

The author(s) shown below used Federal funds provided by the U.S. Department of Justice and prepared the following final report:

Document Title: Developmental Sequences of Girls Delinquent Behavior

Author(s): David Huizinga, Shari Miller, and the Conduct Problems Prevention Research Group

Document No.: 242663

Date Received: June 2013

Award Number: 2004–JF–FX–K001

This report has not been published by the U.S. Department of Justice. To provide better customer service, NCJRS has made this Federally-funded grant report available electronically.

Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Developmental Sequences of Girls Delinquent Behavior

David Huizinga
Institute of Behavioral Science
University of Colorado

Shari Miller
RTI International

and the Conduct Problems Prevention Research Group

Conduct Problems Prevention Research Group: Karen L. Bierman, Pennsylvania State University; John Coie, Duke University; Kenneth A. Dodge, Ph.D., Duke University Mark T. Greenberg, Pennsylvania State University; John E. Lochman, University of Alabama; Robert J. McMahon University of Washington; Ellen E. Pinderhughes, Tufts University

Report submitted to the OJJDP Girls Study Group

August, 2009

The opinions or points of view described in this report are those of the authors and do not necessarily represent the official position or policies of the Office of Juvenile Justice and Delinquency.

| | Page |
|---|------|
| I. INTRODUCTION | 1 |
| II. BACKGROUND AND CURRENT KNOWLEDGE | 3 |
| III. METHODOLOGICAL AND ANALYTIC APPROACH USED IN THIS REPORT..... | 10 |
| A. Study Descriptions | 10 |
| B. Description of Measures | 11 |
| IV. RESULTS..... | 14 |
| A. Epidemiology | 14 |
| 1. Ever Prevalence | 14 |
| 2. Prevalence of Kinds of Delinquency by Grade/Age | 16 |
| 3. Offender Frequencies by Grade/Age..... | 19 |
| B. Developmental Findings | 22 |
| 1. Some Intitial Findings | 22 |
| a. Girls Very First Offenses | 22 |
| b. Temporal Patterns of Delinquency | 24 |
| c. Delinquent Careers..... | 29 |
| 2. Developmental Sequences | 32 |
| a. Introduction..... | 32 |
| b. Fast Track | 34 |
| c. Denver Youth Survey | 37 |
| d. Fast Track and Denver Youth Survey Similarities..... | 44 |
| V. SUMMARY AND CONCLUSIONS | 45 |
| APPENDIX | 58 |

INTRODUCTION

This report about developmental sequences of girls' delinquent behavior results from an initial request from the OJJDP Girls Study Group (GSG) to examine the temporal ordering and patterning of girls' delinquent behavior across the child through adolescent age period. Several stipulations were part of this request. First, the report would focus exclusively on girls and not consider gender differences. Second, the report should be descriptive in nature and not attempt to examine causes and correlates of discovered patterns of delinquency, as these issues were being covered in separate reports of the GSG. Third, the examination would focus on combinations of specific offense types across different developmental periods and go beyond existing considerations of developmental pathways that considered composite scores of general delinquency or violent and non-violent offenses. In addition, GSG requested that runaway and alcohol and drug use offenses be kept separate and not grouped with other delinquent behaviors.

To address the issues raised by the GSG, researchers from two long-term longitudinal studies of delinquency with samples of girls, the Denver Youth Survey and the Fast Track Project, agreed to collaborate in creating common delinquency measures, conducting analyses, and integrating findings about the temporal ordering and patterning of girls' delinquent behavior. The use of these two independent studies provides the advantage that results can be replicated across samples, so that there is some greater assurance that the findings are likely to generalize to other settings. The availability of the Fast Track data is especially noteworthy in this regard, since it includes data from several sites across the country. The major results of this collaborative effort are described in this report.

By describing girls' delinquency across childhood and adolescence and delineating temporal ordering and patterning of these behaviors, this report has important implications that may inform practice and policy. Issues to be addressed include:

- The prevalence of specific delinquency types at different ages to gain a descriptive understanding of these behaviors among girls;
- The age of onset of different kinds of delinquent behavior, that provides information about when to target interventions;

- The stability and instability of delinquent behavior patterns across longer periods of time that may indicate which patterns are important indicators of the need for intervention;
- Patterns of behavior that lead to more serious/lengthy involvement and provide indicators for concern and intervention; and
- Patterns that may be of shorter duration and self-limiting and thus less likely to require intervention.

The next section delineates what is currently known and described in the literature about developmental patterns of girls' delinquency to provide a background for the current report. This section is followed by a description of the two studies that provided the information used in this report and the methodological and analytical approach used to identify over time changes in patterns of delinquent behavior. Results of the analyses are then described, including basic epidemiology and constellations of delinquent behavior that occur at various ages, followed in turn, by developmental patterns over time. A final section of the report provides general conclusions and consideration of the significance of the findings.

BACKGROUND AND CURRENT KNOWLEDGE

Although less than work on boys, work in four areas does outline pathways of girls' delinquency. The first area, typically focused on high-risk samples, discusses girls' runaway behavior in response to abuse at home, and how running away may then lead girls' into delinquent activity. A second area of work, usually focused on community samples, involves identification of major life course age periods and considers sequences of involvement in girls' delinquent behavior across these age periods. A third area of work, also involves consideration of involvement over age periods, but emphasizes differences in individual experience within age groups as well as across age groups. Person-oriented typological approaches that provide a developmental perspective through longitudinal typologies, stage-state analyses, or latent class transitions provide examples. A fourth area is the use of mixture models or developmental trajectories to identify groups of individuals that have the same general developmental growth curve (trajectory) of a given variable, such as general delinquency. Although not new (e.g., Wolfe, 1965), there recently has been substantial statistical work in the development of and information provided by these trajectory analyses.

Runaway, Delinquency, and Arrest

The high rates of documented abuse among court-involved girls have led to the postulation that running away is a gendered pathway into delinquency, with girls often running away in response to this abuse, in particular, sexual abuse (Belknap, Holsinger, & Dunn, 1997; Chesney-Lind & Pasko, 2004). Girls may be arrested and charged with a status offense for running away. In addition, running away in and of itself increases the risk for further delinquent behavior (Hagan & McCarthy, 1997). Chesney-Lind (1997) discusses survival and coping strategies used by girls on the streets, including panhandling and shoplifting for money, food, and clothing. In addition, girls may get exchange sex as a survival strategy, leading to prostitution.

Studies on abuse and running away as a gendered pathway into delinquency for girls has been studied across multiple, and sometimes divergent, bodies of work across juvenile justice, runaway, and abuse samples. Studies of justice-involved samples do indeed show high rates of physical and sexual abuse and neglect among girls (Owen & Bloom, 1997) Rates vary across

studies, in part depending on definitions of abuse and how far the girls have penetrated into the system (e.g., probation, detention, out of home placement, incarceration). A widely cited report from the National Council on Crime and Delinquency study of 956 case files of girl offenders in four diverse California counties indicated that 56% of girls reported sexual abuse (Acoca & Dedel, 1998), with even higher rates of physical (81%) abuse and emotional (88%) abuse. A recent study of justice-involved girls in out-of-home placements showed even higher rates – fully 76% of girls reported sexual abuse and 88% reporting physical abuse (Smith, Leve, & Chamberlain, 2006).

Other studies have included both genders, making it possible to evaluate whether abuse is a gender-specific pathway for delinquent youth. In an early set of studies, Dembo and colleagues (1993; 1995) examined male-female differences in risk constellations among youth entering a juvenile assessment center. Across both investigations, sexual victimization was among the strongest variables that differentiated males and females. More recent results from 1829 detained youth in Cook County, Illinois show lower rates of sexual abuse among court-involved girls, with 29.6% of girls (and 2.4% of boys) reporting being forced to do something sexual. Results from this study are particularly noteworthy given its mixed-gender sample and random, stratified selection of youth. This study also took an in-depth view of trauma experiences, such as being threatened with a weapon, witnessing violence, and being attacked physically. Ninety-two percent of youth had experience some form of trauma, with higher rates for boys (93%) than girls (84%). Of the total, 11.2% met diagnostic criteria for PTSD, with no differences by gender.

A recent study from over 40,000 case records of justice-involved youth in Texas was able to make a number of important comparisons related to gender, running away, and abuse (Kempf-Leonard & Johansson, 2007). Among both genders, rates of physical and sexual abuse were higher for runaway than for non-runaway youth. Among runaway youth, rates of physical and sexual abuse were higher among females than males. At the same time, a history of abuse was similarly predictive of runaway status for both genders. Furthermore, the large majority of runaway youth did not have a history of physical or sexual abuse or neglect.

A related perspective comes from studies of runaway samples. Although difficult to ascertain exact numbers, the National Incidence Studies of Missing, Abducted, or Throwaway Children (NISMAART, 2002) estimate that roughly 1.7 million children run away each year. Girls and boys appear to run away at about equal rates, however, girls are more likely than boys

to seek help when they are on the run. Based on the NISMART, seven in 10 of all runaway youth experience some type of dangerous situation, with 1 in 5 (of the total number of runaways) having been physically or sexually abused in the previous year or being afraid of abuse upon return home. Equally telling from the NISMART are other risky circumstances that increase the risk for arrest, including substance dependence (19%), being in the company of someone known to be abusing drugs (18%), using hard drugs (17%), involvement in criminal activity while running away (11%), and spending time in a location where known criminal activity occurred (12%).

Studies of homeless/street youth, for example, from shelters or street locations, tend to show even higher rates of physical and sexual abuse (Whitbeck & Hoyt, 1999). Molnar and colleagues (1998), in their sample of homeless and runaway youth in Denver, New York, and San Francisco, found high rates of both sexual (girls: 70%; boys – 24%) and physical (35% both genders) abuse. Results from a multi-site study of homeless and runaway youth examined gender and arrest among homeless and runaway youth (Chapple, Johnson, & Whitbeck, 2004). Boys were more likely than girls to be arrested. In addition, 20% of arrests among the youth occurred prior to running away. Girls were more likely than boys to have a history of sexual abuse. However, child sexual abuse was similarly predictive of arrest status for both males and females. Also predictive of arrest status was parental monitoring and involvement with delinquent peers (Chapple, Johnson, & Whitbeck, 2004).

Also contributing to our understanding are studies of abused youth, which show strong links between histories of physical and sexual abuse and subsequent aggressive, delinquent, and criminal activity (see reviews by Trickett et. al., 2004 and Tyler, 2002). Unfortunately, many of these studies suffer from methodological weaknesses, including the lack of longitudinal data or control groups, making it difficult to ascertain whether the effects are due specifically to abuse status. One exception is an impressive set of longitudinal studies based on a sample of 676 substantiated cases of abuse or neglect and a matched control group. Participants with an abuse or neglect history were more likely to have been arrested as a juvenile than non-abused controls. However, sexual abuse was no more likely than physical abuse or neglect to lead to an arrest (Widom, 1992; 1995). One exception, however, was prostitution, where a history of sexual abuse (as compared to physical abuse or neglect) was more likely to lead to arrest.

One particular study from this sample looked at links between abuse, running away, and

arrest (Kaufman & Widom, 1999). Consistent with other work, victimization at home did increase the likelihood of running away. In addition, both abuse and running away increased the likelihood of being arrested. More importantly however, running away did *not* explain or account for the link between victimization and subsequent delinquency because running away increased the risk of delinquency for both abused and non-abused youth. Indeed, the association between running away and delinquency was *stronger* for non-abused youth.

This literature provides varying perspectives on the links between running away and delinquency among girls and suggests the need to take into consideration the sample under study in drawing conclusions. Taken as a whole, findings are inconsistent across these diverse lines of work, and it is difficult to reconcile the inconsistencies. The findings also underscore the importance of differentiating between gender differences in *base rates* of running away from whether there are gender differences in the *predictive power* of links between running away and delinquency. However, this work is derived from high-risk or justice-involved samples, and may be less useful in understanding links between running away and delinquency among more general community-based samples of girls.

Life Stage Models

A second body of literature that informs our understanding of girls' pathways of delinquency comes from studies of community-based samples. Initial efforts to understand pathways leading to delinquent behavior theorized two subtypes of youth, with each of these types having a distinct set of risk processes (Loeber, Farrington, & Petechuk, 2003; Moffitt, 1993; Patterson, DeBaryshe, & Ramsey, 1989). According to these theories, youth in the 'early starter' or 'life course persistent' type exhibit behavioral difficulties early in development, with their antisocial behavior peaking in adolescence and then persisting into young adulthood. Risk factors for this early starting group include inconsistent and harsh parenting and underlying neurological problems, such as attention problems and a difficult temperament (Wasserman et al. 2003). By comparison, the antisocial behavior of 'late starter' youth does not begin until adolescence, and was initially presumed to desist before or in young adulthood. The major risk process for this second subtype is involvement with delinquent peers and shifting norms that ascribe status to risk-taking activity as adolescents demonstrate maturity and autonomy from parents' demands. This early work commonly categorized youth based on a priori classification

(e.g., arrest and/or delinquent activity before or after age 14). These initial formulations were also based largely on samples of boys (e.g., Oregon Youth Study, Pittsburgh Youth Study). Data from the Dunedin sample (Moffitt et al., 2001) included both genders; however, early starting girls numbered only six; therefore statistical comparisons were not done. More recent longitudinal work following males into adulthood indicates the less than benign outcomes for those whose conduct problems do not begin until adolescence, including impulsive personality traits, mental-health problems, substance dependence, financial problems, and property offenses (Moffitt et al. 2002). Nevertheless, evidence has accumulated to support these dual pathways and for various social, family, child, and peer factors that are associated with each of these pathways (Aguilar et al., 2000; Dean, Brame, & Piquero, 1996; Kratzer & Hodgins, 1999; Patterson, Forgatch, Yoerger, & Stoolmiller, 1998).

Person-oriented State-sequential Typological Approaches

These approaches make a simplifying assumption that individuals can be placed in one of several types or states at different points in time or at different life stages. Following individuals that share a common movement pattern through the various states or roles across life stages gives rise to the identification of different life sequences and allows a determination of pathways for moving from early initial states through sequences of later states to eventual outcome states (Runyon, 1980). The distinction of this approach is that the identification of age specific states is often based on multiple variables and may include variables from multiple domains. Both numerical taxonomy methods and conceptual typologies have been used to identify the states existing at a particular age period and the over-time transitions between states displayed as transition matrices or as tree structures or path diagrams. A relatively recent example that includes girls is provided by Huizinga (1995). A conceptual taxonomy was used that included five kinds of children and youth based on their pattern of delinquency involvement – a non-delinquent/exploratory type, a status offender only type, a theft/property offender type, an aggressive offender type, and a type that involved both theft/property and aggressive offending. Examination of over-time sequences of these types or states provided several findings. First, for both genders, with increasing age there was a general increase in the proportion of youth who were delinquent and there was a jump in this prevalence rate between ages 13-14. Second, membership in any one of the types of the taxonomy was relatively unstable, with 50% or less of

a type retaining their classification in the next time period. However, it was found that involvement in multiple forms of delinquency was more stable and resulted in more enduring involvement. For girls, at all ages, the most likely transition was from a non-delinquent state to a status/public disorder state, and frequently from this state moving to a higher level of involvement in various kinds of delinquency. In an examination of factors affecting transitions to and from aggressive behavior states, it was found that for both girls and boys, involvement with delinquent peers and attitudes about delinquency (beliefs about how wrong delinquent behavior is) were “risk” factors. For girls, the only other significant variable associated with these transitions was family isolation, although there were several other “risk” factors for boys, suggesting differences in explanatory variables between the two genders.

