONDISABLED group, 28% of the E/BD group, and 18% of
the LD group. Of note too, murder had a low representation in the E/BD and LD groups; however, murder represented 10% of the NONDISABLED group. Other offenses including arson, drug-related incidents, and weapon possession charges were represented by extremely low incidence rates among the total sample.

To explore whether the descriptive variables were significantly different among the three groups, an analysis of difference for these variables was conducted. Table 3 presents the statistical results of the analysis of difference for descriptive information. These results indicate that while a review of the demographic information revealed some differences among the groups, the descriptive statistics were not found to be statistically significant.

Table 3

Differences by Group on Descriptive Data

<table>
<thead>
<tr>
<th>Variables</th>
<th>Wilks’ Lambda</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnicity</td>
<td>.970</td>
<td>2.269</td>
<td>.107</td>
</tr>
<tr>
<td>Living Arrangements</td>
<td>.973</td>
<td>2.031</td>
<td>.135</td>
</tr>
</tbody>
</table>

(table continues)
Table 3 (continued)

Differences by Group on Descriptive Data

<table>
<thead>
<tr>
<th>Variables</th>
<th>Wilks’ Lambda</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Age</td>
<td>.997</td>
<td>.232</td>
<td>.793</td>
</tr>
<tr>
<td>Annual Family Income</td>
<td>.996</td>
<td>.319</td>
<td>.727</td>
</tr>
<tr>
<td>Current Offense</td>
<td>.962</td>
<td>2.900</td>
<td>.058</td>
</tr>
</tbody>
</table>

Note. df = (2,147); * significance p < .05.

Tests of Assumptions

Prior to conducting the discriminant analyses, the data were analyzed to check the assumptions of normality and homogeneity. The data were plotted and visually examined for outliers, which could threaten the statistical soundness of the analysis. The lack of outliers, the total sample size, and the equal sample sizes in each group allowed the assumption of multivariate normality to be met (Tabachnick & Fidell, 1995). The Statistical Package for the Social Sciences (SPSS) uses a Box’s M test to check the assumption of homogeneity of variance-covariance. Tabachnick and Fidell (1995), however, describe this technique as overly sensitive and suggest it be ignored. The Box’s M test rejected the null hypothesis of equal population covariance matrices; nevertheless, the adequacy of sample sizes is a valid indicator of homogeneity (Hakstian, Roed, & Lind, 1979) and this condition was satisfied.
An examination of the pooled within-groups correlation matrix was also conducted to check for singularity and multicollinearity. Singularity occurs when several of the independent variables are multicollinear with $r = .90$ or higher. Multicollinearity is a threat to analysis as it may cause statistical instability (Stevens, 1992; Tabachnik & Fidell, 1995). Tabachnik and Fidell's (1995) suggested conservative estimate of .70 was used as the standard for evaluation. Of the total possible correlations, one had $r > .70$ at $r = .715$, and none had $r > .90$. Additionally, protection from statistical instability resulting from multicollinearity is further assured in SPSS through rejection of variables that attempt to enter below the minimum tolerance level (Norusis, 1994). No variables were rejected and the discriminant analyses are considered valid.

Overall Findings of Significance

Discriminant analysis is used for two purposes: (a) for describing major differences among groups, and (b) for classifying subjects into groups on the basis of a battery of measurements. The major differences among the groups are revealed with uncorrelated linear combinations of the original variables (i.e., the discriminant functions). Since the discriminant functions are uncorrelated, they yield an additive partitioning of the between association (Stevens, 1992). A thorough analysis of the data collected concerning the 150 subjects was conducted using SPSS (Norusis, 1994). The first discriminant analysis explored whether the three groups could be differentiated based on the individual risk factors of aggressive/acting-out behaviors, irresponsible/inattentive behaviors, fearful/anxious behaviors, socially withdrawn
behaviors, history of substance abuse, and age at first arrest. Table 4 presents the overall findings respecting individual risk factors.

Table 4

<table>
<thead>
<tr>
<th>Discriminant Functions for Individual Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fcn</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
</tbody>
</table>

*p < .05.

The information provided in Table 4 indicates that there are no significant differences among the three groups on either discriminant function. There is not sufficient variance among the groups to permit accurate classification of subjects into their respective groups. The low sizes of the Eigenvalues (.090 and .042) confirm this lack of statistical significance. A high Eigenvalue (close to 1.00) is associated with functions demonstrating accurate discrimination (Norusis, 1994). In addition, the canonical correlations ($r = .287$ and .201) which measure the degree of association between the discriminant scores and the group are very low. According to this analysis, there is a small correlation between scores and group membership. The Wilks' Lambda value represents the proportion of the total variance in the discriminant scores that cannot be
attributable to differences among groups. Small Lambda values indicate high variability between groups and little variability within groups. The Wilks' Lambda values in this analysis (.881 and .960) are extremely high indicating that approximately 88% to 96% of the total variance between the groups cannot be attributed to differences among the groups. Moreover, only 43.3% of the original grouped cases were correctly classified, less than would be expected by chance alone. The subject classification outcomes based on the discriminant analysis are presented in Table 5.

