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WASHINGTON UNIVERSITY

George Warren Brown School of Social Work

Dissertation Examination Committee:

Melissa Jonson-Reid, Chair

Patricia Kohl

Juan Peña

Ed Spitznagel

Catherine Striley

Nancy Vosler

WHO USES COMMUNITY-BASED YOUTH SHELTERS? AN INTER-GROUP AND  
INTRA-GROUP ANALYSIS

by

Jennifer Rachel McClendon

A dissertation presented to the  
Graduate School of Arts and Sciences  
of Washington University in  
partial fulfillment of the  
requirements for the degree  
of Doctor of Philosophy

August 2009

Saint Louis, Missouri

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## **ABSTRACT OF THE DISSERTATION**

Who Uses Community-Based Youth Shelters?

An Inter-group and Intra-group Analysis

by

Jennifer Rachel McClendon

Doctor of Philosophy in Social Work

Washington University in St. Louis, 2009

Professor Melissa Jonson-Reid, Chairperson

Community-based youth shelters are the primary method of intervention designed to meet the complex needs of at-risk youth who leave home before they have developed the skills to live independently. This research examines shelter users' patterns of cross-sector service use to better understand the needs and resources of shelter residents. The aims of this study are 1) to perform an inter-group analysis, comparing sheltered youth with status offense runaways and foster care runaways, and 2) to explore the population of emergency shelter residents using an intra-group analysis, determining whether distinct profiles of sheltered youth exist, based on individual characteristics and service use patterns over time.

The study samples were drawn from a larger longitudinal study of services and outcomes. The samples included subjects born between 1981 and 1992 who were reported for child maltreatment and/or lived in families receiving Aid to Families with Dependent Children during childhood. For the first Aim, the sample included subjects identified as runaway by the court system (status offense runaways), foster care

runaways, and sheltered youth. The sample for the second aim included only sheltered youth.

Bivariate analyses found differences between runaway groups in terms of poverty, maltreatment history, school-identified disability, report of neglect, receipt of family services, delinquent offenses, truancy, ethnicity, and parent mental health or substance abuse treatment. Controlling for covariates in the multinomial logistic regression, only age discriminated between all three groups.

Just 20% of the sheltered youth ran away from their previous residence or spent time living on the street. Latent class analysis suggests sheltered youth fall into four clearly distinct categories, clearly defined by connection to school and family. These include: 1) a “parent time-out” group (attending school and living with family), 2) a school/behavior problem group (not attending school and living with family), 3) youth in DFS custody placed at the shelter (disconnected from family but attending school), and 4) multi-problem youth (disconnected from both school and family).

## **Chapter 1: Introduction**

Runaway youth remain one of the most needy and understudied populations (Kipke, Montgomery, Simon, & Iverson, 1997; Whitbeck, Hoyt, & Ackley, 1997). Research has shown that these youth often have a variety of problems, such as school failure, substance abuse, criminality, and unprotected sexual behavior (Greene, Ringwalt, & Iachan, 1997). Lacking both family support and the skills and education necessary to obtain and maintain employment, runaway youth are often forced to turn to prostitution, drug dealing, and other criminal behavior to survive (Greene et al., 1997). Adolescents living on the streets are at increased risk of serious health problems such as malnutrition, sexually transmitted infections, and premature death from suicide, murder, and drug overdose (Powers, Eckenrode, & Jaklitsch, 1990).

Community-based youth shelters are the primary method of intervention designed to meet the complex needs of youth who leave home before they have developed the skills to live independently (Thompson, Safyer, & Pollio, 2001). These shelters provide a variety of crisis and custodial services and have a stated mission to reunify youths with their families or to teach them the skills to live independently and reduce the likelihood of involvement in high-risk behaviors (Johnson, Farquhar, & Sussman, 1996; Shane, 1989).