Developmental Trajectories

More recent work has applied statistical techniques that allow different developmental trajectories, usually of a single behavior, to be identified empirically (Nagin & Tremblay, 1999; Muthen, 2004). This body of work began with all-male samples. For example, a study of Canadian boys ages 6 to 15 identified four trajectories of physical aggression: a chronically high problem group, a group that began at high levels then nearly desisted, a group that began at a moderate level and desisted, and a group that showed no problems across time. Boys following the chronic problem trajectory for physical aggression were at the greatest risk for physical violence and serious delinquency during adolescence (Nagin & Tremblay, 1999). Other studies of boys covering preschool to adolescence also identify multiple trajectories of aggressive behavior and show that boys on an early starting pathway being at highest risk for poorer outcomes (e.g., Schaeffer et al., 2003; Shaw, LaCourse, & Nagin, 2004; Petras et al., 2004).

A smaller number of studies have examined empirically derived trajectories of all-female or mixed-gender samples (e.g., Fergusson & Horwood, 2002; Schaefer et al., 2006). On the whole, these studies suggest not only that girls follow similar trajectories as do boys, but also provide evidence for a small group of girls with childhood onset antisocial behavior. A large analysis of data from six different sites examined the relation between developmental trajectories of childhood aggression and disruptive behavior and adolescent delinquency (Broidy, Nagin, Tremblay, et al., 2003). Four of the six sites included both genders, and of these, three identified a group of early-onset group of girls. However, prediction to adolescent delinquency was less

consistent for the girls as compared to the boys. Another study followed a large sample of girls from age 6 to age 12 (Cote et al., 2001). Four trajectories of disruptive behavior were found: low, medium, medium to high, and high, with most girls in the low disruptive group. Girls with early-onset disruptive behavior went on to have higher rates of conduct disorders in adolescence. A very recent and comprehensive study using data from the Dunedin sample examined female and male trajectories of antisocial behavior and outcomes through age 32 (Odgers et al., 2008). Girls and boys showed identical trajectory groups – life-course persistent, childhood-limited, adolescent-onset, and a low-trajectory group, with differences. Risk processes and outcomes were generally similar for both genders for the life-course persistent (LCP) and adolescent-onset (AO) groups, with the AO showing better but still problematic outcomes compared to the LCP groups. Overall, their findings suggest that existing developmental taxonomies are relevant to the understanding of developmental trajectories.

These models have been extremely useful in identifying subgroups and encapsulating longitudinal patterns of stable and enduring antisocial activity. However, these statistical techniques do not yet appear to be effective in capturing developmental patterns in multiple kinds of delinquent or antisocial behavior, when more detailed findings about behavior are of interest.

METHODOLOGICAL AND ANALYTIC APPROACH USED IN THIS REPORT

STUDY DESCRIPTION AND DESCRIPTION OF MEASURES

Study Descriptions

The Fast Track Project

Fast Track is a comprehensive 10-year multi-site intervention project designed to prevent conduct problems in three successive cohorts of children selected at being at high risk when entering first grade. The project took place at four sites: Durham, NC, Nashville, TN, Seattle, WA, and rural central PA.

The participants were selected from high-risk schools that were identified based on crime and poverty statistics. Within each site, the schools were divided into sets matched for demographics (size, percentage free or reduced lunch, ethnic composition), and the sets were randomly assigned to intervention and control conditions. The high-risk control and intervention children were selected based on a two-stage screening process. First, kindergarten teachers rated their students on the 10-item measure of disruptive and aggressive behaviors (Teacher Observation of Classroom Adaptation – Revised; TOCA-R; Werthamer-Larson, et al., 1991). Next, parents of those children who scored in the top 40% completed a 24-item scale of children’s aggressive and disruptive behaviors (items drawn from Child Behavior Checklist, Achenbach, 1991 and the Revised Problem Behavior Checklist, Quay & Peterson, 1987). A total score was then derived based on the average of the parent and the teacher ratings. Children were selected for inclusion into the study based on this screen score, moving from the highest score downward until desired sample sizes were reached within sites, cohorts, and conditions. Deviations were made when a child failed to matriculate in the first grade at a core school (n=59) or refused to participate (n=75), or to accommodate a rule that no child would be the only girl in an intervention group. In this manner, three successive cohorts were recruited in 1991, 1992, and 1993 to yield a sample of 891 children, and 445 of these children were randomly assigned to an intervention group and 446 to a control group). Children in the intervention condition received a multi-component prevention program (see Conduct Problems Prevention Research Group, 1992, 2000, 2007 for more detailed information). Home-based interviews were conducted with parents and children on an annual basis.

This report relies on data from girls in the control group and a normative sample that was selected from students in the control schools to be representative of the school sample at each site. Of the 317 girls in this study, 151 were from the control group, and 166 were from the normative sample (51% European American, 45% African American, 4% other). We report on data on the girls from grade 4 (when the delinquency measure was first available) through grade 11 (roughly ages 9-16).

Denver Youth Survey

The Denver Youth Survey (DYS) is a prospective longitudinal study of problem and successful behavior over the life course that focuses on delinquency, drug use, victimization, and mental health (Huizinga, Esbensen, and Weiher, 1991). The DYS employs an accelerated longitudinal design and is based on a probability sample of households in “high-risk” neighborhoods of Denver, Colorado. These neighborhoods were selected on the basis of their social ecology in terms of population and housing characteristics. Only socially disorganized neighborhoods with high official crime rates (top one-third) were included. The survey respondents include 1528 children and youth who were 7, 9, 11, 13, or 15 years old in 1987, and one of their parents, who lived in one of the more than 20,000 randomly selected households.

The sample is almost equally divided by gender (53.3% are male) and is ethnically diverse (10.4% White, 32.6% African American, 44.4% Hispanic, and 12.6% who report some other ethnicity or mixed ethnicity). The subjects were interviewed annually from 1988 until 1992, and annually from 1995 until 1999, with additional interviews in 2003 and 2005. Data were gathered by confidential, in-person interviews with youth and their primary caretaker beginning in 1988 (wave 1). All participating respondents, youth and parents, provided informed consent before being interviewed. All interviews were conducted in private settings, usually in the respondent’s home (although interviews are conducted in prisons or other settings when necessary). Most interviews are conducted in a face-to-face format, although for later waves, interviews with respondents who have moved some distance from the research site (nationally or internationally) are interviewed by telephone under strict privacy rules. Since the present research is concerned with child and adolescent delinquency among girls, most of the data used in this report were obtained from girls during the ages of 7 through 17 (n=807).

Description of Measures

An advantage of having information from two different studies is to be able to replicate analyses in each sample and compare similarities and differences in the findings. This advantage is strengthened by the use of highly similar measures of delinquency in these two independent studies. In both studies, self-report measures of delinquent behavior are obtained from both child and adolescent respondents, using similar or identical items.

It should be noted that the delinquency measures used in this report are prospective and come from multiple, usually annual, interviews with girls about their recent involvement in delinquent behavior over the preceding year. Although some individuals express concern about the validity of such self-report measures, the empirical evidence suggests that these measures, when carefully collected, are reasonably valid (see e.g., Huizinga, 1991; Huizinga and Elliott, 1986; and a recent review by Thornberry & Krohn, 2000). These measures are also not as prone to memory errors or memory restructuring that may occur in single interviews conducted at older ages and ask about earlier delinquent behavior over multiple years, a procedure that requires accurate long-term recall over several years. These measures are also different from official records of delinquency that record an official response to offenses committed by individuals whose behavior is observed or reported and who are apprehended and officially processed. Official records which depend on the actions taken by police and courts are thus separated from delinquent acts that are not observed or reported, or acted upon. The focus of this report is thus on the development of delinquent behavior, whether or not this behavior is observed, sanctioned, and recorded in official records.

Over the years, numerous versions of self-reported delinquency (SRD) measures have been developed based on the particular needs of the many studies that have relied on a self-reported measure of delinquency. As pertains specifically to this report, the two studies employed remarkably similar measures and measurement strategies. First, both studies included separate (but overlapping) measures during the childhood and adolescent periods. Second, the childhood measures were fairly similar across studies and the adolescent measures were near identical. After a detailed review of each set of measures, the items were grouped into summative measures of types of delinquency. These categories of delinquency are listed in Table 1 and further details about the categorization of individual items can be found in the Appendix.

As seen in Table 1, measures of runaway, other status offenses, public disorder, minor and serious property offenses, minor and serious assault, drug sales, alcohol use, and drug use are available. For the adolescent sample, all of the delinquency measures and the alcohol measure are quite similar or identical. Most of the measures for the child sample are also quite similar or identical. However, in some instances for the child samples a measure is only available in one study (for example, drug sales among child respondents) and the measure of minor theft for the child samples is substantially different.

Table 1
Denver Youth Survey and Fast Track Delinquency and Drug Use Measures

| MEASURE | CHILD DYS: Ages 7-10 FT: Grades 4- 6 | YOUTH DYS: Ages 11-17 FT: Grades 7 - 11 |
|--|---|---|
| 1. Runaway | Identical | Identical |
| 2. Other Status | Identical | Similar |
| 3. Public Disorder | DYS Only | Very similar/identical |
| 4. Minor Property | | |
| Property Damage | Similar | Very similar/identical |
| Minor Theft | Moderately Similar | Identical |
| 5. Serious Property | Moderately Similar (Not a good measure in DHS) | Identical |
| 6. Minor Assault (Filter for injury/hurt in DHS) | DYS Only | Identical |
| 7. Serious Assault | FT Only | Identical |
| 8. Drug Sales | FT Only | Identical |
| 9. Alcohol Use | Identical | Similar |
| 10. Marijuana and Other Drug Use | DYS Only (FT measures were based on 30-day use and therefore not comparable) | DYS Only |

RESULTS

Epidemiology

Before proceeding to a description of developmental patterns, it is useful to first describe some epidemiological findings that provide a background in which the developmental findings can be described. In this section, findings about the prevalence and mean frequency of offending among offenders are presented.

Ever-Prevalence

Figure 1 provides a graphical representation of the ever-prevalence of types of delinquency across the child and adolescent age periods in both the Fast Track (FT) and Denver Youth Survey (DYS) projects. Ever-prevalence refers to the proportion of girls who engaged in a particular delinquent behavior at some time during the period covered. For the Fast Track project, the data include information covering the academic grades 4 through 11 and data from the DYS cover a roughly comparable age period of 7 through 17. As can be seen in Figure 1, although there is some variation between the two studies, the ever-prevalence rates of the two studies are generally quite similar.

The offense types with the greatest ever-prevalence rates are truancy, minor property, and alcohol use, with over half of the girls reporting involvement in each of these offenses. Ever-prevalence of involvement in serious property and runaway are the next highest in both studies, although there is some study difference with FT girls reporting a 21% prevalence rate and the DYS girls reporting a 29-34% rate for these offenses. The DYS girls also report 30% involvement in minor assault (a measure not available in FT). Finally the girls in both studies report an ever-prevalence rate of 16-18% involvement in serious assault, and 6-7% in drug sales. Ever-prevalence rates for marijuana use and other drug use were found to be 43% and 14% in the DYS. The similarity between the two studies in the rank ordering and general level of ever-prevalence of different kinds of offenses measured in both studies, excluding alcohol use, is further illustrated in Table 2. As can be seen, the rank ordering and ever-prevalence rates are quite similar across projects, with truancy having the highest prevalence, followed by minor property and public disorder offenses, then serious property and runaway offenses, and these are followed by serious assault and finally drug sales.

These estimates of ever-prevalence clearly indicate that a large proportion of the girls included in these two studies are involved in delinquent behavior at some time over the child to adolescent age period. For example, in the DYS, 91% are involved in at least one of the offenses considered, 88% are involved in an offense other than alcohol, marijuana or drug use, and 87% are involved in offenses other than status offenses and alcohol, marijuana, and drug use.

Figure 1

Ever Prevalence of Types of Delinquency
FastTrack: Grades 4 -11
DYS: Ages 7-17

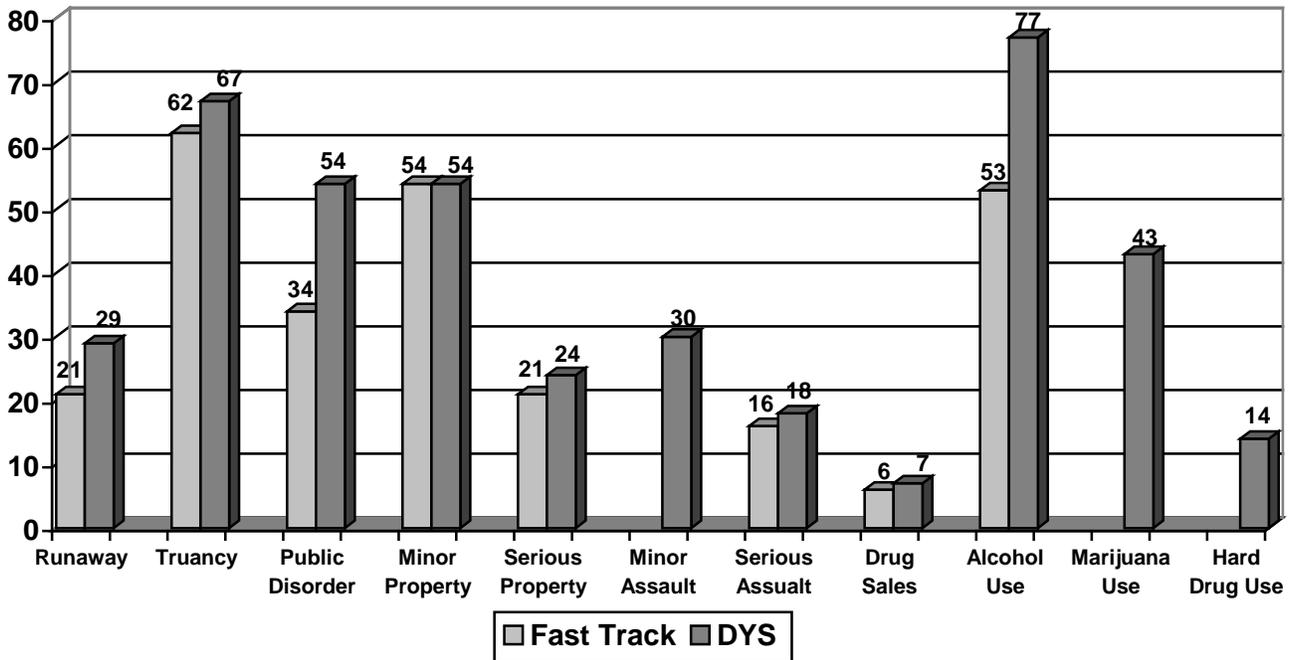


Table 2
Rank Ordering of Offenses by Ever-Prevalence Rates

| Rank | Fast Track | Rank | DYS |
|------|---------------------------------------|------|---|
| 1. | Truancy (62%) | 1. | Truancy (67%) |
| 2. | Minor Property (54%) | 2. | Minor Property (54%), Public Disorder (54%) |
| 3. | Public Disorder (34%) | 3. | Minor Assault (30%) |
| 4. | Serious Property (21%), Runaway (21%) | 4. | Serious Property (34%), Runaway (29%) |
| 5. | Serious Assault (16%) | 5. | Serious Assault (18%) |
| 6. | Drug Sales (6%) | 6. | Drug Sales (7%) |

Prevalence by Age/Grade

Given the high ever-prevalence rates, it is also useful to consider the ages at which these various offenses are committed. For this purpose, the prevalence of these offenses by academic grade for the Fast Track sample and by age for the DYS sample is listed in Table 3. As seen in Table 3, less than 5% of girls are involved in runaway for ages 7-12 and grades 4-7, and are under 10% for the Fast Track sample for grades 8-11 and 13% or less for ages 13-17 for the DYS sample. In both studies, truancy shows an increasing prevalence with increasing age, peaking at one-third of girls for the Fast Track sample at grade 10 and peaking at 45% of girls at ages 16-17 for the DYS sample. Similarly, public disorder offenses increase with increasing age, with a peak in both studies at about the same age period, grade 8 or age 13. Minor property offenses are generally over 15% for grades 4-10 (FT) and ages 9-16 (DYS) and both studies indicate substantial childhood involvement (grades 4-5, ages 7-10) in minor property offenses, usually of 10% or more. Thus, generally, ten percent or more of girls appear to be involved in minor theft at each age over the child to adolescent period. In contrast, few girls (usually less than 5%) appear to be involved in serious property offenses during childhood years, and less than 10% during each of the adolescent years.