Table 5

Classification Results for Individual Risk Factors

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>Cases</th>
<th>Predicted Group Membership</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ND</td>
</tr>
<tr>
<td>NONDISABLED</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40%</td>
</tr>
<tr>
<td>E/BD</td>
<td>50</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>32%</td>
</tr>
<tr>
<td>LD</td>
<td>50</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24%</td>
</tr>
</tbody>
</table>

Accordingly, the answer to the research question, "Do juvenile offenders with E/BD and juvenile offenders with LD demonstrate individual risk factors for delinquency that differentiates them from their NONDISABLED delinquent peers?" is negative. The three groups were not differentiated based on measures of individual risk factors. There
was not sufficient variance among groups to permit accurate classification of subjects into their respective groups.

Corollaries to this collective question asked whether the three groups differed when each of the individual risk factors was examined in isolation. Table 6 proffers the results of the univariate analysis determining tests of equality of group means.

Table 6

**Differences by Group on Individual Risk Factors**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Wilks’ Lambda</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggressive/acting-out</td>
<td>.986</td>
<td>1.031</td>
<td>.359</td>
</tr>
<tr>
<td>Irresponsible/inattentive</td>
<td>.988</td>
<td>.887</td>
<td>.414</td>
</tr>
<tr>
<td>Fearful/anxious</td>
<td>.973</td>
<td>2.055</td>
<td>.132</td>
</tr>
<tr>
<td>Social withdrawal</td>
<td>.977</td>
<td>1.749</td>
<td>.178</td>
</tr>
<tr>
<td>History of substance abuse</td>
<td>.988</td>
<td>.925</td>
<td>.399</td>
</tr>
<tr>
<td>Age at first arrest</td>
<td>.981</td>
<td>1.445</td>
<td>.239</td>
</tr>
</tbody>
</table>

*Note. df = (2,147); * significance p < .05

The information presented in Table 6 shows that the groups did not differ significantly on any of the individual risk factors. Further examination revealed that each of the three groups mean scores on the BDRS subscales placed them in a category representing approximately 13% of the population, those who might be expected to have some behavioral problems that would interfere with their personal emotional
development. Inspection of the measure of the substance abuse variables indicates that similarly high numbers of students in each group were using alcohol, tobacco, and other drugs. While age at first arrest was not significantly different among all three groups, it is worthy to note that the majority of subjects were arrested at the young ages of 10 to 13. Although members of each of the three groups experienced individual risk factors, the magnitude of differences did not direct the correct classification of subjects into their three respective groups.

A second discriminant analysis procedure examined whether the three groups could be differentiated based on the family risk factors of level of supervision and monitoring provided by parents, discipline approach used by parents, and degree of attachment to and involvement in the family. Each of these factors was measured using the student questionnaire. Table 7 presents the overall findings regarding family risk factors.

Table 7

**Discriminant Functions for Family Risk Factors**

<table>
<thead>
<tr>
<th>Fcn</th>
<th>Eigenvalue</th>
<th>Canonical Correlation</th>
<th>After Fcn</th>
<th>Wilks’ Lambda</th>
<th>Chi Square</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>.981</td>
<td>2.814</td>
<td>6</td>
<td>.832</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>.018</td>
<td>.131</td>
<td>1</td>
<td>.998</td>
<td>.278</td>
<td>2</td>
<td>.870</td>
</tr>
<tr>
<td>2</td>
<td>.002</td>
<td>.044</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05.
Examination of Table 8 reveals the three groups were not significantly different in relation to the assessed family risk factors. Correspondingly, the percentage of subjects who were correctly classified in groups was only 39.3% which is approximately 10% less than what would be expected by chance. Therefore, the answer to the research question, "Do juvenile offenders with E/BD and juvenile offenders with LD demonstrate family risk factors for delinquency that are different from those experienced by their NONDISABLED delinquent peers?" is negative.

Corollaries to this general question asked whether the three groups differed when each of the family risk factors was examined in isolation. Table 8 displays the results of the univariate analysis of variance testing the equality of group means. Scrutiny of this summary indicates that the three groups did not differ significantly on any of the family risk factors.