While it seems likely that such a high-risk population will have received individual or family services prior to running away, almost no information exists as to their prior service trajectories. This hampers ability to understand the unique needs of sheltered youth and whether current policies and services are adequate given the

population. It also hinders understanding of possible earlier points of intervention that might be useful in preventing runaway. This dissertation will help fill this gap.

Because so little information exists on cross-sector service use of runaway youth, this dissertation is largely exploratory, seeking to describe runaway youth coming from a low income and/ or maltreated population, and in particular sheltered youth. Of interest are their historical patterns of service use, which may be useful in determining meaningful subtypes of runaway and/or sheltered youth. This first aim of this study is to examine sheltered runaways by performing an inter-group analysis, comparing runaways identified by three public service sectors. Sheltered youth may have divergent service use histories from status offense runaways and foster care runaways. What, if any, individual factors and/or service use experiences among runaways might increase the odds of identification as a runaway by a specific service sector? What differentiates sheltered youth from other identified runaways?

A second aim of this research is to explore the population of emergency shelter residents using an intra-group analysis that takes advantage of available data from shelter files. This dissertation will explore possible profiles of sheltered youth, based on individual characteristics and service use patterns over time.

Because youth shelters are the primary method of intervention for runaway youth (Thompson, Maguin, & Pollio, 2006), defining the population and differentiating shelter users from other types of runaways is critically important. Understanding the cross-sector service use and service use pathways of sheltered youth will allow shelters and other service providers to offer targeted, relevant, and effective interventions for this

high-risk population. It also may have implications for federal policy that regulates the funding and functioning of runaway shelters.

### *Definitions*

Defining runaways is a difficult task. **Runaways** may or may not have homes they can return to – if not their own, then the home of a friend or relative. They might drift in and out of settings that may or may not include adult supervision. Others cannot return home and have no one to take them in. Runaways may have institutional options for housing from which they have run away or become unhappy with due to a “revolving door” of caseworkers and foster parents (Whitbeck & Hoyt, 1999). **Youth homelessness** is a continuum that ranges from living at home with parents and running away for one night to independently making one’s way on the streets. In between, there are stays with friends, stays with relatives, foster care, group homes, juvenile detention, and a range of temporary shelter options (Whitbeck & Hoyt, 1999; McNamara, 2008).

Another part of the problem categorizing runaway youth is that of perception: while many youth perceive their situation as one in which they have been abandoned, thrown out, or locked out of the house, their caretakers are more likely to view it as a runaway episode (Hammer, Finkelhor, & Sedlak, 2002). Understanding runaway behavior is further complicated by the varying criteria official agencies use to qualify certain behaviors (van Wormer, 2003). According to the U.S. Department of Health and Human Services, a **runaway** is a youth who is away from home without the permission of his or her parents or legal guardian at least overnight (as cited in Bass, 1995). From a policy point of view, The Runaway and Homeless Youth Act defines a homeless youth as one who is “not more than 21 years of age for whom it is not possible to live in a safe

environment with a relative and who has no other safe alternative living arrangement” (42 U.S.C. 5732a.).

Among researchers, homeless adolescents are sometimes categorized by the way in which youth initially become unhoused (Thompson, Safyer & Pollio, 2001; Zide & Cherry, 1992). These overlapping categories include **runaways** (youth who have left home voluntarily without parental consent) and **throwaways** (youth who have been forced out of their home by parents/guardians and prevented from returning home). Ringwalt, Greene, and Robertson (1998) found that a throwaway can either be a youth who has been kicked out of their home for acting inappropriately or someone who has been abandoned. Ringwalt, Greene, and Robertson (1998) also found that nearly half of youth living in shelters and on the street had a throwaway experience.

The term **street youth** has been used to refer to those who reside in high-risk, non-traditional locations such as under bridges, in abandoned buildings, or in vehicles. The definition of the National Center for Homeless Education Unaccompanied and Homeless Youth defines street youth as “those who run away or who are indefinitely or intermittently homeless and spend a significant amount of time on the street or in other areas that increase their risk for sexual abuse, sexual exploitation, prostitution, or drug abuse” (as cited in Auerswald & Eyre, 2002).