Information about minor assault was only available in the Denver study, and as can be seen has a generally small but substantial prevalence during childhood (ages 7-10), increases to 10% at age 13, and decreases after that to prevalence rates of 6 or 7%. Serious assault also has a small prevalence of 3-5% in childhood (grades 4-5) in the Fast Track sample and never exceeds 4% for each of the grades 6-11. The DYS lacks data on serious assaults during childhood, but during adolescence shows a rise to a peak of 9% at age 14 and decreases thereafter to a low of 5% at age 17.

Drug sales have a low prevalence in the Fast Track sample, beginning in the fourth grade and generally being about 1% from the fourth through the eleventh grade but reaching 2% in the 10th grade. In the Denver sample, the prevalence of drug sales is somewhat higher, beginning at age 11 with 2% (drug sales for the child sample ages 7-10 were not asked) and rising to 9% at age 14 and then decreasing to 7% and then 5% over the ages of 15 to 17. Data from the DYS indicates early alcohol use (without parental permission) beginning at age 7 at 10% and generally rising steadily thru age 17 at 53%. Marijuana use begins to be reported at age 11 (2%) and also

generally rises through age 16 (26%) with a slight decrease at age 17 (24%). Similarly, other drug use begins at age 11 (2%) and steadily rises at a smaller pace to 7% at age 17.

In sum, during childhood (grades 4-5, ages 7-10) there is a small but substantial participation in minor property offenses at each grade/age, usually 15% or higher. Also, there is a smaller but still substantial participation in minor assault and public disorder offenses at these ages (usually 5-10%), and a lower participation rates in other offenses. Childhood alcohol use also has a roughly 5-10% prevalence rate at each age.

Excluding alcohol and marijuana use, during the adolescent period the rank order of prevalences are similar to the rank order of ever prevalence observed above. The prevalence of truancy, public disorder, and minor theft are higher than the prevalence of other offenses during the adolescent period (grades 6-11, ages 11-17), generally being or exceeding 20%. The prevalence of minor assault and runaway are generally 5-12% at each age, and the prevalence of serious property and serious assault are generally in the 2-9% at each age, depending on sample and age. The prevalence of alcohol use, marijuana use, and other drug use all increase with increasing age. For alcohol use, from 12% at age 11 to over 50% at age 17; for marijuana use from 2% at age 11 to 24% at age 17; and for other drug use from 2% at age 11 to 7% at age 17.

In addition to examining the prevalence of specific kinds of offenses, it is interesting to also consider the prevalence of involvement in a more general indicator of delinquent behavior. For this purpose, a general measure of delinquency was constructed. Because of the potential overriding influence of alcohol and drug use, especially with increasing age, this indicator of general delinquency excluded involvement in these behaviors. As can be seen in the last row of Table 3, there is a slow increasing trend in the prevalence of general delinquency with increasing age. The prevalence hovers around 25% over the 7 to 10 age period, then increases slightly during ages 11 and 12, and then increases substantially to 39% in the Fast Track study and to 42%, then 49 percent and then 57% in the DYS over the 13 to 15 age period, and remains at this level over the 16 to 17 age period. Thus, while at most ages, roughly 25% or more of girls are involved in some form of non-alcohol/drug use delinquency, during the later teen years, over half the girls are involved in some form of delinquency. Quite obviously, this represents a substantial involvement by girls in general delinquency.

Table 3
Prevalence of Kinds of Delinquency By Grade/Age

| Grade FT | | | | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | |
|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Age: DYS | | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Runaway | FT | | | 4% | 3% | 4% | 4% | 5% | 9% | 5% | 4% | |
| | DYS | 1% | 1% | 1% | 1% | 1% | 4% | 9% | 12% | 13% | 13% | 12% |
| Truancy | FT | | | 3% | 5% | 10% | 20% | 22% | 30% | 33% | 31% | |
| | DYS | 4% | 0% | 5% | 3% | 4% | 10% | 19% | 37% | 43% | 45% | 45% |
| Public Disorder | FT | | | 1% | 0+% | 1% | 20% | 22% | 19% | 18% | 14% | |
| | DYS | 8% | 4% | 9% | 7% | 13% | 15% | 26% | 25% | 23% | 25% | 27% |
| Minor Property | FT | | | 15% | 19% | 16% | 16% | 11% | 18% | 14% | 9% | |
| | DYS | 10% | 9% | 17% | 12% | 16% | 13% | 21% | 18% | 20% | 17% | 14% |
| Serious Property | FT | | | 2% | 4% | 2% | 6% | 5% | 9% | 5% | 4% | |
| | DYS | 1% | 1% | 5% | 3% | 4% | 5% | 7% | 7% | 8% | 5% | 5% |
| Minor Assault | FT | | | | | | | | | | | |
| | DYS | 6% | 6% | 12% | 5% | 2% | 5% | 9% | 10% | 9% | 6% | 7% |
| Serious Assault | FT | | | 5% | 3% | 1% | 3% | 2% | 4% | 2% | 0+% | |
| | DYS | | | | | 2% | 2% | 5% | 9% | 7% | 7% | 5% |
| Drug Sales | FT | | | 1% | 1% | 0% | 1% | 0+% | 2% | 2% | 1% | |
| | DYS | | | | | 2% | 2% | 5% | 9% | 7% | 7% | 5% |
| Alcohol Use | FT | | | 4% | 5% | 7% | 16% | 21% | 34% | 37% | 38% | |
| | DYS | 10% | 4% | 10% | 10% | 12% | 16% | 28% | 40% | 44% | 46% | 53% |
| Marijuana Use | FT | | | | | | | | | | | |
| | DYS | 0% | 0% | 0% | 0% | 2% | 4% | 12% | 18% | 21% | 26% | 24% |
| Hard Drug Use | FT | | | | | | | | | | | |
| | DYS | | | | | 2% | 2% | 3% | 3% | 6% | 6% | 7% |
| Total Non-drug Delinquency | FT | | | 20% | 23% | 24% | 32% | 31% | 39% | 39% | 39% | |
| | DYS | 22% | 15% | 30% | 23% | 27% | 27% | 42% | 49% | 57% | 57% | 57% |

Frequency of Offending Among Offenders (Blumstein's λ) by Age/Grade

Examination of the prevalence of various offenses across the child to adolescent period indicated substantial involvement by the proportion of girls who committed at least one such offense at a particular age/grade. However, this does not consider how many times in a year the active girls committed an offense. It could be once, twice, or ten or fifty. To examine the number of offenses committed, the average number of offenses committed by an active offender is often used and these figures are provided by grade/age in Table 4. For the purpose of calculating these estimates, extreme scores that exceeded the general range of scores of other active offenders were "capped" at 1.25 times the highest score of the general range, which (with the exception of alcohol and drug offenses) was generally equivalent at a fixed cap of 20 offenses for a low frequency offense and 50 offenses for a high frequency offense. The use of caps in this way provides a procedure to help insure that the mean frequencies are more representative of the frequency of offending of the "average" offender.

As indicated in Table 4, quite generally, with the exception of alcohol and drug related offenses, for most kinds of offenses active girl offenders commit (on average) less than 10 offenses of a particular kind of offense in a year, and for some offenses 5 times or less. The frequency of engaging in particular kinds of offenses also varies with increasing grade/age. And, although there is quite good correspondence of reported frequency of involvement across studies, there is also some relatively small differences between the two studies.

Among the kinds of offenses considered, truancy has the highest mean annual frequency of offending of all the types of offenses at the higher grades/older ages, being 2-4 times in childhood (grades 4-5/ages 7-10) and rising to 10-14 times during mid-adolescence.

For all offenses, children (grades 4-5/ages 7-10) who are engaged in one of the kinds of delinquency considered, report committing the offense, on average, 1-4 times in a year. During adolescence, those engaged in truancy report 2 times a year at grade 6/age 11, and the frequency of truancy increases to 10 times a year in the Fast Track study and 14 times a year in the Denver study. Although there are some exceptions, the frequency of engaging in public disorder offenses is generally 5-10; and in minor property is generally 3-5. The frequency among offenders engaged in serious property, minor assault, or serious assault is generally 2-5. Participation in drug sales does not begin until age 13, and there is a wide range of annual frequency running

from 2 to 16. The frequency of alcohol and marijuana use among users increases with age beginning at 2-3 times a year for 7-11 year olds and rising to 23-24 times a year for both alcohol and marijuana use. The average frequency of hard drug use among users also begins at 2 for 11 year olds and rises to 8-9 times a year at ages 16-17.

Among different kinds of offenses, these average offender frequencies suggest that girl offenders do not commit many offenses of a specific kind in a given year. Rather, the frequency of engaging in both minor and serious kinds of offenses is relatively small, further suggesting intermittent offending by many of the offenders. Even alcohol and marijuana use suggest use only every other week or less. These observations are also supported when the average total frequency of delinquency, excluding alcohol and drug use offenses, is examined. The offender frequency by age for this total measure is displayed in the last row of Table 4. As can be seen in the table, the mean frequency for this total measure of delinquency is 5 or less through age 11, and then slowly increases to 21-23 for ages 15-17. Thus, involvement in non-drug use delinquency appears, on average, to be less than once every two weeks, and is less than once a month for age 11 or younger.

Table 4
Mean Frequency of Offending Among Active Offenders
for Kinds of Delinquency By Grade/Age

| Grade FT | | | | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | |
|-----------------------------------|-----|----|----|----|----|----|----|----|----|----|----|----|
| Age: DYS | | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Runaway | FT | | | 1 | 2 | 2 | 2 | 6 | 2 | 2 | 2 | |
| | DYS | -- | -- | -- | -- | 1 | 3 | 3 | 3 | 3 | 2 | 2 |
| Truancy | FT | | | 4 | 6 | 2 | 5 | 7 | 10 | 9 | 7 | |
| | DYS | -- | -- | 3 | 2 | 2 | 9 | 9 | 11 | 13 | 14 | 11 |
| Public Disorder | FT | | | 4 | 1 | 1 | 8 | 10 | 8 | 12 | 8 | |
| | DYS | 4 | 2 | 3 | 2 | 3 | 3 | 6 | 8 | 10 | 8 | 9 |
| Minor Property | FT | | | 4 | 9 | 4 | 6 | 10 | 12 | 6 | 4 | |
| | DYS | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 4 | 4 |
| Serious Property | FT | | | 5 | 1 | 3 | 3 | 5 | 5 | 6 | 3 | |
| | DYS | -- | -- | 2 | 2 | 2 | 2 | 3 | 3 | 7 | 3 | 2 |
| Minor Assault | FT | | | | | | | | | | | |
| | DYS | 5 | 3 | 4 | 3 | 3 | 3 | 2 | 4 | 4 | 5 | 4 |
| Serious Assault | FT | | | 3 | 4 | 1 | 3 | 7 | 6 | 7 | 3 | |
| | DYS | | | | | 2 | 5 | 4 | 4 | 9 | 6 | 2 |
| Drug Sales | FT | | | -- | -- | -- | -- | -- | -- | -- | -- | |
| | DYS | | | | | -- | -- | -- | -- | 13 | 4 | 16 |
| Alcohol Use | FT | | | 3 | 3 | 5 | 2 | 5 | 7 | 7 | 7 | |
| | DYS | 3 | 3 | 3 | 3 | 3 | 5 | 7 | 11 | 15 | 18 | 23 |
| Marijuana Use | FT | | | | | | | | | | | |
| | DYS | 0 | 0 | 0 | 0 | 2 | 4 | 12 | 15 | 23 | 24 | 23 |
| Hard Drug Use | FT | | | | | | | | | | | |
| | DYS | | | | | 2 | 4 | 4 | 5 | 9 | 9 | 8 |
| Total Non-drug Delinquency | FT | | | 5 | 9 | 4 | 8 | 9 | 14 | 13 | 9 | |
| | DYS | 5 | 3 | 5 | 3 | 5 | 7 | 11 | 17 | 23 | 22 | 21 |

-- N's too small for reliable estimate or information not available for that grade/age.

Developmental Sequences

Some Initial Findings

Girls Very First Offenses

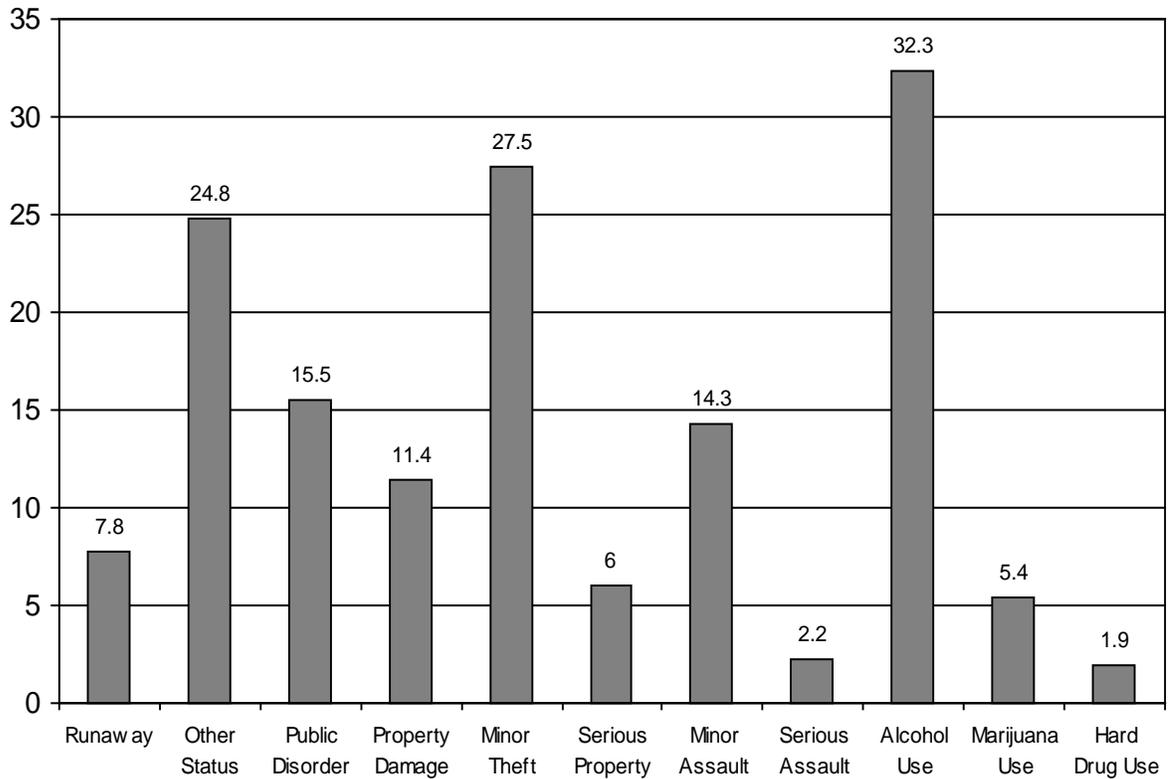
Given the offending patterns described above, one of the first questions that arise is – what kinds of offenses do girls commit first? Do they begin with status offenses or with minor thefts, or do they initiate offending with more serious kinds of offenses? To examine this question, the Denver Youth Survey data was used to examine which kinds of offenses were committed first.¹ Figure 2, displays the prevalence or percentage of girls whose delinquency began with a particular kind of offense. It should be noted that multiple offenses can be initiated in the same delinquent event or during the same time period (in this case the same year). As a result, the listed prevalence values give the percent of girls who reported that a given offense was the very first or among the set of offenses they committed in the very first year of any offending. Also, because multiple offenses can be initiated in the same event or year, the sum of the percentages may add up to more than 100%.