Table 8

<table>
<thead>
<tr>
<th>Differences by Group on Family Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>----------------------------</td>
</tr>
<tr>
<td>Family attachment</td>
</tr>
<tr>
<td>Parental discipline style</td>
</tr>
<tr>
<td>Supervision &amp; monitoring</td>
</tr>
</tbody>
</table>

Note. df = (2,147); * significance p < .05.
Closer examination of the data related to the family risk factors demonstrates that all groups fell into the problem areas for each of these three measures. The mean scores for the NONDISABLED, E/BD, and LD groups on the family attachment measure were 20.7, 21, and 20.6 respectively, representing limited attachment to and involvement in family life. Family supervision and monitoring scores indicated that members of all three groups were not subject to consistent supervision and monitoring by their parents or guardians. The mean scores for the E/BD and LD groups were 12.32 and 12.52, while the mean for the NONDISABLED group was slightly lower at 11.94. Family discipline was equally inconsistent across groups. Overall, subjects in each group experienced similarly low levels of parental supervision, had low levels of family attachment, and were subjected to inconsistent, permissive, or harsh discipline styles.

A final discriminant analysis operation determined whether the three groups could be differentiated on the school risk factors of math and reading achievement as measured by scores on the TABE and school attitude and involvement as measured by a questionnaire. Table 9 presents the overall findings regarding school risk factors.
Examination of Table 9 reveals the presence of significant differences among the three groups on the first discriminant function. The second discriminant function is nonsignificant. Moreover, the subject classification outcomes based on the discriminant analysis indicate that given the scores on the measures of school risk factors, group membership was only 46% predictable. This fails to reach the 50% correct classification that is expected by chance alone. While differences exist among the groups on the school risk factors measured, these differences do not account for sufficient variance among the groups to permit accurate classification of subjects into their respective groups. Consequently, the answer to the research question, "Do juvenile offenders with E/BD and juvenile offenders with LD demonstrate school risk factors for delinquency that differentiate them from their NONDISABLED delinquent peers?" is positive. The three groups were differentiated based on measures of school risk factors.
Corollaries to this overall question asked whether the three groups differed when each of the school risk factors was examined in isolation. Table 10 presents results of the univariate analysis of variance exploring school risk factors.

Table 10

Differences by Group on School Risk Factors

<table>
<thead>
<tr>
<th>Variable</th>
<th>Wilks' Lambda</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math Achievement</td>
<td>.852</td>
<td>12.779</td>
<td>.000</td>
</tr>
<tr>
<td>Reading Achievement</td>
<td>.895</td>
<td>8.595</td>
<td>.000</td>
</tr>
<tr>
<td>School Involvement</td>
<td>.992</td>
<td>.618</td>
<td>.540</td>
</tr>
</tbody>
</table>

Note. df = (2,147); * significance p < .05.

As can be seen from the data supplied in Table 10, the three groups did differ significantly on two of the school risk factors (i.e., math and reading achievement). Further examination revealed that juvenile offenders with E/BD and NONDISABLED juvenile offenders performed in the average to above average range on both achievement tests, while the LD group performed in the below average range; 80% of the LD group was functioning two to ten years below their grade level.

Scores on the questionnaire reflecting attitude towards and involvement in school were close for the three groups: 31.68 for the NONDISABLED group, 32.86 for the E/BD group, and 32 for the LD group. These scores indicate limited involvement in
school. While the data confirmed that all school risk factors reflect problem areas for these juvenile delinquents and that there was significant variability in the math and reading achievement scores, there was not enough variability in scores to permit accurate classification of subjects into their respective groups.

Summary of Findings

The answers to the research questions and related corollaries are as follows:

**Research Question #1:** Do juvenile offenders with E/BD and juvenile offenders with LD demonstrate individual risk factors for delinquency that can differentiate them from their NONDISABLED delinquent peers?

**Finding:** Juvenile offenders with E/BD, juvenile offenders with LD, and their NONDISABLED peers cannot be differentiated based on individual risk factors for delinquency.

**Corollary 1A:** Does the age at first arrest differ for these three groups?

**Finding:** The age at first arrest was not significantly different among the three groups.

**Corollary 1B:** Does the substance abuse history differ for these three groups?

**Finding:** The differences in history of substance abuse were not significantly different for the three groups.

**Corollary 1C:** Is there a difference in the aggressive/acting-out behavior patterns exhibited by these three groups?

**Finding:** The three groups do not differ significantly in exhibited aggressive/acting-out behavior patterns.
Corollary 1D: Is there a difference in the irresponsible/inattentive behaviors exhibited by these three groups?

Finding: The three groups do not differ significantly in exhibited irresponsible/inattentive behavior patterns.

Corollary 1E: Is there a difference in the fearful/anxious behaviors exhibited by these three groups?

Finding: The three groups do not differ significantly in exhibited fearful/anxious behavior patterns.

Corollary 1F: Is there a difference in the socially withdrawn behaviors exhibited by these three groups?

Finding: The three groups do not differ significantly in exhibited socially withdrawn behavior patterns.

Research Question #2: Do juvenile offenders with E/BD and juvenile offenders with LD demonstrate family risk factors for delinquency that can differentiate them from their NONDISABLED delinquent peers?

Finding: Juvenile offenders with E/BD and juvenile offenders with LD do not demonstrate family risk factors for delinquency that can differentiate them from their NONDISABLED delinquent peers.