In contrast to street youth, **sheltered youth** may or may not have spent time living on the streets or in unsafe situations but are currently living in a federally-funded emergency shelter for runaway and homeless youth. **Foster care runaways** are sometimes referred to as ‘doubly homeless youth’ (youth who have been removed from their homes and taken into state custody and placed in settings from which they run

away), and may become street youth or may choose to access alternative services for runaway and homeless youth such as shelters and drop-in centers (Aviles & Helfrich, 2004; Springer, 2001). Running away from home is also a **status offense** for which minors can be arrested and receive interventions from the juvenile justice system. Status offenses are activities that are illegal for minors only, and include running away, truancy, alcohol-related charges, and being out of parents' control (Chesney-Lind & Shelden, 2004; McNamara, 2008; Steinhart, 1996).

The disjointed typologies of runaway and homeless youth are based in part on the samples used for research in this area (Haber & Toro, 2004). There are separate literatures on runaway status offenders, foster care runaways, street youth, and users of alternative services (federally-funded RHY services such as emergency shelters and drop-in centers). Runaway youth are most often defined or typed by the ways in which they are sampled or identified by researchers: by self-report recall (re-housed runaways), by use of alternative services (emergency shelter, drop-in center), by self-report and location (street youth), by court or police records (status offenders), or by foster care records (foster care runaways).

This study includes three of these research identified and potentially overlapping groups: sheltered runaways, status offenders, and foster care runaways. The primary focus of the research is on sheltered runaways, within the broader context of the runaway population.

### *Chapter Overviews*

Chapter 2 of this dissertation describes the significance of this area of research by discussing what is known about runaways, particularly their family histories and service

use histories. Gaps in the literature are identified, leading to a discussion of the rationale for this research. A model for runaway service involvement is described. The second chapter concludes with the major aims, research questions, and hypotheses for this project. Chapter 3 describes the methodology used for the dissertation, describing the sample, variables, data collection and management procedures, and analysis plan. Chapter 4 presents the findings from these methods. Chapter 5 compares the current sample with other samples of runaway youth, and discusses the implications of the findings reported in Chapter 4, the strengths and limitations of the research, and directions for future work.



## **Chapter 2: Background, Significance, and Aims**

The purpose of this research is to examine sheltered youth among a high risk population. This is done in two ways. First, this dissertation compares the characteristics and cross-sector public service use histories of children within a high risk sample who are identified as runaways in three ways: 1) youth who have been charged with a status offense for runaway behavior, 2) teens who have used emergency shelter services, and/or 3) youth whose foster care cases are closed with a status of “runaway.” Second, an intragroup analysis of sheltered youth will determine whether there are unique subpopulations of interest.

To provide background for the project, this chapter will first examine the public health significance of runaway youth, policies related to services for homeless youth, and the service use and individual characteristics found to be associated with runaway and homeless youth. This chapter frames the current research in terms of gaps in existing knowledge, and discusses Karen Staller’s Dynamic Model of Runaway Behavior as a framework for understanding service use trajectories of runaways, including sheltered youth. Specific aims, research questions, and hypotheses are described.

### *Runaways: Scope and Significance of the Problem*

As many as 1-2 million youth experience homelessness each year (Cauce, Paradise, Ginzler, Embry, Morgan, & Lohr, 2000; Greene, Ringwalt & Iachan, 1997; Hammer, Finkelhor, & Sedlak, 2002; Kidd, 2003; Tenner, Feudo, & Woods, 1998). In one representative survey, the annual prevalence of homelessness among this age group was estimated at 7.6% (Ringwalt, Greene, Robertson, & McPheeters, 1998). On the basis of such findings, adolescents are considered the single age group most at risk for

experiencing homelessness (Robertson & Toro, 1999; Haber & Toro, 2004). Although many teens successfully transition out of homelessness within a short period of time, approximately one quarter are believed to be chronically homeless (Thompson et al., 2006). Chronically homeless youth are without permanent or stable residences and have little contact with their families of origin (Kipke Unger, O'Connor, Palmer, & LaFrance, 1997).