As can be seen in the figure, alcohol use is the most common first offense with approximately one-third (33%) of girls reporting that using alcohol use was their very first offense. Roughly one-fourth of girls report that minor theft (28%) or status offenses, other than runaway (25%), were their first offenses. About 15% indicated that public disorder offenses (usually disorderly conduct at this age) or that minor assaults were their first offenses. This is followed in turn by property damage (11%), and then runaway (8%), and marijuana use (5%), and finally serious assault and hard drug use at 2%.

As might be expected, these figures suggest that most girl offenders began offending with what may be considered less serious offenses – alcohol use, status offenses, and minor thefts, while other offenses such as runaway and more serious offenses such as serious property or serious assault are far less common as a first offense. These figures also suggest girls begin offending with a variety of different offenses and that there is not one particular kind of offense that describes the first offense of most or even a majority of girls. Note that there is not a specific offense type that is the first offense for even 50% of girls. Different girls simply begin offending with a variety of different offenses.

¹ The analyses reported here were conducted for an OJJDP Girls Study Group Conference before the collaboration between the Fast Track and Denver Youth Survey studies was fully established and thus were not replicated across projects. The data used also make use of the age of initiation reported by the older birth cohorts of the DYS.

Figure 2
Girls Very First Offenses (DYS)
Prevalence of offense being first or among the set of first offenses



In addition to examining which kinds of offenses comes first, it is also interesting to consider whether the very first offenses vary by the age at which girls begin offending. Information about this question is provided in Table 5. Listed in the Table are the population estimates of the percentage of girls whose first offense was of a particular kind and the age that this first offense occurred. (It should be carefully noted that this is not the general prevalence of girls committing a specific type of offense during a particular age period. Rather, it is just the percentage of girls who began offending at a particular age with a particular offense.) For example, 1.4% of all girls in the DYS began offending by running away during the ages 7-10; and 2.1% began offending by running away at ages 11-12, and so on. Some girls (1.4%) did not

begin any offending until ages 15-17 and began offending by running away. Similar figures for other kinds of offenses are provided in the table.

Several observations seem warranted based on the information provided in Table 5. First, there is not a specific age period when most girls begin offending. Rather, different girls initiate offending at different ages. Second, as observed earlier, not all girls begin delinquent involvement with the same kind of offense. All kinds of offenses are the first offense for some girls. Third, with the exception of drug sales, each offense type serves as the first offense for some girls and this first offense occurs for different girls at all of the different age periods. Finally, girls whose very first offense is drug sales didn't begin offending until the later teenage years.

Although some subset of girls initiated offending at each age period and with different offenses, it is interesting to note that the largest proportion of girls whose very first offense was a status offense (other than runaway) began their offending during ages 13-14. The largest proportion of girls whose very first offense was a minor theft or a minor assault began these offenses during childhood (ages 7-10), and, similarly, those who initiated offending with a public disorder, property damage, or alcohol use offense, most commonly also began offending with this offense in childhood. The last row of Table 5 lists the proportion of girls who initiated some kind of delinquency at each of the age periods. Most striking is the observation that almost half of girls initiate some form of delinquency in the childhood years of 7-10. While this does not imply that their involvement is serious or long lasting, nevertheless, it does indicate early initiation for a large percentage of girls.

Table 5
Girls – Very First Offenses
Total Sample Prevalence of Offense Being First or Among the Set of First Offenses – By Age Group

| Offense | Initiated in Childhood 7-10 | Initiated Age 11-12 | Initiated Age 13-14 | Initiated Age 15-17 | Initiated Age 18+ |
|---------------------------------------|-----------------------------------|------------------------|------------------------|------------------------|----------------------|
| 1. Runaway | 1.4 | 2.1 | 2.9 | 1.4 | 0.0 |
| 2. Other Status | 5.4 | 2.9 | 10.5 | 5.5 | 0.4 |
| 3. Public Disorder | 6.9 | 3.3 | 3.6 | 1.2 | 0.4 |
| 4. Property Damage | 8.5 | 1.4 | 1.2 | 0.3 | 0.0 |
| 5. Minor Theft | 18.4 | 4.0 | 4.2 | 0.8 | 0.0 |
| 6. Serious Property | 3.5 | 1.4 | 0.7 | 0.3 | 0.1 |
| 7. Minor Assault | 10.0 | 2.4 | 1.5 | 0.4 | 0.0 |
| 8. Serious Assault | 0.3 | 0.8 | 0.8 | 0.3 | 0.0 |
| 9. Drug Sales | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 |
| | | | | | |
| 10. Alcohol Use | 11.7 | 6.5 | 7.9 | 3.9 | 2.4 |
| 11. Marijuana Use | 0.3 | 1.4 | 2.4 | 1.2 | 0.1 |
| 12. Hard Drug Use | 0.7 | 0.4 | 0.4 | 0.4 | 0.0 |
| | | | | | |
| Initiated some kind of delinquency | 49.5 | 16.2 | 18.9 | 8.2 | 2.8 |

Temporal Patterns of Delinquency

Another view of girls' delinquency over time is provided by examining longitudinal patterns of involvement in delinquent behavior. For this purpose, a measure of non-drug use delinquency is used and patterns of involvement in delinquency over grades 4-11 in the Fast Track project and over comparable ages 8-17 in the DYS are examined. These patterns were grouped into four types of stability. The first type includes patterns that indicate continuing involvement in delinquency over several years, called "Persistent Patterns." The second type includes patterns in which girls stopped offending after some period of offending. In these patterns there was no delinquent involvement during at least the last two grades/years examined, and these types of offending patterns are labeled "Desistance Patterns." A third type includes patterns that are sporadic and indicate periods of active and non-active participation in delinquency and are called "Intermittent Patterns." Finally, the fourth type includes patterns for those girls who do not begin involvement in delinquency until late adolescence (the last period examined (grades 11&/12 or ages 16-17) and are called "Late Bloomers." As can be seen in Figure 3, there are similarities and differences in the prevalence of these patterns across the two studies.

The top portion of Figure 3 shows the different developmental patterns for any delinquent activity for the Fast Track girls. As can be seen, there were 15 distinct patterns across the four time points. The largest (46%) is the *persistent* type. Delinquent activity for these girls persisted once they became engaged in these behaviors. The age of onset, however, did vary over the age periods, with girls reporting first delinquent activity anywhere from middle childhood through adolescence.

The next largest group (23%) is the *intermittent* type. For these girls, their delinquent activity was sporadic and started and stopped at different ages. About 1 in 10 girls (12%) were *desisters*. Here, girls' delinquent activity stopped after a period of time. Note that within this type, some of the girls were delinquent for a short period then desisted, whereas other girls were delinquent over a longer period and then were no longer engaged in delinquent activity. The last type is the *late bloomers*. The delinquency of these girls did not begin until later in high school. Pending additional follow-up data, it remains unknown whether these girls persist into late adolescence and young adulthood, or desist from delinquency.

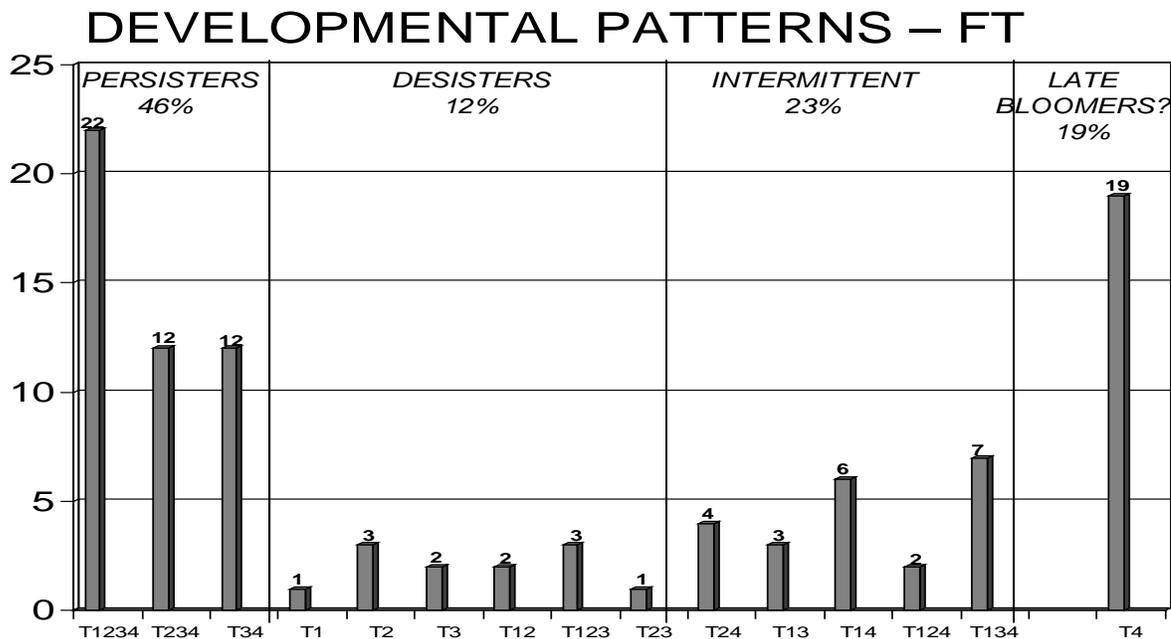
The bottom portion of Figure 3 displays the different developmental patterns of delinquent activity for girls in the Denver Youth Survey. There were 11 patterns across the four age periods examined. As in the Fast Track sample, the largest type is the persistent type accounting for 58% of the girl delinquents. The next most common type is the group of Late Bloomers, accounting for 18% of girl offenders, which are followed in turn by intermittent offenders and those who desist during the last age period examined, with each group accounting for 12% of offenders.

Thus, in both studies, the Persistent offender type that has continuing involvement in delinquency over contiguous age periods is the most common pattern, accounting for 46% of girls in FT and 58% of girls in the DYS. Since the time periods used in these analyses cover two years, this indicates that in both samples roughly one-half of the girls are involved in some kind of delinquency over at least a two-year period. In addition, in the Fast Track sample almost one-quarter of girls are active offenders across the entire age period examined, from late childhood through adolescence. Both samples also find a substantial proportion whose involvement is intermittent, including some who are active as children but then are not active again until grades 11-12 (6% in both samples), and in the Fast Track sample this Intermittent type accounts for almost one-quarter of girls. Both samples find as well that there are a substantial proportion of girls who are Late Bloomers (19% FT, 18% DYS) who do not engage in delinquency until grades 10-11 or ages 16-17. And, findings from both samples indicate that 12% of girls have desisted from delinquent by these older ages (although the possibility of offending later in life can, and given the finding about intermittent offending, should not be ruled out).

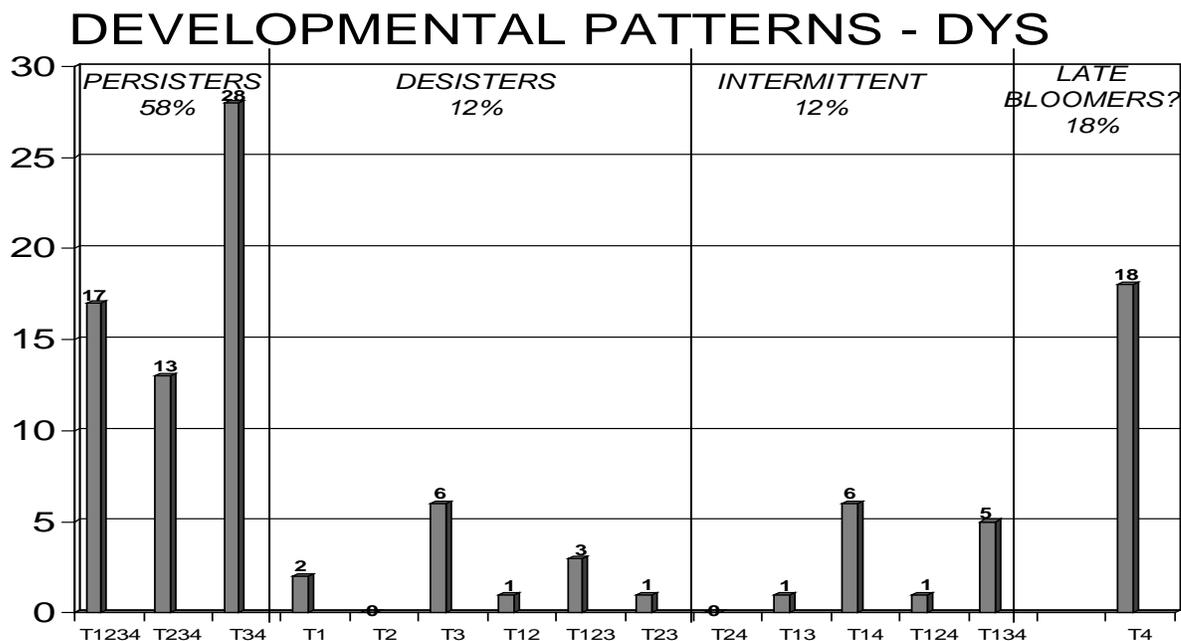
Further, as can be seen in Figure 3, in both studies, there is substantial variation in the age of first delinquent activity, with reports of first delinquent involvement being anywhere from middle childhood through adolescence, and in addition to the age of initiation, there are more than a dozen different temporal patterns over the time, indicating substantial variety in offending patterns over time.

Figure 3

Temporal Patterns of Delinquent Involvement



**T1: GRADE 4-5; T2: GRADE 6-7; T3: GRADE 8-9; T4: GRADE 10-11
 Note: data are collapsed across years; may obscure intermittent patterns



**T1: Ages:8-11; T2: Ages 12-13; T3: Ages 14-15; T4: Ages 16-17
 Note: data are collapsed across years; may obscure intermittent patterns

Careers

Another way to look at overtime involvement in delinquency is to examine the length of time girls are involved in delinquent behavior, from the age of initiation to the age of last known offense. That is, their career length. Using data from the DYS, the length of careers in minor and serious thefts, in minor and serious assaults, and the length of careers in any delinquency is summarized in Table 6. For the purpose here, a general delinquency scale that excludes status, alcohol use and drug use is used, so that the focus is on a more serious indicator of non-drug use delinquent behavior. Also, for the purpose of exposition, the age range has been divided into general age groups of childhood (ages 8-10), early adolescence (11-13) late adolescence (14-17) and early adulthood (ages 18+).

As can be seen in Table 6, of the 18% of girls who began their involvement in minor assault offenses during childhood, almost half (46%) of these girls terminated their involvement during childhood as well. Thus, for a large proportion of girls involved in minor assault, their involvement is “childhood limited.” However, the other half of girls who initiated minor assault offending in childhood, tend to have longer careers in minor assault, with 26% continuing into late adolescence and 19% into young adulthood. A somewhat similar pattern occurs for girls who first became involved in minor assault during early adolescence (ages 11-13). Over half (54%) of these girls limited their minor assault offenses to this age period. Substantial proportions of these early adolescent initiators continued into late adolescence (30%) and young adulthood (16%). Of those who initiated during late adolescence (ages 14-17), again about half (59%) limited their involvement in minor assault to this age period, while 41% continued into young adulthood. There is thus a set of general career patterns for minor assault. Regardless of the age of initiation, about one-half of those who begin offending in a given age period also end their involvement in the age period in which they initiated. However, substantial portions (roughly 50% or more) of these girls continue their offending into later age periods, with sizeable portions (roughly 20% or more) continuing into young adulthood.

The career patterns of girls involved in serious assault display a generally similar pattern. However, it should first be noted, that data to determine childhood initiation of serious assault is not available in the DYS for the younger cohorts, and the proportion of girls who initiated serious assault at these early ages in the older cohorts is only 1%, so that sufficient information to determine reliable career patterns for childhood initiators of serious assaults is not available.