Corollary 2A: Is there a difference in the level of parental monitoring and supervision received by members of these groups?

Finding: There is no significant difference in the level of parental monitoring and supervision received by members of these three groups.
Corollary 2B: Is there a difference in the attachment level to family exhibited by members of these three groups?

Finding: There is no significant difference in the attachment to family exhibited by members of these three groups.

Corollary 2C: Is there a difference in the disciplinary procedures used by parents of members of these three groups?

Finding: There is no significant difference in the disciplinary procedures used by parents of members of these groups.

Research Question #3: Do juvenile offenders with E/BD and juvenile offenders with LD demonstrate school risk factors for delinquency that differentiate them from their NONDISABLED delinquent peers?

Finding: Juvenile offenders with E/BD and juvenile offenders with LD do demonstrate school risk factors that can differentiate them from their NONDISABLED delinquent peers. These differences, however, did not explain enough of the variance among groups to permit accurate classification of subjects into their respective groups.

Corollary 3A: Is there a difference in the math achievement scores of individuals in these three groups?

Finding: The LD group demonstrated significantly lower mathematics achievement than either the E/BD or NONDISABLED group.
Corollary 3B: Is there a difference in the reading achievement scores of members of these three groups?

Finding: The LD group demonstrated significantly lower reading achievement than either the E/BD of NONDISABLED group.

Corollary 3 C: Is there a difference in the attachment to and involvement in school demonstrated by members of these three groups?

Finding: There is no significant difference in the attachment to and involvement in school demonstrated by members of these three groups.

Study Comparison

While there are distinct differences between the Fitzsimons-Lovett (1997) study and the findings reported by this researcher, the majority of conclusions provide external validity for the original study. Fitzsimons-Lovett recorded three discriminant analyses, which did not explain enough of the variance among groups to permit accurate classification of subjects into their respective groups: NONDISABLED, E/BD, and LD. This current study produced similar findings. Classification results for individual risk factors in the original study yielded 48% correctly classified group members while this study conveyed 32.7%. The original study results for family risk factors indicated a 40% correct classification rate where this replication proffered a 39.3% correct classification rate. Finally, the Fitzsimons-Lovett study found that the percentage of subjects who could be correctly classified into their group based on the school risk factors was 40%: a rate similar to the 46% of this replication. All classification results in both studies were below what usually happens by chance.
The disparity in findings is emphasized in the corollaries to the research questions. While the Fitzsimons-Lovett (1997) investigation found that juvenile offenders with E/BD and juvenile offenders with LD could be differentiated on three individual risk factors, this study could not support those findings. Fitzsimons-Lovett found that juvenile offenders with E/BD and juvenile offenders with LD demonstrated significantly higher rates of aggressive/acting-out behavior patterns than their NONDISABLED peers. In addition, the original study reported that both the E/BD and LD groups exhibited rates of fearful/anxious behaviors that were significantly higher than those recorded for the NONDISABLED group. Further, the initial analysis found that the E/BD and LD groups displayed rates of irresponsible/inattentive behavior patterns significantly higher than the NONDISABLED group. None of these findings was reproduced in this replication. In this investigation, the three groups could not be differentiated based on individual risk factors.

Results in this study, however, did uphold the findings reported in the original study concerning family risk factors. Both researchers found that juvenile offenders with E/BD and juvenile offenders with LD do not demonstrate family risk factors which can differentiate them from their NONDISABLED delinquent peers. There were no significant differences in the level of parental monitoring and supervision, attachment level to parents, or disciplinary procedures employed.

Nevertheless, findings concerning the third research question regarding school risk factors further emphasize differences between the results found in the original study and those discovered in the replication. Fitzsimons-Lovett (1997) reported no significant
differences among groups on school risk factors, where this current analysis indicates significant differences in math and reading achievement capable of differentiating members of the E/BD, LD, and NONDISABLED groups. Overall validity of the original study was supported by the replication; however, five of the twelve measured risk factors (i.e., aggressive/acting-out behaviors, irresponsible/inattentive behaviors, fearful/anxious behaviors, math achievement scores and reading achievement scores) examined in isolation yielded incongruous results.
While social science and behavioral research have generated considerable information documenting universally accepted risk factors and the problem behaviors they predict (e.g., Agnew, 1985; Burchard & Burchard, 1987; Dryfoos, 1990; Flowers, 1990; Free, 1991, Greenwood, 1992; Hirschi & Selvin, 1996; Huizinga et al., 1994; Mulvey et al., 1993; Sampson et al., 1997), little research addresses specific offender subtypes including those with E/BD and those with LD. The lack of research validating the relevance of commonly accepted risk factors for these subpopulations is disquieting; especially, considering the increasing recognition that children and youth involved with the criminal justice system often have serious, multiple problems in the areas of emotional and mental functioning (Knitzer, 1984; Schuckit et al., 1977; Swank & Winer, 1985). Indeed, recent surveys of correctional populations reveal that individuals with disabilities are significantly overrepresented (Nelson, 1987; Rutherford et al., 1985). Prevalence estimates for juvenile offenders with E/BD range from 4 to 99 percent, while Keilitz and Dunivant (1987) conclude that offenders with LD account for 10 to 50 percent of the adjudicated population.