Of those who initiate serious assault in early adolescence about half (44%) also end their involvement in this age period. For those who initiate in late adolescence, three-quarters (75%) end their involvement in this age period, while roughly one quarter of either age of initiation group continue their involvement into young adulthood.

Thus, for assault offenses, a large proportion of offenders limited their involvement to the general age period of initiation, while a large proportion also continued offending at older ages.

Career patterns of involvement in minor and serious property/theft offenses are generally similar to those of minor and serious assault, although the proportion of girls whose careers are limited to either childhood or to early adolescence is generally smaller for the theft and property offenses. As can be seen, of those who initiate during childhood, 24-32% limited their involvement to this period. Of those initiating during ages 11-13, 31-49% limited their involvement to this period, and 16-27% continued into young adulthood. On the other hand, of those initiating theft of property offenses during the 14-17 age period, Almost three-quarters (73%) limited their involvement to this age period and 27% continued offending into young adulthood.

Finally, considering involvement in a more general measure of delinquency, a somewhat different picture of careers arises. Only a few of those who initiate some kind of general delinquency during childhood or early adolescence limit their involvement to the age period of initiation (15-17%). Approximately 30-40% of these childhood and early adolescent initiators continue their involvement into late adolescence, and half or slightly less than half continue their involvement into young adulthood. Of those who initiate during the 14-17 age period, roughly half end their involvement in this period and roughly half continue into young adulthood. Thus, quite generally, regardless of the age of initiation, among those who initiate some kind of general delinquency (excluding status and drug use offenses) during the child through adolescent period, almost one-half continue their offending into young adulthood. There is thus substantial continuity of offending in some kind of delinquency over a significant portion of the life course.

Table 6
Estimated Length of “Career”

Age of Initiation by Age of Last Known Offense
Minor Assault

| | Age Of Last Known Offense | | | | % of Sample Initiating |
|-------------------|---------------------------|---------|---------|---------|------------------------|
| Age of Initiation | 7 – 10 | 11 – 13 | 14 – 17 | 18 – 22 | |
| 7 – 10 | 46% | 9% | 26% | 19% | 18% |
| 11 – 13 | | 54% | 30% | 16% | 11% |
| 14 - 17 | | | 59% | 41% | 10% |

Age of Initiation by Age of Last Known Offense
Serious Assault

| | Age Of Last Known Offense | | | | % of Sample Initiating |
|-------------------|---------------------------|---------|---------|---------|------------------------|
| Age of Initiation | 7 – 10 | 11 – 13 | 14 – 17 | 18 – 22 | |
| 7 – 10 | | 17% | 19% | 25% | 1% |
| 11 – 13 | | 44% | 31% | 25% | 5% |
| 14 - 17 | | | 75% | 25% | 13% |

Age of Initiation by Age of Last Known Offense
Minor Theft

| | Age Of Last Known Offense | | | | % of Sample Initiating |
|-------------------|---------------------------|---------|---------|---------|------------------------|
| Age of Initiation | 7 – 10 | 11 – 13 | 14 – 17 | 18 – 22 | |
| 7 – 10 | 24% | 16% | 40% | 19% | 25% |
| 11 – 13 | | 31% | 42% | 27% | 19% |
| 14 - 17 | | | 75% | 25% | 15% |

Age of Initiation by Age of Last Known Offense
Serious Property

| | Age Of Last Known Offense | | | | % of Sample Initiating |
|-------------------|---------------------------|---------|---------|---------|------------------------|
| Age of Initiation | 7 – 10 | 11 – 13 | 14 – 17 | 18 – 22 | |
| 7 – 10 | 32% | 20% | 28% | 21% | 6% |
| 11 – 13 | | 49% | 36% | 16% | 9% |
| 14 - 17 | | | 73% | 27% | 12% |

Age of Initiation by Age of Last Known Offense
Total Delinquency – Excluding Status and Alcohol & Drug Use Offenses

| | Age Of Last Known Offense | | | | % of Sample Initiating |
|-------------------|---------------------------|---------|---------|---------|------------------------|
| Age of Initiation | 7 – 10 | 11 – 13 | 14 – 17 | 18 – 22 | |
| 7 – 10 | 15% | 7% | 29% | 50% | 38% |
| 11 – 13 | | 17% | 40% | 43% | 21% |
| 14 - 17 | | | 54% | 46% | 14% |

Developmental Sequences in Girls Delinquency

Introduction

An original goal of the work related to this report was to identify developmental sequences or pathways in girls' delinquency. For this purpose, developmental sequences refer to over-time changes in the kinds of delinquent behavior in which girls are involved. For example, one group of girls who are not delinquent at one age period may become involved in minor theft at the next age period. Alternatively, another group of girls who are seriously violent at one age may return to a type characterized by status offending and public disorder offenses at the next age period.

In previous work, the use of both empirical typologies derived through cluster analysis and conceptual typologies based on *a priori* definitions for these purposes have been illustrated (e.g., Huizinga, Esbensen and Weiher, 1993; Huizinga, 1995). This use of a person-oriented typological approach to provide a developmental perspective is not particularly new (e.g., Rice and Mattson, 1966; Brennan and Huizinga, 1978; Huizinga 1979; Carter, Morris & Blashfield, 1980; Runyon, 1982) and an emphasis on the importance of this approach in providing an appropriate developmental perspective has been provided by Cairns (1986), Cairns, Cairns and Necherman (1989), Magnusson and Bergman (1990) and Bergman and Magnuson (1992). However, as Loeber et al. (1993) noted, there are only a few studies examining these kinds of developmental sequences of delinquency, and even fewer prospective studies examining this issue. And, there are very few with a specific focus on girls (however, see Huizinga, 1995). As a result, little is known about the pathways taken by girls in becoming involved in various kinds or patterns of delinquency.

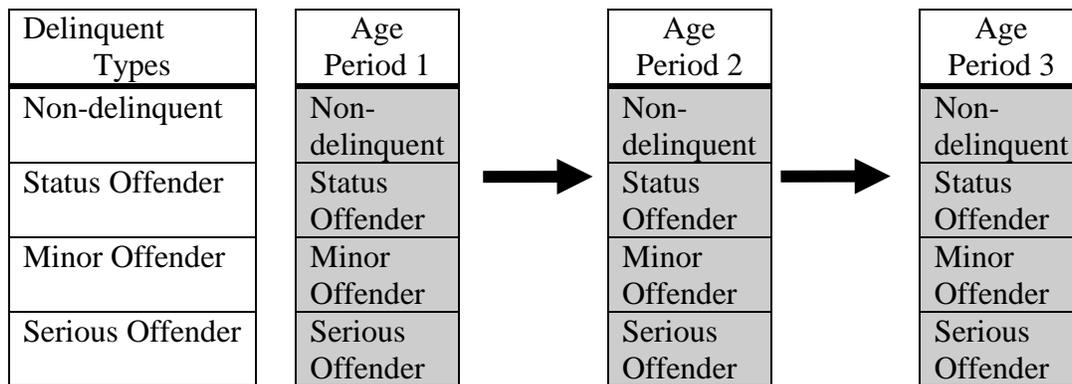
In this report, such a typological approach is used to provide an examination of developmental sequences in girls' delinquent behavior over the child to adolescent years. The focus is thus on the over time movement of girls who are engaged in various combinations of delinquent behavior at one age period to subsequent involvement in other combinations of delinquent behavior at older age periods. In this sense, a delinquent pathway represents a particular sequence of behaviors traversed by some group of girls that is different and can be distinguished from the sequences of behaviors followed by other groups of girls.

The use of such a typological approach clearly presumes that the over time sequences of involvement in delinquent behaviors are not the same for everyone, but on the other hand, that these personal sequences are not so unique that they prevent the identification of groups with similar developmental stages and transitions between stages. In addition, the developmental typological approach focuses on state-to-state or type-to-type changes over time, thus providing descriptions of evolving stages of behavior patterns.

For the purpose of this report, numerical taxonomy or cluster analytic methods were used at each of several age periods to identify "clusters" or types of persons who shared the same involvement in different kinds of delinquent behavior. Given a set of types at each age period, developmental or longitudinal sequences could then be identified by grouping those who share the same sequence of age specific types over time. The resulting developmental types can be considered a set of multivariate developmental profiles. Since a picture is worth many words, this process is diagrammed in Figure 4, although as will be seen, the world is more complex than this diagram suggests.

Figure 4

Illustration of Developmental Typology



As the first step in examining developmental sequences of delinquency, separate cluster analyses (K-means or Iterative Relocation method) were conducted to create groups of girls who had similar patterns of involvement in different kinds of delinquency at specific grade/age periods. This was followed by examination of the sequence of clusters or grade/age types over these grade/age periods. Because the findings from the Fast Track and the Denver Youth Survey

are somewhat different, the findings from each sample are first described separately and then the similarities and differences between the findings from the two samples are described.

Developmental Sequences in the Fast Track Sample

Patterns/clusters found at different grades

Separate cluster analyses were conducted at each of four time points on the group of girls who reported delinquency for at least one of the time points. As will be described below, the overall pattern was characterized by increasing differentiation in the cluster types over time. The proportion of girls reporting some delinquency increased over time, as did the overall level of delinquency. At the same time, at each of the time points, the largest cluster consisted of girls who reported either no or low levels of delinquency. This no/low group, however, did decrease in relative proportion over time. Nonetheless, given that girls who reported no delinquency at any of the time points were not included in these analyses, this suggests that girls are ‘moving in and out’ of delinquent activity over time. We will elaborate further on this point later in the report.

In the late elementary school years at grades 4 and 5, delinquent behavior among girls was fairly undifferentiated. Specific constellations of delinquent activity did emerge over time. At grade 6/7, three clusters of delinquent girls with different patterns of delinquent behavior were found – a low/non-problem group, a status offense and alcohol use group and a high versatile group. The proportion of girls in the low/non-problem group was 85%, with about 6 in 10 of these girls being non-delinquent. Those girls in this group who were delinquent reported involvement primarily in either truancy or minor property offending. The next largest group of girls (12%) was characterized by status offending and alcohol use. Specifically, all of the girls in this group reported some alcohol use; about 3 in 4 also reported engaging in status offenses, primarily truancy. The smallest and third cluster consisted of only 3% of the girls who were involved in the highest delinquency levels across a range of offending behaviors. Virtually all reported truancy. Also common were minor property offenses. Fully half of the girls also reported serious property offending and alcohol use, with a smaller proportion also reporting serious assaultive behaviors.

At the next age period (grades 8/9) three fairly similar delinquency clusters emerged. However, the proportion of girls who were in the low/non-problem group decreased from 85% to 78%. About half of the girls in this group reported some, low level type of delinquent activity, the most common being truancy and alcohol use. The next largest cluster consisted of 12% of the girls. These girls were involved in a wide range of delinquent activity. Most prominent were truancy and minor property offenses. Less common but still prevalent were running away and serious property offending. The smallest cluster included 1 in 10 girls. Most common among virtually all of the girls in this group was alcohol use, following by status offenses. Similar to grades 7/8, truancy was the most common status offense. However, unlike at the earlier time point, reports of running away, although less common than truancy, were also apparent. As noted, these clusters were fairly similar to what was evidenced at grades 6/7. However, the offending levels increased within the clusters, particularly from the 8th to the 9th grades.

At the final time point when girls were in grades 10/11, a more differentiated pattern was observed, with four clusters of girls displaying different patterns of delinquent behavior. Again, the largest cluster of girls (43%) was the non-problem/low group. Only about 1 in 3 girls in this cluster engaged in no delinquent activity. The remainder of the girls most commonly reported low levels of truancy, with a smaller number reporting minor property or disorderly conduct. The next largest group were those girls involved primarily in status offending and alcohol use (34%). Fully two-thirds of the girls in this group reported some type of status offense, most commonly truancy but also disorderly conduct (with very low reports of running away). In addition, all of the girls reported using alcohol. Note that the proportion of girls in a similar cluster increased from 10% at grade 8/9 to 34% at grades 10/11. The third cluster, 14% of girls, reported involvement in a wide array of offending behaviors, including status offenses (primary truancy), disorderly conduct, both minor and serious property offending, and alcohol use. At this final time point there was in addition a small group of girls (9%) with very high rates of status offenses, with virtually all the girls reporting truant behavior, with the remainder reporting either running away or disorderly conduct. Also reported among these girls were lower levels of minor property and alcohol use.

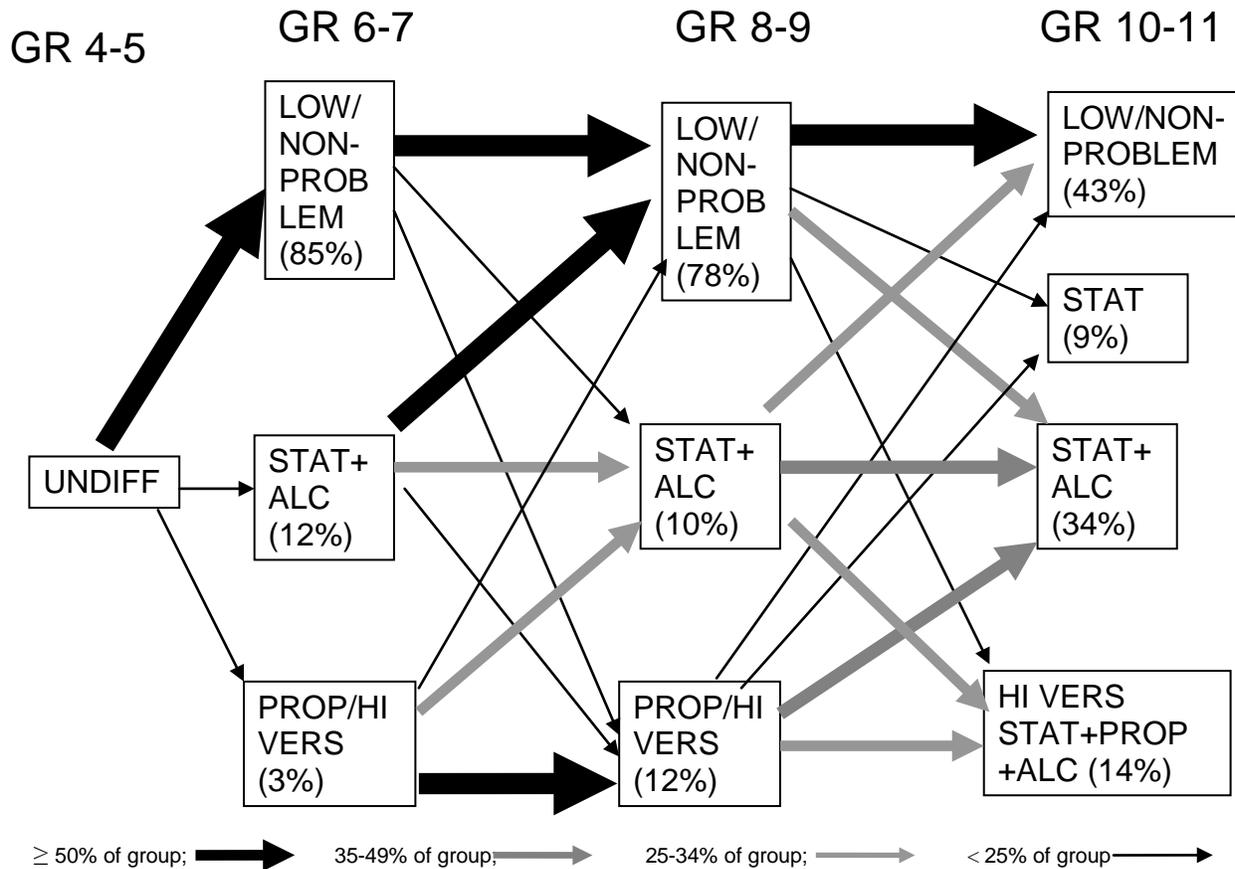
Developmental sequences: Transitions between delinquent types over time

Figure 5 portrays the transitions between the different cluster patterns over time. The wide dark arrows portray a transition between clusters where at least 50% of the girls in a given cluster at one time period moved to the indicated cluster at the next time period. Medium sized arrows indicate that 35-50% of girls showed a transitional pattern from a given cluster at one time period to the indicated cluster at the next time period. A narrow arrow indicates that 25-34% of the girls shifted between clusters over time. Finally, a line arrow indicates that a transition was apparent, but for less than 25% of the girls (i.e., less than 1 in 4 of the girls transitioned from one cluster to another cluster at the next time point).