The purpose of this study was to replicate the methodology and procedures of the Fitzsimons-Lovett (1997) study, which was designed to address the gap in research concerning E/BD and LD subtypes. Further, this replication sought to determine the
relevance of specific individual, family, and school risk factors for delinquency across three specific subtypes of juvenile offenders: (a) those with E/BD, (b) those with LD, and those offenders considered nondisabled. Examination of individual risk factors included aggressive/acting-out behaviors, irresponsible/inattentive behaviors, fearful/anxious behaviors, and social withdrawal behaviors which were measured using the Behavior Dimensions Rating Scale (BDRS), selected for its adequate psychometric properties and its validation with adjudicated populations. Further individual risk factors, (a) age at first arrest, and (b) history of drug use, were obtained through a records review conducted by the researcher.

Investigation of family risk factors incorporated level of parental monitoring and supervision, parental discipline style, and level of attachment to and involvement in the family; all measured using questionnaire items adapted from the Denver Youth Survey (Huizinga et al., 1991). The questionnaire has acceptable reliability and validity properties and has been normed on a population of 1257 boys and girls considered at high-risk for delinquency. Finally, exploration of school risk factors embodied measurements of reading and math achievement, as well as attitude towards and involvement in school. From school records, the researcher recorded reading and math achievement scores obtained on the Tests of Adult Basic Education (TABE). The TABE is a nationally normed assessment including data collected from a reference group of juvenile offenders. Attitude towards and involvement in school was measured using items adapted from the Denver Youth Study questionnaire. The methodology and procedures of the Fitzsimons-Lovett (1997) investigation provided a template with which
to validate findings. Due to the exploratory nature of the initial investigation, Fitzsimons-Lovett utilized an exploratory design incorporating research questions with related corollaries. This replication posed the question as to whether a particular psychological aspect or phenomenon, which was found to occur in the original sample, was also found with a similar sample. This section summarizes the results of the present study, presents implications, and suggests directions for future research.

Summary of the Study

Preceding a discussion of the results of the study, it is necessary to reiterate two, cautionary considerations: (a) subjects were drawn from a narrow regional area, and (b) use of cross-sectional information. To the extent that the subjects in this research study differ from subjects in other geographically located regions, discretion should be used when interpreting results. It is especially critical that prior to attempts to generalize study results to other populations, the definitions of E/BD and LD should be compared. While potential regional bias was considered, the federal definitions of E/BD and LD used in most states were utilized in the initial study, as well as in the state where data for this replicative investigation were collected. Additionally, the cross-sectional nature of the data is also limiting in that a longitudinal investigation of behavioral development would provide more details. The cross-sectional data collected in this and the Fitzsimons-Lovett (1997) study, however, assist the establishment of variables for further study.

Unlike the original study, this investigation failed to demonstrate that juvenile offenders with E/BD, juvenile offenders with LD, and NONDISABLED offenders were significantly different across individual risk factors. Similar results, however, were found
with family risk factors; no significant differences were found. Again, findings of this current study contrasted with the Fitzsimons-Lovett (1997) analysis. Where the original study determined no differences across school risk factors, the replication detected significant differences among the E/BD, LD, and NONDISABLED groups.

Examination of individual risk factors revealed that there was not sufficient variance among groups to permit accurate classification of subjects into their respective groups. Additionally, while members of the three groups did not differ significantly on any of the individual risk factors, their mean scores on the BDRS subscales placed them in a category of individuals who might be expected to have some behavioral problems that would interfere with personal emotional development. Further confirmation of previous research demonstrating that early onset of problem behaviors is a risk factor evident among delinquents, high numbers of students in each group were using alcohol, tobacco, and other drugs. Moreover, the majority of subjects were arrested at the young ages of 10 to 13. Similarly, exploration of the data related to family risk factors demonstrated that while all groups fell into problem areas for each of the measures, there were no significant differences among the E/BD, LD, and NONDISABLED groups. Generally, subjects in each group experienced low levels of parental supervision, low levels of family attachment, and were subjected to inconsistent, permissive, or harsh discipline styles.

A final analysis determined that the three groups (i.e., juvenile offenders with E/BD, juvenile offenders with LD, and NONDISABLED juvenile offenders) could be differentiated on school risk factors. While significant differences were present, subject
classification outcomes indicated that group membership was only 46% predictable. This fails to reach the 50% correct classification that is expected by chance. This discrepancy notwithstanding, the three groups did differ significantly on two of the school risk factors (i.e., mathematics and reading achievement). Juvenile offenders with E/BD and NONDISABLED juvenile offenders performed in the average to above average range on both mathematics and reading achievement tests. The LD group, however, performed in the below average range with 80% of the LD group functioning two to ten years below grade level. Scores on the questionnaire, which reflected attitude towards and involvement in school, indicated limited involvement in school activities for all three groups. Altogether, there was not sufficient variance among groups on individual, family, or school risk factors to permit accurate classification of subjects.

Implications

The finding that juvenile offenders with E/BD, juvenile offenders with LD, and their NONDISABLED peers can be differentiated based on measures of reading and mathematics achievement may have practical implications for academic program delivery. A focus on programs effective in remediating academic deficiencies for juvenile offenders with LD appears to be warranted. Importance of adequate special education services within juvenile facilities may need to be emphasized. Services requiring emphasis may include (a) functional assessment, (b) functional curricula, (c) vocational training opportunities, (d) transition services that effectively link the correctional education program to the individual’s prior and post educational programs, (e) comprehensive delivery of related services, and (f) staff training in effective special
education practices. Further, well-implemented, school-based programs, which consistently demonstrate positive effects on protective factors for delinquency, may need to be implemented to ameliorate risks associated with learning disabilities.

Although this study yielded significant differences on reading and math achievement scores, the analyses demonstrated that juvenile offenders with E/BD, juvenile offenders with LD, and their NONDISABLED peers are experiencing, in equal magnitude, comparable risk factors for delinquency. Results of this study strengthen the validity of the Fitzsimons-Lovett (1997) study. The results further imply that preventive intervention strategies that seek to reduce identified risk factors and enhance protective factors for the general delinquent population, may have equal significance for juvenile offenders with E/BD and juvenile offenders with LD. Several interventions, which consistently demonstrate positive effects, include (a) cooperative learning, (b) tutoring, (c) computer-assisted instruction, (d) diagnostic and prescriptive pullout programs, (e) nongraded elementary schools, (f) classroom behavior management techniques, (g) parent training, (h) marital and family therapy, and (i) youth employment and vocational training programs with an intensive educational component. It is premature to advocate the development of prevention and intervention programs targeting high-risk groups with E/BD and LD in view of insufficient data to support the validity of unique risk factors associated with E/BD and LD subtypes.

Recommendations for Future Research

The discrepancy in findings on isolated risk factors as reported in the comparison of the Fitzsimons-Lovett (1997) study with this replication, seems to justify further
investigation of the magnitude of exposure to specific risk factors with E/BD and LD subpopulations. Additional areas of examination may include the following:

1. Cross-sectional studies conducted in alternative settings (e.g., school, mental health facilities).

2. Exploration of the demographic artifact indicating large numbers of juvenile offenders with E/BD incarcerated for sexual offenses.

3. Exploration of the demographic artifact indicating large numbers of juvenile offenders with LD incarcerated for status offenses.

In view of the findings and mindful of the limitations of this study, continued investigation focusing on risk factors associated with specific subpopulations may be indicated. Efforts that specify how environmental features interact with individual-level processes to generate delinquent behavior may lead to refined program design targeting the most potent theoretical variables.
APPENDIX A

CONSENT LETTERS
November 24, 1997

Leslie Brinkman George, M.A.
Jacksonville Independent School District
Compass Center
P.O. Box 631
Jacksonville, TX 75766
(903) 589-3926

Dear Ms. George,

I am pleased to inform you that after careful review of your research proposal, TYC approves your research proposal to compare emotionally/behaviorally disordered, learning disabled, and nondisabled offenders at Gainesville State School. This approval is contingent on the following conditions being met: 1) that all research methods and procedures be conducted as described in the proposal submitted to TYC, 2) that the attached Research Confidentiality Agreement be signed and returned to TYC Central Office before the project begins, 3) that informed consent forms be signed by all youth to be included in the study (copies of all consent forms must be sent to TYC Central Office), and 4) that following the completion of the study, TYC receive a copy of the completed study and a list of recommendations based upon the results of the study.

Additionally, as we have previously discussed, it is our understanding that you will be working closely with Dr. Ann Lovett, Assistant Principal of Gainesville State School.

Please contact Ted Shorten, the Assistant Superintendent at Gainesville, to work out the logistics of implementation.

We look forward to the results of this study and believe that they will provide useful information for the development of programs to treat youth with emotional and learning disabilities.