Taken as a whole, this figure makes a number of interesting points about developmental pathways of girls' delinquency. The most obvious is the fairly large number of different transitions – although the number of girls on each pathway varies considerably, girls' delinquency followed more than 20 distinct paths. The second important point is the general trend over all points towards less serious delinquency (as evidenced by a majority of arrows going up and to the right). Even when girls do engage in more serious activity, this delinquency is relatively short-lived. An additional observation is the role of alcohol use in girls' delinquent behavior. With the exception of the first time point (grades 4-5), girls reported engaging in both status offending along with alcohol use. These findings emphasize the need for systematic assessment and treatment of substance use among delinquent youth (Grisso, 2004; Teplin et al., 2002). A final observation is that although the proportion of girls is small, there is a group involved in more versatile, serious delinquent behavior. This more serious offending includes a versatile array of activities, including status offenses and property offending and alcohol use.

Figure 5

Transitions Between Delinquency Patterns Over Time: Fast Track



Developmental Sequences in the Denver Youth Survey Sample

The findings about developmental sequences in the DYS are somewhat more complex than in the FT sample. This results in part because of the larger sample of girls, the extended age range of the DYS, and by the inclusion of alcohol and drug use at each age period. However, we suspect that these do not fully account for the differences, and that there is a greater variety of over time sequences in the DYS sample, especially in the sequences that include involvement in serious and violent offenses.

To reduce the complexity found in preliminary cluster analyses at each age period and in the over-time sequences, adjacent age groups of 8-9, 10-11, 12-13, 14-15, and 16-17 were combined to create five age periods covering the middle childhood through adolescent age

period. Also, for simplification, the measurement of delinquency was reduced to five types of delinquency: (1) Status and Public Disorder Offenses, (2) Property/Theft offenses, (3) Assault/Violent offenses, (4) Alcohol Use, and (5) Marijuana and Hard Drug Use. In addition, infrequent involvement (1 offense over the combined two year periods) in status/ public disorder, alcohol use, and minor offenses was considered very low-level minor offending akin to non-offending, and the respective scores were set to reflect a non-delinquent status. Property/theft and assault/violent offenses were coded so that a distinction between minor and serious offending could be identified in the cluster analyses.

Patterns/clusters found at different ages

Examination of the cluster analyses conducted at each of the five age periods revealed that although not all the types identified across the entire age period occurred at all ages, those types that were identified at any one age were replicated at other ages as well. Thus, one large typology consisting of several types could be used consistently across the full age period. These types are outlined in Table 7. In this table, a large X indicates that virtually all of the members of this cluster engaged in the listed behavior, and it is largely these variables that influenced the cluster analyses to group individuals with this pattern of delinquency. A small x indicates that although not all members of a cluster engaged this behavior, a substantial proportion did.

As can be seen, there is a range of types that cover different levels of seriousness of offending: (0) Non-delinquents; (1) A group of Status-Public Disorder offenders some of whom use alcohol (those who only use alcohol are also included in this group); (2) A group of Status-Public Disorder offenders who use alcohol and hard drugs; (3) A group of Property-Theft Offenders who are also often involved in status-public disorder offenses, some of whom also use alcohol as well); (4) A group of Minor Violent offenders whose delinquent behaviors are essentially limited to assault; (5) A group that is involved in Serious Violence and Status-Public Disorder Offenses (some of whom are also involved in property-theft and alcohol or drug offenses); (6) A group offenders called “Versatile Non-violent,” because members of this group are involved in all kinds of offenses with the exception of violent offenses; and finally, (7) a group of Versatile Violent Offenders who are involved in Serious Violent, Serious Property, Status-Public Disorder offenses and in alcohol and other drug use.

Table 8 indicates which of these delinquent types existed at different age periods, with an “X” indicating that a type existed during the indicated age period. As can be seen, the Non-Delinquent and the Status/Public Disorder/Alcohol Use types occur at all ages (although it should be noted that for the 8-9 year old group, the offense defining this group is only alcohol use). The Minor Violence Only type is limited to the earlier ages of 8-11 and the Status/Public Disorder/Alcohol Use and Drug Use type occurs only for the 16-17 age group. The Property/Theft group occurs at all ages, except for the 14-15 age group. The Serious Violence/Public Disorder type, the Versatile Non-violent type (that is involved in all kinds of offenses with the exception of violent offenses), and the Versatile Violent type (that is involved in the full spectrum of delinquent behaviors) all occur through out the 12-17 year old age range.

Table 7
Delinquent Patterns Used for all Age Groups
in the Denver Youth Survey

| Delinquent Pattern | Delinquency Measures | | | | | |
|--|-----------------------------------|------------------------|----------------|------------------|-------------|----------|
| | Abbreviated Title | Status-Public Disorder | Property/Theft | Violent Offenses | Alcohol Use | Drug Use |
| 0. Non-delinquent | Non-Delq. | O | O | O | O | O |
| 1. Status-Public Disorder & Alcohol Use & Alcohol Use Only | S-PD &/or Alc | X | O | O | X | O |
| 2. Status-Public Disorder & Alcohol Use & Hard Drug Use | S-PD & Alc & Drg | X | O | O | X | X |
| 3. Property-Theft (and some status/public disorder and some using alcohol and/or drugs) | Prop./Thft. (S-PD/Alc./Drg.) | x | X | O | x | x |
| 4. Minor Violence Only | Minor Viol. Only | O | O | X | O | O |
| 5. Serious Violence & Status-Public Disorder, (and some involved in property-theft, alcohol, and/or drugs) | Ser.Viol & S-PD (Prop./Alc./Drg.) | X | x | X | x | x |
| 6. Property-Theft Offenses (minor or serious) & Status-Public Disorder & Alcohol Use & Drug Use | Versatile Non-violent | X | X | O | X | X |
| 7. Serious Violent & Serious Property & Status-Public Disorder & Alcohol Use & Drug Use | Versatile Violent | X | X | X | X | X |

Table 8
Delinquent Patterns Occurring at Different Ages
in the Denver Youth Survey

| Delinquent Pattern | Age Group | | | | |
|---|-----------|----------|----------|----------|----------|
| | 8-9 | 10-11 | 12-13 | 14-15 | 16-17 |
| 0. Non-delinquent | X | X | X | X | X |
| 1. Status-Public Disorder & Alcohol Use & Alcohol Use Only | X | X | X | X | X |
| 2. Status-Public Disorder & Alcohol Use & Hard Drug Use | | | | | X |
| 3. Property-Theft (and some status/public disorder and some using alcohol and/or drugs) | X | X | X | | X |
| 4. Minor Violence Only | X | X | | | |
| 5. Serious Violence & Status-Public Disorder, (and some involved in property-theft, alcohol, and/or drugs) | | | X | X | X |
| 6. Property-Theft Offenses (minor or serious) & Status-Public Disorder & Alcohol Use & Drug Use | | | X | X | X |
| 7. Serious Violent & Status-Public Disorder & Serious Property-Theft & Alcohol Use & Drug Use | | | X | X | X |

Developmental sequences: Transitions between delinquent types over time

Following identification of the existing delinquent patterns or types at each of the age groups, transition matrices that indicate the probability of moving from one type at a given age period to any of the types of the next age period were derived. From these transition matrices, a path diagram could be constructed indicating the movement from delinquent type to delinquent type across the five age periods used in this set of analyses. The transition matrices are included in the appendix and the path diagram is provided in Figure 6. In Figure 6, the width of the “arrows” used to designate paths is proportional to the proportion of a type that is moving to a type at a later age period. The widest arrow represents 90% of the “parent” type, with incremental decrease in widths down to the narrowest arrow representing 5% of the “parent” type. Also in Figure 6, the percent of the total sample of girls included in any type is listed.

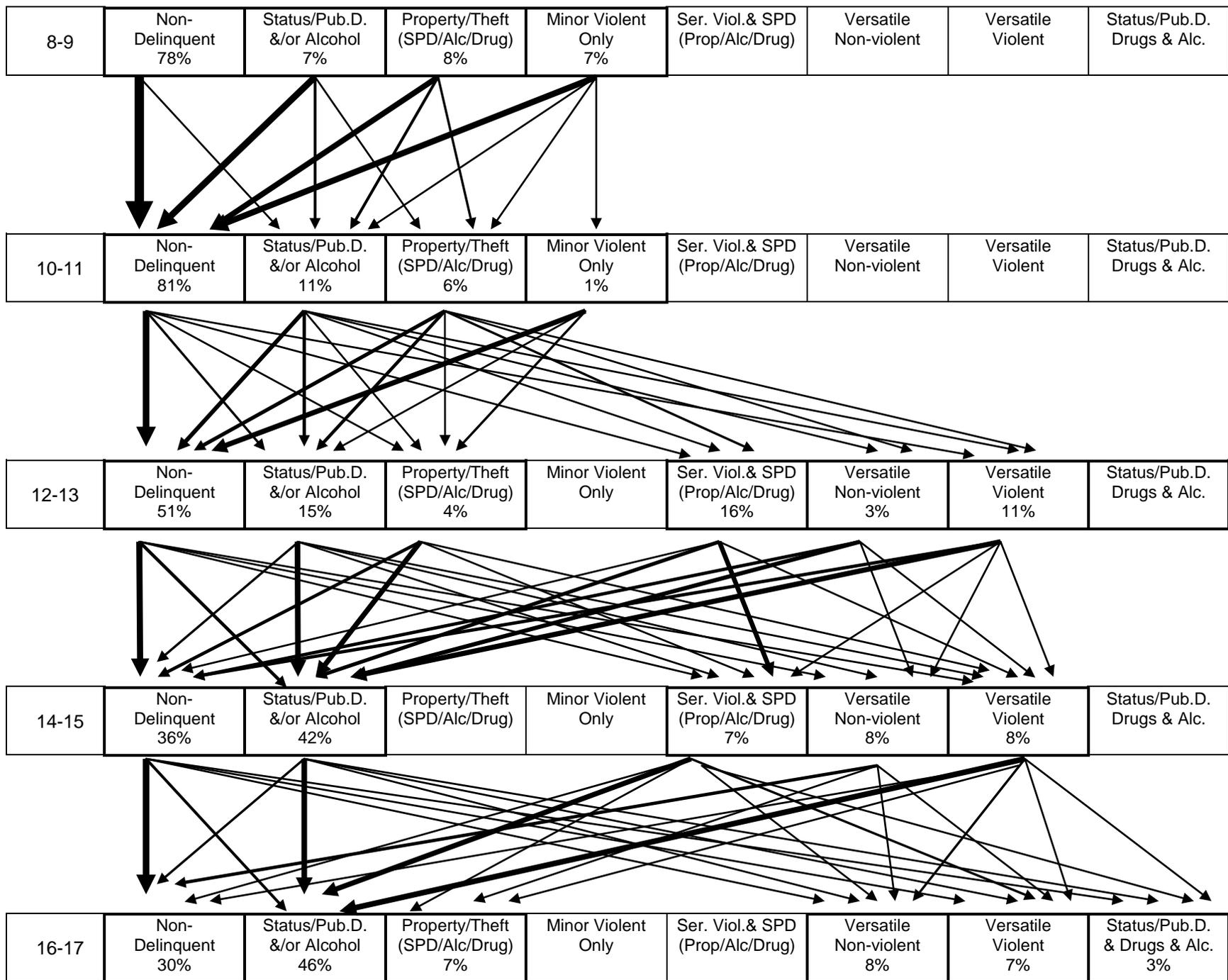
Both the transition matrices and the “spaghetti” of the path diagram representation of these matrices indicate that there are many different developmental sequences that describe pathways over the 8 -17 age period. A detailed description of each of these many pathways would be tedious (both for the writer and the reader) so is not presented here, although a reader can examine a pathway of particular interest. However, there are some general observations that seem noteworthy.

First, there is a large number of developmental sequences in types of delinquent behavior that different groups of girls follow. And, there is no one sequencing of delinquent behaviors that is descriptive of most or even a majority of girls. In fact, using the definitions employed in this typology, the largest group with a common sequence over time consists of those girls who are non-delinquent (or given the definitions used here are non-delinquent or only infrequently engaged in forms of “minor” delinquency in every two year period) and this largest group only includes approximately 17% of girls.

Second, during ages 8-9 and 10-11 about 20% of girls report involvement in minor offenses. In addition to involvement in status-public disorder offending, and property-theft offenses, a small portion of girls at these ages are involved only in minor violence. However, this minor violent only type is short lived, only occurs only at these two younger age periods, and most of these girls return to a non-delinquent status in the next age period. On the other hand, beginning with the transition from ages 10-11 to 12-13, and for transitions at later ages as well, a portion of girls become involved in a greater diversity of offenses, including serious offenses.

Third, during the transition from ages 12-13 to 14-15 there is an increase in the number of transitions between types and an interesting phenomenon can be observed. Many of the girls involved in more serious patterns of offending during the 12-13 age period discontinue their serious offending and return to status-public disorder type or to a non-delinquent type at ages 14-15. And, this phenomenon is repeated as girls aged from 14-15 to ages 16-17. Thus, it appears that during the middle teen years, girls involved in more serious offending are involved for only 1 or 2 years. There is not great continuity over several years in serious offending, but rather careers in serious offending are relatively short lived, and the majority of girls involved in serious offending patterns return to a “home base” of status-public disorder offending or a non-delinquent state. However, it should also be noted that during these age periods, some girls who have been involved in only status or minor offending become serious offenders, so that at each age period considered, there are a substantial number of girls involved in more serious offending patterns (generally 20% or more). Girls appear to move into and move out of serious offending patterns.

Figure 6: Transitions Between Delinquency Patterns Over Time: DYS



Similarities in FT and DYS Findings

Although there are several differences in the FT and DYS findings about over-time sequences in patterns of delinquency, including the number and complexity of discovered sequences and the level of patterning in childhood, there also are several replicated findings. First, in both studies it was found that there was a diversity of sequences or pathways that groups of girls followed over time. There was no one sequence that was applicable to all, most, or even a majority of girls. Thus, although it would be “nice” to have a simple rule or “sound bite” that describes girls in general, the findings indicate that the world is more complex. Simple generalizations about the sequencing of delinquent behaviors of girls appear unwarranted. These findings suggest it may be difficult to tell where in a sequence a particular girl is located based on the knowledge of her delinquent behavior at a given time, and suggests that determining such status would be equally or more difficult based knowledge of arrest data.

A second consistent and quite interesting finding is that girls involved in more serious offending tended after a short time to return to a “home base” of status-public disorder offending or to a non-delinquent status. Thus “careers” in serious offending appear to be relatively short.

A third consistent finding was that in both studies a group of more serious versatile offenders was identified who are involved in a wide range of delinquent behaviors, as well as groups involved in only one or two kinds of delinquency. Thus, the variety of delinquent behavior in which girls engage varies among subsets of girls.

Fourth, both studies found that less serious offending patterns usually precede more serious offending patterns.

Finally, (in analyses not shown), in the DYS at the early to late teen years there is a type that is involved only in status-public disorder offenses, a type involved in both status-public disorder offenses and alcohol use and these groups are of approximately equal size. Thus, the observation made in the examination of over-time sequence in the FT study of substantial overlap is partially supported by findings from the DYS as well. The need for systematic assessment and treatment of substance use among delinquent youth is thus evidenced in both studies.