Sincerely,

Charles R. Jeffords, Ph.D.
Director of Research

cc: Ted Shorten, Assistant Superintendent, Gainesville State School
March 6, 1998

Ms. Leslie Brinkman George
19095 Greenleaf Dr.
Flint, TX 75762

Re: Human Subjects Application No. 98-032

Dear Ms. George:

As permitted by federal law and regulations governing the use of human subjects in research projects (45 CFR 46), I have conducted an expedited review of your proposed project titled "Relevance of Risk Factors for Delinquency Among Subtypes of Adolescent Male Juvenile Offenders: Significance For Youth with Emotional/Behavioral Disorders or Learning Disabilities." The risks inherent in this research are minimal, and the potential benefits to the subjects outweigh those risks. The submitted protocol and informed consent form are hereby approved for the use of human subjects on this project.

The UNT IRB must re-review this project prior to any modifications you make in the approved project. Please contact me if you wish to make such changes or need additional information.

If you have questions, please contact me.

Sincerely,

Walter C. Zacharias, Jr., Ed.D.
Chair, Institutional Review Board

cc: IRB Members
APPENDIX B

RESEARCH CONFIDENTIALITY AGREEMENT
RESEARCH CONFIDENTIALITY AGREEMENT

This agreement is made by and between the Texas Youth Commission (TYC) and Leslie George, hereinafter called Research Consultant.

Research Consultant has undertaken research related to the work of TYC. This research project is briefly described below. TYC finds that such research is of benefit to TYC and will be in furtherance of the duty assigned to TYC in Section 61.031, Human Resources Code, "to carry on a continuing study of the problem of juvenile delinquency in this state...". Research Consultant will be considered a professional consultant of TYC for the purposes of carrying on the described research and for compliance with Section 58.005, Texas Family Code.

TYC agrees to release to Research Consultant the names and other identifying information regarding wards of TYC for purposes of the described research.

Research Consultant agrees to maintain the confidentiality of all records and information that might identify a child as a ward of TYC.

Research Consultant agrees that no publication shall contain the name or other identifying information or photograph of any child who is a ward of TYC.

Research Consultant agrees to provide TYC with a copy of the final research document, and to make recommendations for TYC based on the results of the study.

Description of research project: Comparison of Emotionally/Behaviorally Disordered, Learning Disabled and Nondisabled Offenders

This agreement is entered into this 24th day of November, 1997.

RESEARCH CONSULTANT: ____________________________

By ____________________________

Director of Research

TEXAS YOUTH COMMISSION

By ____________________________

Director of Research

(Title)
APPENDIX C

YOUTH CONSENT FORM
Use of Human Subjects
Informed Consent

I, ____________________________, agree to participate in a study of risk factors for juvenile delinquency. Risk factors include information concerning school, family, and individual experiences and information. The outcomes of this study will allow educators and other service personnel to develop appropriate prevention programs for youth at-risk for juvenile delinquency.

Strict confidentiality will be adhered to during the study. All documentation will be coded and my name will never be attached to the data collected. The assistant principal at my present school will keep a master list of names and related codes. The investigator will never see the list.

As a participant, I agree to complete one questionnaire which will be administered by the principal investigator of the study. I understand that my answer sheet will be coded and that the investigator will not attach my name to the document. Moreover, at the conclusion of the study the master list kept by the assistant principal will be destroyed. Additionally, I agree that the investigator may pull relevant information from my file concerning basic demographic measures, individual factors, and achievement factors.

I understand that the information gathered will not impact my placement or produce negative consequences. I further understand that there is no personal risk or discomfort directly involved with this research and that I am free to withdraw my consent and discontinue participation in this study at any time. A decision to withdraw from the study will not affect the services available to me in my current placement, nor will it negatively impact my standing.

If I have any questions or problems that arise in connection with my participation in this study, I should contact Mrs. Brinkman George, the principal investigator, (903) 589-3926.

(Signature of Participant) (Date)

(Signature of Investigator) (Date)

(Signature of Witness) (Date)

THIS PROJECT HAS BEEN REVIEWED BY UNIVERSITY OF NORTH TEXAS COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS (Phone: 940-565-3940)
**RISK FACTORS FOR DELINQUENCY YOUTH QUESTIONNAIRE**

Questions #1-11 are trying to find out what kind of school experience you had before coming to this facility. Please answer these questions about the last school you attended before coming here. Read the statements, if you strongly agree with the statement, circle number 5, if you agree with the statement, circle number 4, if you don't agree or disagree with the statement, circle number 3, if you disagree with the statement, circle number 2, if you strongly disagree with the statement, circle number 1.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither Agree nor Disagree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I often feel like nobody at school cares about me.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2. Teachers don't ask me to work on special classroom projects.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3. Even though there are lots of students around, I often feel lonely at school.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4. Teachers don't call on me in class even when I raise my hands.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>5. I don't feel as if I really belong in school.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>6. Homework is a waste of time.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7. I try hard in school.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>8. In general, I like school.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>9. I don't care what teachers think of me.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10. Grades are very important to me.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>11. I usually finish my homework.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Questions #12-27 have to do with the kinds of things you may or may not have done with your family before coming to this facility. Parent means mother figure and/or father figure - whomever you lived with and were responsible to during the year before you were placed in this facility.