SUMMARY AND CONCLUSIONS

There is substantial consistency in the findings described in this report across different kinds of analyses and across the findings obtained from the two studies that formed the research foundation for this report. The findings provide important information about girls' involvement in delinquency and about the pathways and transitions of girls' delinquency over time. A first major finding is that girls' delinquent behavior is quite diverse and that the vast majority of girls (78% of the FT girls; over 90% of the DYS girls) have been involved in some kind of delinquency at some time over the late childhood through adolescent period. Across both studies it was found that girls were involved in a wide range of delinquent behaviors. Although being non-delinquent or involved in status or public disorder offenses was the most prevalent pattern of delinquency at most ages, and many girls are involved in minor property offenses in a given year as well, sizeable numbers of girls were involved in other delinquent behaviors, including serious property and serious assault offenses. In addition, it was found that a sizeable proportion of girls were involved in delinquent offenses before middle school (almost half the girls in the DYS and about one-third of the girls in FT). However, although most girls were involved in delinquent activity, it was found that they were not, in general, highly frequent offenders. With the exception of status offenses and alcohol and drug offenses in the later teen years, on average, through age 12, girl offenders generally committed 5 or fewer offenses per year. Girl offenders ages 13-17 generally committed less than 10 offenses of any specific type and considering all kinds of offenses except drug use, committed 23 or fewer offenses in a given year. The frequency of involvement among offenders appears to increase with increasing age, with higher frequencies observed in the later teen years.

A second major finding is that there is a great variety of developmental sequences in delinquency, and no one developmental sequence was applicable to most or even a majority of girls. This finding was indicated by several different analyses that were consistent in implying this conclusion. First, an examination of girls' very first offenses found that different girls began offending with a range of different delinquent behaviors. It was also found that they began offending at different ages, so that regardless of the age of initiation there was substantial variation in girls' very first delinquent acts.

Additional examination of the temporal sequencing of involvement in general delinquency indicated not only variation in the ages when offending begins but also when it

ends. For involvement in specific forms of delinquency, such as serious or minor property or serious or minor property assault offenses, a substantial proportion of offenders were involved only during the general age period in which the offending began. Thus, there were “childhood-limited offenders,” “early adolescence-limited offenders,” and late “adolescence-limited offenders,” as well as offenders involved over multiple age periods. While there was a considerable age period limitation for some specific kinds of offenses, it is noteworthy that when a broader conception of delinquency was used (that included all offenses except status, alcohol, and drug use offenses), regardless of age of initiation, almost 50% of offenders continued involvement in some kind of delinquency into young adulthood. Thus, while “careers” in some specific forms of delinquency are of shorter duration, careers in general delinquency are often more lengthy.

Another set of findings that indicated the existence of variety of offending patterns over time was the identification of four types of longitudinal involvement in delinquency: (1) persistent offenders (those involved in continuous offending over some period of years), (2) intermittent offenders (who were active offenders in one year, inactive for some period of time, and then began offending again), (3) desisters (those who were involved in delinquency but then terminated their involvement), and (4) “late-bloomers” (those who did not begin offending until the late teen age years). Although persistent offenders were the most common, there were substantial numbers of girls in the other patterns as well. Consistent with previous analyses that found substantial variation in the age of initiation, these analyses also found variation in the age of initiation and in the length of involvement in delinquent careers.

Examination of involvement in patterns of involvement in delinquency at a given age/grade also revealed substantial diversity. At specific ages/grades, different groups of girls were involved in different combinations of delinquent behaviors. Although there was some difference across the two studies in the complexity of the combinations discovered, both studies found at specific ages/grades groups of girls involved in only status-public disorder and/or alcohol offenses and groups of girls involved in versatile offending patterns that included a wide range of offending, including serious offenses, as well as intermediate patterns. Investigation of the longitudinal sequencing of these specific age/grade patterns over time further indicated substantial variation. There was no one pattern that described a majority of girls. For example, while some girls maintained involvement in status and public disorder offending across different

age periods, other girls moved from this pattern of offending to more varied and serious offending patterns. In general, there were more age-specific patterns and more over-time movement between these patterns with increasing age.

The exploration of sequences of patterned behavior over time also revealed an interesting finding that was consistent across studies. Most girls involved in more serious offending tended after a period of 1 or 2 years to return to a “home base” of status and public disorder offending or to a non-delinquent status. Thus, for girls, “careers” in serious offending appear to be of relatively short duration.

There are a number of implications that follow from these findings about girls’ involvement in delinquency. First, the vast majority of girls are involved in some form of delinquency at some time during the late childhood to late teen years, and although for the majority of girls this delinquency involves status, public disorder, or minor offenses, some girls are involved in serious property and in serious violent offenses. There is more than ample reason for concern about the delinquent behavior of girls and for the provision of services and interventions for girls.

Second, girls are not all the same, and there is no one developmental sequence that describes the longitudinal sequencing of girls’ delinquency. Plans for services and interventions should not make the assumption that there is one general sequence applicable to all or most girls, such as that girls’ delinquency begins with runaway that then leads to or requires involvement in other forms of delinquency, or that girls’ very first offenses are status offenses, since almost one-third indicate that a minor theft was their very first offense. Since there is no one age-specific pattern or developmental sequence that applies to a majority of girls, and we suspect that this may be true for causative or explanatory risk factors as well, the need for more individualized intervention strategies seem needed. It should also be noted, that it is difficult to know what stage of a developmental sequence a specific individual is in from a an “instant” knowledge of a delinquent behavior pattern, and this is likely applies to arrest indicators as well.

Third, there is good evidence that for most girls involved in serious offending, this more serious offending is age limited to a period of 1 or 2 years. Thus, although there may be a very well-meaning desire to help these girls, unless interventions have been demonstrated to have very large effect sizes and thus to be reasonably successful, it is possible that the best thing to do is to leave them alone – especially if the reason for them being targeted is their delinquent

behavior. Although concern for victims' rights and public safety and efforts to ameliorate problems or risks related to delinquent behavior are exceedingly important, it must also be remembered that interventions, even with the best intentions, are not necessarily benign and intervention may make things worse (McCord, 2003; Huizinga and Mihalic, 2003; Poulin et al., 2001, Dishion et al., 1999).

Fourth, there is a moderately large group of girls who are involved in delinquent behavior before middle school. Thus for many girls, their involvement begins early, and preventative interventions targeting "early starter" youth need to include girls. However, some of this behavior, especially assaultive behavior, is limited to childhood so the concern noted above that interventions are not necessarily benign and may be counter productive suggest care in the use of such interventions.

Fifth, there was evidence in both studies, and especially in the Fast Track study, of the overlap in status-public disorder offenses and alcohol use. Thus, there is indication of the need for systematic assessment and treatment of substance use among delinquent youth.

Finally, it should be noted that this report is in some ways incomplete, since one of the real values of creating a longitudinal typology of delinquency is the identification of turning points in girls' lives where important causes and risks can be identified. But, as noted in the introduction, this is beyond the purview of the report. Additionally, it would be useful to conduct the kinds of analyses conducted here using official or arrest data, so that developmental patterns in arrest can be identified and the relationship between arrest and behavioral patterns explored, as well as issues such as differences in when offending begins and when arrest occurs and which girls enter the juvenile justice system. It should also be noted that a limitation of this report is the use of annual measures of delinquency and for some analyses measures covering a two year period. Conceivably, sequential ordering of offending patterns over shorter durations would reveal sequences that do not occur in the annual or bi-annual data or find a greater prevalence of certain time ordered sequences.

This report concludes with a short statement of the major finding that addresses the original question posed by the OJJDP Girls Study Group about the temporal ordering and patterning of girls' delinquent behavior across the child through adolescent age period. Girls are delinquent and there is great diversity in patterns of delinquent involvement at any one age and great diversity in the timing and sequencing of delinquency over time. No one age-specific

pattern or developmental sequence is applicable to most or even a majority of girls. It should be noted, however, that although there is no one developmental sequence that applies to most girls, there is a general kind of patterning over time. Over half of all girls in both studies (66% in FT/ 56% in DYS) are involved only in status and/or minor offenses and those who become involved in serious offenses tend to return to state of status and minor offending after one or two years.

References

- Abram, K.M., Teplin, L.A., Longworth, S.L., McClelland, G.M., & Dulcan, M.K. (2004). Posttraumatic stress disorder and trauma in youth in juvenile detention. *Archives of General Psychiatry*, 61, 403-410.
- Achenbach, T. M. (1991). *Manual for the child behavior checklist/4-18 and 1991 profile*. Burlington, VT: Dept. of Psychiatry, University of Vermont.
- Acoca, L., and Dedel, K. 1998. No Place to Hide: Understanding and Meeting the Needs of Girls in the California Juvenile Justice System. San Francisco, CA: National Council on Crime and Delinquency.
- Aguilar, B., Sroufe, L. A., Egeland, B., & Carlson, E. (2000). Distinguishing the early-onset/persistent and adolescence-onset antisocial behavior types: from birth to 16 years. *Development and Psychopathology*, 12(2), 109-132.
- Belknap, J., Holsinger, K., & Dunn, M. (1997). Understanding incarcerated girls: The results of a focus group study. *The Prison Journal*, 77, 381-404
- Bergman, L. R. and Magnusson, D. (1992). Stability and change in patterns of extrinsic adjustment problems, in Magnusson, P., Bergman, L. R., Rudinger, and Torrestad (eds.), *Problems and methods in longitudinal research: Stability and change*. New York: Cambridge University Press.
- Blumstein, A., Cohen, J., & Hsieh, P. (1982). The Duration of Adult Criminal Careers. Final Report to the National Institute of Justice. Pittsburgh: Carnegie-Mellon University, School of Urban and Public Affairs.
- Blumstein, A., Farrington, D., & Moirra, S. (1984). Delinquency careers: Innocents, amateurs, and persisters. In N. Morris & M. Tonry (Eds.), Crime and Justice. Chicago: University of Chicago Press.
- Broidy, L. M., Nagin, D. S., Tremblay, R. E., Bates, J. E., Brame, B., Dodge, K. A., et al. (2003). Developmental trajectories of childhood disruptive behaviors and adolescent delinquency: a six-site, cross-national study. *Developmental Psychology*, 39(2), 222-245.
- Cairns, R. B. (1986). Phenomena lost: Issues in the study of development. In Joan Valsiner (ed.), *The individual subject and scientific psychology*. New York: Plenum.
- Cairns, R. B., Cairns, B. D. and Necherman, H. J. (1989). Early school dropout: Configurations and determinants. *Child Development* 60, 1437-52.
- Carter, R. L., Morris, R. & Blashfield, R. (1981). Clustering two dimensional profiles. Paper presented at the Classification Society meetings, Toronto.
- Carter, Randy L., Morris, Robin and Blashfield, R. K. (1982). Clustering two dimensional profiles: A comparative study. J. Hillis Miller Mental Health Center, Gainesville, FL.
- Chapple, C. L., Johnson, K. D., & Whitebeck, L. B. (2004). Gender and arrest among homeless and runaway youth. *Youth Violence and Juvenile Justice*, 2, 129-147.
- Chesney-Lind, M. (1997). *Female offenders: Girls, women, and crime*. Thousand Oaks, CA: Sage.
- Chesney-Lind, M., & Pasko, L. (Eds.). (2004). *The Female Offender: Girls, Women, and Crime* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Conduct Problems Prevention Research Group. (1992). A developmental and clinical model for the prevention of conduct disorders: The FAST Track Program. *Development and Psychopathology*, 4, 509-527.
- Conduct Problems Prevention Research Group. (2000). Merging universal and indicated prevention programs: The Fast Track model. *Addictive Behaviors*, 25, 913-927.
- Conduct Problems Prevention Research Group. (2006). The Fast Track project: Towards the prevention of severe conduct problems in school-age youth. In N. Heinrichs, K. Hahlweg, & M. Dopfner (Eds.), *Strengthening families: Evidence-based approaches to support child mental health* (pp. 439-477). Munster, Germany: Verlag fur Psychotherapie.

- Conduct Problems Prevention Research Group. (2007). Fast Track randomized controlled trial to prevent externalizing psychiatric disorders: Findings from grades 3 to 9. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46, 1250-1262.
- Cote, S., Zoccolillo, M., Tremblay, R. E., Nagin, D., & Vitaro, F. (2001). Predicting girls' conduct disorder in adolescence from childhood trajectories of disruptive behaviors. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40(6), 678-684.
- Dean, C. W., Brame, R., & Piquero, A. R. (1996). Criminal propensities, discrete groups of offenders, and persistence in crime. *Criminology*, 34(4), 547-574.
- Dembo, R., Williams, L., & Schmeidler, J. (1993). Gender differences in mental health service needs among youth entering a juvenile detention center. *Journal of Prison & Jail Health*, 12, 73 -101.
- Dembo, R., Schmeidler, J., Sue, C. C., Borden, P., & Manning, D. (1995). Gender differences in service needs among youths entering a juvenile assessment center: A replication study. *Journal of Correctional Health Care*, 2, 191-216.
- Dishion, T.J., McCord, J. and Poulin, F. (1999). When interventions harm: Peer groups and problem behavior. *American Psychologist*, 54(9), 502-512.
- Dishion, T.J., Patterson, G.R. and Griesler, P.C. (1994). Peer adaptation in the development of antisocial behavior: A confluence model. In L.R. Huesmann (ed.), *Aggressive behavior: Current perspectives* (pp. 61-95). New York: Plenum.
- Dishion, T.J., Poulin, F., and Burraston, B. (2001). Peer group dynamics associated with iatrogenic effect in group interventions with high-risk young adolescents. *New Directions for Child and Adolescent Development*, Issue 91, 79-92.
- Fergusson, D. M., & Horwood, L. J. (2002). Male and female offending trajectories. *Developmental Psychopathology*, 14(1), 159-177.
- Hagan, J. & McCarthy, B. (1997). *Mean streets: Youth crime and homelessness*. Cambridge, UK: Cambridge University Press.
- Hammer, H., Finkelhor, D., & Sedlak, A. J. (2002). Runaway/thrown away children: national estimates and characteristics. *National Incidence Studies of Missing, Abducted, Runaway, and Thrownaway Children (NISMA)*. Washington, DC: US Department of Justice, Office of Juvenile Justice and Delinquency Prevention.
- Huizinga, D. H. (1979). *Dynamic Typologies*. Paper presented at the Classification Society meetings, Gainesville, FL.
- Huizinga, D. (1991), *Assessing Violent Behavior with Self-Reports*, in J. Milner Ed., *Neuropsychology of Aggression*, Kluwer Academic Publishers.
- Huizinga, D. (1995). Developmental Sequences in Delinquency. In Crockett & Crowder, Eds., *Pathways Through Adolescence: Individual Development in Context*. Lawrence Earlbaum, NY.
- Huizinga, D. and D.S. Elliott (1986). Re-assessing the reliability and validity of self-reported delinquency measures. *Journal of Quantitative Criminology*, 2(4), 293-327.
- Huizinga, D., Esbensen, F. and Weiher, A. (1991). Are there multiple paths to delinquency? *Journal of Criminal Law and Criminology*, 82, 83-118.
- Huizinga D., Esbensen, F. and Weiher, A. (1993). Examining developmental trajectories in delinquency using accelerated longitudinal designs. In Kerner and Weidekamp (Eds.), *Cross-national longitudinal research on human development and criminal behavior*. New York: Kluwer Academic Publishers.
- Huizinga, D. and S. Mihalic (2003). The Prevention of Juvenile Delinquency. In H. Kury and J. berfell-Fuchs Eds, *Crime Prevention – New Approaches*. Weisse Ring: Mainz, Germany.
- Kaufman, J. G. & Widom, C. S. (1999). Childhood victimization, running away, and delinquency. *Journal of Research in Crime and Delinquency*, 36, 347-370.
- Kempf-Leonard, K. & Johansson, P. (2007). Gender and runaways: Risk factors, delinquency,

- and juvenile justice experiences. *Youth Violence and Juvenile Justice*, 5, 308-327.
- Kratzer, L., & Hodgins, S. (1999). A typology of offenders: A test of Moffitt's theory among males and females from childhood to age 30. *Criminal Behaviour & Mental Health*, 9(1), 57-73.
- Lacourse, E., Nagin, D., Tremblay, R. E., Vitaro, F., & Claes, M. (2003). Developmental trajectories of boys' delinquent group membership and facilitation of violent behaviors during adolescence. *Development & Psychopathology*, 15, 183-197.
- Loeber, R., Farrington, D.P., & Petechuk, D. (2003). Child delinquency: Early intervention and prevention. *Child Delinquency Bulletin Series, May 2003*, 1-20.
- Loeber, R., Wung, P., Keenan, K., Giroux, B., Stouthamer-Loeber, M., van Kammen, W. and Maughan, B. (1993). Developmental pathways in disruptive child behavior. *Development and Psychopathology*, 5, 111-133.
- McCord, J. (2003). Cures that harm: Unanticipated outcomes of crime prevention programs. *Annals of the American Academy of Political and Social Science*, 587, 16-30.
- Moffitt, T. E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, 100(4), 674-701.
- Moffitt, T. E., & Caspi, A. (2001). Childhood predictors differentiate life-course persistent and adolescence-limited antisocial pathways among males and females. *Development & Psychopathology*, 13(2), 355-375.
- Moffitt, T. E., & Caspi, A., Harrington, H., & Milne, B. J. (2002). Males on the life-course-persistent and adolescence-limited antisocial pathways: Follow-up at age 26 years. *Development and Psychopathology*, 14, 179-207
- Molnar, B.E., Shade, S. B., Kral, A. H., Booth, R. E., & Watters, J. K. (1998). Suicidal behavior and sexual/physical abuse among street youth. *Child Abuse & Neglect*, 22, 213-222.
- Nagin, D., & Tremblay, R. E. (1999). Trajectories of boys' physical aggression, opposition, and hyperactivity on the path to physically violent and nonviolent juvenile delinquency. *Child Development*, 70(5), 1181-1196.
- Odgers, C.L, Moffitt, T.E., Broadbent, J.M., Dickson, N., Hancox, R.J., Harrington, H., Poulton, R., Sears, M.R., Thomson, W.M., & Caspi, A. (2008). Female and male antisocial trajectories: from childhood origins to adult outcomes. *Development and Psychopathology*, 20, 673-716.
- Owen, B. & Bloom, B. (1997). Profiling the needs of young female offenders: A protocol and pilot study. Final report. Washington, DC: U.S. Department of Justice, National Institute of Justice, NCJRS.
- Patterson, G., Capaldi, D., & Bank, L. (1991). An early starter model for predicting delinquency. In D. J. Pepler & K. H. Rubin (Eds.), *The development and treatment of childhood aggression*. (pp. 139-168). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Patterson, G. R., DeBaryshe, B. D., Ramsey, E. (1989). A developmental perspective on antisocial behavior. *American Psychologist*, 44, 329-335.
- Patterson, G. R., Forgatch, M. S., Yoerger, K., & Stoolmiller, M. (1998). Variables that initiate and maintain an early-onset trajectory for juvenile offending. *Development and Psychopathology*, 10, 541-547.
- Petras, H., Chilcoat, H., Leaf, P., Ialongo, N. and Kellam, S. (2004). The utility of teacher ratings of aggression during the elementary school years in identifying later violence in adolescent males. *Journal of the American Academy of Child and Adolescent Psychiatry*, 1, 88-96
- Petras, H., Ialongo, N., Lambert, S.F., Barrueco, S., Schaeffer, C.M., Chilcoat, H. and Kellam, S. (2004). The utility of elementary school TOCA-R scores in identifying later criminal court violence amongst adolescent females. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43, 88-96.

- Poulin, F., Dishion, T.J., and Burraston, B. (2001). 3-year iatrogenic effects associated with aggregating high-risk adolescents in cognitive-behavioral preventive interventions. *Applied Developmental Science*, 5(4)214-224.
- Quay, H. C., & Peterson, D. R. (1987). *Manual for the Revised Behavior Problem Checklist Report*: University of Miami.
- Rice, C. E. and Mattson, N. B. (1966). Types based on repeated measurement. In Lorr, M. (ed.) *Explorations in typing psychotics*. Oxford: Pergamon Press.
- Runyon, W. (1980). A stage-state analysis of the life course. *Journal of Personality and Social Psychology*, 38, 951-962.
- Schaeffer, C.M., Petras, H., Jalongo, N., Masyn, K.E., Hubbard, S., Poduska, J., & Kellam, S. (2006). A comparison of girls' and boys' aggressive-disruptive behavior trajectories across elementary school: Prediction to young adult antisocial outcomes. *Journal of Consulting and Counseling Psychology*, 74, 500-510.
- Schaeffer, C. M., Petras, H., Jalongo, N., Poduska, J., & Kellam, S. (2003). Modeling growth in boys' aggressive behavior across elementary school: Links to later criminal involvement, conduct disorder, and antisocial personality disorder. *Developmental Psychology*, 39(6), 1020-1035.
- Shaw, D. S., Lacourse, E., & Nagin, D. S. (2004). Developmental trajectories of conduct disorder. *Journal of Child Psychology and Psychiatry*, 39, 1-10.
- Silverthorn, P., & Frick, P. J. (1999). Developmental pathways to antisocial behavior: the delayed-onset pathway in girls. *Developmental Psychopathology*, 11(1), 101-126.
- Smith, D.K., Leve, L.D., & Chamberlain, P. (2006). Adolescent girls' offending and health-risking sexual behavior: the predictive role of trauma. *Child Maltreatment*, 11, 346-353.
- Thornberry, T.P. and Krohn, M.D. (2000). The Self-report Method for Measuring Delinquency and Crime. *Criminal Justice*, p.33- 83.
- Trickett, P.K. & Gordis, E.B. (2004). Aggression and antisocial behavior in sexually abused females. In M. Putallaz and K.L. Bierman (Eds.), *Aggression, antisocial behavior and violence among girls*. (pp. 162-185). New York: Guilford Press.
- Tyler, K. A. (2002). Social and emotional outcomes of childhood sexual abuse: a review of recent research. *Aggression and Violent Behavior*, 7, 567-589.
- Wasserman, G., Keenan, K., Tremblay, R. E., Coie, J. D., Herrenkohl, T. I., Loeber, R., & Petechuck, D. (2003). Risk and Protective Factors of Child Delinquency. *Child Delinquency Bulletin Series, April 2003*, 1-16.
- Werthamer-Larsson, L., & Kellam, S. (1991). Effect of first-grade classroom environment on shy behavior, aggressive behavior, and concentration problems. (Special Issue: Preventive Intervention Research Centers). *American Journal of Community Psychology*, 585.
- Whitbeck, L. B. & Hoyt, D. R. (1999). *No where to grow: Runaway and homeless adolescents and their families*. New York: Aldine de Gruyter.
- Whitebeck, L. B., Hoyt, D. R., Yoder, K. A., Cauce, A. M., & Paradise, M. (2001). Deviant behavior and victimization among homeless and runaway adolescents. *Journal of Interpersonal Violence*, 16, 1175-1204.
- Widom, C. S. (1992). The cycle of violence. National Institute of Justice, US Department of Justice.
- Widom, C.S. 1995. *Victims of Childhood Sexual Abuse—Later Criminal Consequences*. Research in Brief. Washington, DC: U.S. Department of Justice, Office of Justice Programs, National Institute of Justice.
- Wolfe, J.H. (1965). A computer program for the maximum likelihood analysis of types. USNPR Technical Bulletin 65-15,

Appendix

Table A1 Self-report Delinquency Measures
Denver Youth Survey and Fast Track Intervention Project*

| | DENVER YOUTH SURVEY | FAST TRACK | DENVER YOUTH SURVEY | FAST TRACK |
|------------------------------|--|---|---|--|
| SRD ITEM | CHILD (Ages 7-10) Self-Reported Delinquency | CHILD (Grades 4-6) Things That I Have Done | YOUTH (Ages 11-17) Self-Reported Delinquency | YOUTH (Grades 7-12) Self-Reported Delinquency |
| Runaway | X | X | X | X |
| Other Status Offenses | | | | |
| Skip School | X | X | X | X |
| Curfew | | | X | |
| Public Disorder | | | | |
| Hitchhike where illegal | | | X | X |
| Loud/Unruly/Pub. Disorder | X | | X | X |
| Begging | | | X | X |
| Obscene Calls | | | X | |
| Public Drunkenness | | | X | X |
| Prostitution | | | X | X |
| Hidden Weapon | X | | X | X |
| Trespassing | X | X | | X |
| | | | | |

| | DENVER YOUTH SURVEY | FAST TRACK | DENVER YOUTH SURVEY | FAST TRACK |
|--------------------------------------|--|---|---|--|
| SRD ITEM | CHILD (Ages 7-10) Self-Reported Delinquency | CHILD (Grades 4-6) Things That I Have Done | YOUTH (Ages 11-17) Self-Reported Delinquency | YOUTH (Grades 7-12) Self-Reported Delinquency |
| Minor Property | | | | |
| Property Damage | | | | |
| Family | X | | | |
| School | X | | | |
| Other | X | X | | |
| Graffiti | X | X | | |
| One General Item: Youth | | | X | X |
| | | | | |
| Minor Theft | | | | |
| Money from home | X | X | | |
| From School | X | X | | |
| From Car | X | | X | X |
| Purse Snatch | X | | X | X |
| Theft LT \$5 | | X | X | X |
| Theft \$5-50 | | X | X | X |
| Shoplifting (Not reported elsewhere) | | | X | X |
| Avoid Payment | | | X | X |
| Joyriding | | | X | X |
| | | | | |
| Serious Property | | | | |
| Theft \$50-500 | | X | X | X |
| Theft \$100+ | | | X | X |
| Burglary | X | | X | |
| Arson | X | X | X | X |
| Fencing | | | X | X |
| Fraud – Check | | | X | X |
| Fraud – CC | | | X | X |
| Fraud – Sales | | | X | X |
| Auto Theft | | | X | X |

| | DENVER YOUTH SURVEY | FAST TRACK | DENVER YOUTH SURVEY | FAST TRACK |
|--|--|---|---|--|
| SRD ITEM | CHILD (Ages 7-10) Self-Reported Delinquency | CHILD (Grades 4-6) Things That I Have Done | YOUTH (Ages 11-17) Self-Reported Delinquency | YOUTH (Grades 7-12) Self-Reported Delinquency |
| Minor Assault | | | | |
| Hit – Fight Others | X | X | | |
| Hit to hurt – general item | | | X | X |
| Throw objects (rocks/bottles) | X | X | X | X |
| Sex against person’s will | | | X | X |
| | | | | |
| Serious Assault | | | | |
| Aggravated Assault | | X | X | X |
| Robbery | | | X | X |
| Gang Fight | | X | X | X |
| Rape | | | X | |
| | | | | |
| Drug Sales | | | | |
| Marijuana | | X | X | X |
| Other Drugs | | X | X | X |
| | | | | |
| Drug Use | | | | |
| Alcohol Use | | | | |
| Beer | X | X | X | |
| Wine | X | X | X | |
| Liquor | X | X | X | |
| | | | | |
| Marijuana Use | X | X | X | |
| | | | | |
| Other Drug Use (Inhalants, Tranquilizers, barbiturates, amphetamines, hallucinogens, cocaine, crack, methamphetamines, heroin, angel dust) | X | X | X | |

* Some of the DYS measures have been filtered for triviality/seriousness of reported behavior. For runaway, a 24 hours of overnight criterion was used; for truancy, an at least one day criterion was used; for minor assault, a criterion that the assault resulted in some harm/hurt to the victim was required; and alcohol use was counted only for use without parental knowledge/permission. Also, included in the other status offenses are truancy in both FT and DYS studies and curfew violations in the DYS study. The inclusion of the curfew offense in the Denver study was necessary since it has a high reported frequency and results in a large number of arrests.

Appendix

Table A-2
 Transition Matrices of Delinquent Types by Age Period
 (Probability that a person in a given type at one age period
 will transition to the types of the next age period)
 Denver Youth Survey

| | | Age 10-11 | | | | Total % of 8-9 Population |
|------------|--------------------------------|-----------|-------------------|-------------------------|---------------------|---------------------------------|
| | | Non-Delq. | S-PD &/or Alc. | Prop.-Theft (+Other) | Minor Viol. Only | |
| Age 8-9 | Non-Delq. | .896 | .079 | .017 | .008 | 77.5% |
| | S-PD &/or Alcohol | .667 | .250 | .083 | | 7.6% |
| | Prop.-Theft (+Other) | .560 | .240 | .200 | | 8.1% |
| | Minor Viol. Only | .619 | .143 | .095 | .143 | 6.7% |
| | Total % of 10-11 Population | 80.7 | 11.9 | 6.2% | 1.2% | |

| | | Age 12-13 | | | | | Total % of 10-11 Population | |
|--------------|--------------------------------|-----------|----------------------|-------------------------|----------------------|--------------------------|-----------------------------------|----------------------|
| | | Non-Delq. | S-PD &/or Alcohol | Prop.-Theft (+Other) | Ser. Viol. & S-PD | Versatile Non-violent | | Versatile Violent |
| Age 10-11 | Non-Delq. | .642 | .208 | .075 | .031 | .013 | .031 | 80.7% |
| | S-PD &/or Alcohol | .389 | .306 | .250 | .028 | .028 | .000 | 11.9% |
| | Prop.-Theft (+Other) | .348 | .304 | .087 | .174 | .087 | .000 | 6.2% |
| | Minor Viol. Only | .500 | .250 | | .250 | | | 1.2% |
| | Total % of 12-13 Population | 51.6% | 27.6% | 11.1% | 3.9% | 3.2% | 2.6% | |

| | | Age 14-15 | | | | | Total % of 12-13 Population |
|--------------|--------------------------------|-----------|----------------------|----------------------|--------------------------|-----------------------|-----------------------------------|
| | | Non-Delq. | S-PD &/or Alcohol | Ser. Viol. & S-PD | Versatile Non-violent | Versatile. Violent | |
| Age 12-13 | Non-Delq. | .582 | .299 | .045 | .052 | .022 | 51.6% |
| | S-PD &/or Alcohol | .235 | .518 | .082 | .094 | .071 | 21.7% |
| | Prop.-Theft (+Other) | .111 | .333 | .444 | | .111 | 11.1% |
| | Serious Viol.& S-PD | .303 | .485 | .030 | .121 | .061 | 3.9% |
| | Versatile Non-violent | .011 | .333 | .444 | | .111 | 3.2% |
| | Versatile Violent | .300 | .400 | | .100 | .200 | 2.6% |
| | Total % of 14-15 Population | 36.0% | 41.8% | 7.2% | 7.4% | 7.5% | |

| | | Age 16-17 | | | | | | Total % of 14-15 Population |
|--------------|--------------------------------|-----------|-------------------|---------------------|--------------------|--------------------------|----------------------|-----------------------------------|
| | | Non-Delq. | Status &Pub.D. | Drugs /Drg.&Alc. | Prop. /Prop&Alc | Vers. Non- violent | Versatile Violent | |
| Age 14-15 | Non-Delq. | .650 | .290 | .020 | .020 | .010 | .010 | 36.0% |
| | S-PD &/or Alcohol | .207 | .563 | .059 | .052 | .089 | .030 | 41.8% |
| | Serious Viol.& S-PD | .050 | .500 | .050 | .050 | .150 | .200 | 7.2% |
| | Vers. Non-violent | .292 | .458 | .000 | .125 | .083 | .042 | 7.4% |
| | Vers. Violent | .043 | .565 | .043 | .043 | .217 | .087 | 7.5% |
| | Total % of 16-17 Population | 29.4% | 46.5% | 2.9% | 6.6% | 7.9% | 6.7% | |