<table>
<thead>
<tr>
<th>Question</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. How often do your parents talk with you about what you actually did during the day?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>13. How often do your parents talk with you about how things are going in school?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>14. Do you leave a note for your parents or call them about where you are going if they are not at home?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>15. Do your parents know who you are with when you are away from home?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>16. Do you know how to get in touch with your parents if they are not at home?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Question</td>
<td>Often</td>
<td>Sometimes</td>
<td>Never</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-------</td>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>17. Do your parents find time to listen to you when you want to talk to them?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>18. If your parents had planned some kind of punishment for you, how often can you talk them out of it?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>19. How often do your parents punish you for something and at other times not punish you for the same thing?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>20. If you do something that you are not allowed to do or that your parents don't like, how often do your parents...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Take away a privilege of your pocket money?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>b. Send you out of the room?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>c. Yell at you or scold you?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>d. Calmly discuss what happened?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>e. Ignore it or not pay attention to it?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>f. Slap or spank you, or hit you with something?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>g. Tell you to get out or lock you out of the house for a while?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>h. Ground you?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>i. Send you to your room?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Agree</th>
<th>Neither Agree nor Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. I enjoy talking over my plans with my parent.</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>22. I can talk to my parents about anything.</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>23. My parents don't try to understand my problems.</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>24. My parents make me feel trusted.</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>25. My parents are always picking on me.</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>26. I depend upon my parents for advice and guidance.</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>27. My parents praise me when I do something well.</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX E

DATA COLLECTION SHEET
<table>
<thead>
<tr>
<th>DATA COLLECTION FORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Student Code Identification Number</td>
</tr>
<tr>
<td>2. Student Date of Birth</td>
</tr>
<tr>
<td>3. Zip Code of Student's Last Address</td>
</tr>
<tr>
<td>4. Student's Age at First Arrest</td>
</tr>
<tr>
<td>5. Ethnicity</td>
</tr>
<tr>
<td>African-American</td>
</tr>
<tr>
<td>Asian</td>
</tr>
<tr>
<td>Caucasian</td>
</tr>
<tr>
<td>Hispanic</td>
</tr>
<tr>
<td>Native-American</td>
</tr>
<tr>
<td>Other (Specify)</td>
</tr>
<tr>
<td>6. Offense for Which Currently Incarcerated</td>
</tr>
<tr>
<td>Person-to-Person (Specify)</td>
</tr>
<tr>
<td>Property (Specify)</td>
</tr>
<tr>
<td>Status (Specify)</td>
</tr>
<tr>
<td>Other (Specify)</td>
</tr>
<tr>
<td>7. History of Abuse Neglect</td>
</tr>
<tr>
<td>Physical Abuse</td>
</tr>
<tr>
<td>Sexual Abuse</td>
</tr>
<tr>
<td>Physical and sexual abuse</td>
</tr>
<tr>
<td>Neglect</td>
</tr>
<tr>
<td>Other (Specify)</td>
</tr>
<tr>
<td>8. History of Substance Abuse</td>
</tr>
<tr>
<td>Tobacco</td>
</tr>
<tr>
<td>Alcohol</td>
</tr>
<tr>
<td>Other drugs (Specify)</td>
</tr>
<tr>
<td>Tobacco &amp; Alcohol</td>
</tr>
<tr>
<td>Tobacco, Alcohol &amp; other drugs</td>
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<tr>
<td>Alcohol &amp; other drugs (Specify)</td>
</tr>
<tr>
<td>9. Family Structure</td>
</tr>
<tr>
<td>Living with both parents</td>
</tr>
<tr>
<td>Living with mother only</td>
</tr>
<tr>
<td>Living with father only</td>
</tr>
<tr>
<td>Living with mother and stepfather</td>
</tr>
<tr>
<td>Living with father and stepmother</td>
</tr>
<tr>
<td>Living with relatives</td>
</tr>
<tr>
<td>Living alone</td>
</tr>
<tr>
<td>Other (Specify)</td>
</tr>
<tr>
<td>10. Achievement Scores</td>
</tr>
<tr>
<td>Reading</td>
</tr>
<tr>
<td>Math</td>
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<tr>
<td>Total Achievement</td>
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<tr>
<td>11. Questionnaire Scores</td>
</tr>
<tr>
<td>School attachment and involvement</td>
</tr>
<tr>
<td>Attachment to family</td>
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<tr>
<td>Family discipline</td>
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<tr>
<td>Family supervision and monitoring</td>
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<tr>
<td>12. Behavior Dimensions Rating Scale</td>
</tr>
<tr>
<td>Aggression Acting-Out</td>
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<tr>
<td>Social Withdrawal</td>
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<tr>
<td>Immaturity/Irresponsibility</td>
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<tr>
<td>Fearful/Anxious</td>
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<tr>
<td>Total Scale Score</td>
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