When left to fend for themselves without intervention, runaway and homeless youth experience poor health, educational, and workforce outcomes which represent a significant public health concern for the nation. Many homeless and runaway youth exhibit characteristics which are predictors of delinquent behavior, adult homelessness, addiction behaviors, and mental illness (Simkin, 2004). Runaway and homeless youth are more likely than their peers to abuse alcohol and other drugs (Robertson et al., 1998), come from backgrounds of poverty and economic instability (Cauce et al., 2000), and have serious mental disorders (MacLean, Embry, & Cauce, 1999; Haber & Toro, 2004). These challenges are likely to result in their long-term dependency on or involvement in public health, social service, emergency assistance, and corrections systems.

Living in shelters or on the streets, runaways are at a higher risk for physical and sexual assault (Robertson & Toro, 1998). One study found 66% of males and 33% of females had been assaulted on the street, and 47% of the females had been sexually assaulted (Cauce et al., 1998). Homelessness also contributes to the prevalence of physical illnesses among youth, most commonly injury, skin infections, and malnutrition (Farrow, Deisher, Brown, Kulig, and Kipke. 1992; Deisher & Rogers, 1991; Rueler, 1991).

Furthermore, homeless youth are at a higher risk for anxiety disorders, depression, posttraumatic stress disorder (PTSD), and suicide, in part because of increased exposure to violence while living on their own (HCH Clinician's Network, 2000). One research team found 45% of homeless youth reported mental health problems in the past year, and 50% to 56% of youth reported mental health problems over their lifetime (Burt, 2007).

Overall, homeless youth are also likely to become involved in survival sex, to use drugs, and to engage in other dangerous and illegal behaviors. Risky sex is common among homeless youth, resulting in a higher than average pregnancy rate: about 50% of street youth have had a pregnancy experience compared to about 33% living in shelters; Less than 10% of household youth have had a pregnancy experience. (Greene & Ringwalt, 1998). More than one third of homeless youth engage in survival sex, swapping sex for food, shelter, or other necessities (Ray, 2006). Many youth turn to sex work to support them financially, and can become victim to predatory adults: 162,000 homeless youth are estimated to be victims of commercial sexual exploitation in the United States (Estes & Weiner, 2001). Not surprisingly, runaway youth are 6 to 12 times more likely to become infected with HIV than other youth (Rotheram-Borus, Song, Gwadz, Lee, Van Rossem, & Koopman, 2004) and 7 times more likely to die from AIDS than the general youth population (Ray, 2006).

In order to prevent negative outcomes, it is important to understand the causes of runaway behavior and youth homelessness. Self-report data from homeless youth suggest there are three primary risk factors for youth homelessness, specifically 1) the presence of family conflict and violence, regardless of child welfare involvement (Cochrane, Stewart, Ginzler, & Cauce, 2002; Greene & Ringwalt, 1998; Owen,

Heineman, Shelton, & Gerrard, 2004; Ringwalt, Greene, & Robertson, 1998; Whitbeck, Hoyt, Yoder, Cauce, & Paradise, 2001), 2) foster care placement (Cauce et al., 2000; Courtney et al., 2005; Courtney, Terao, & Bost, 2004) , and 3) involvement in the juvenile justice system (Estes & Weiner, 2001; Owen et al., 2004).

### *Policies and Services for Runaway Youth*

The lack of clear definitions for homeless or runaway youth - and the ambiguity about which service sector is responsible for their care - has historical roots, and is entrenched within federal and state policies. The fundamental separation of the juvenile justice system from child welfare created a dichotomous system based on the responsible party (child vs. parent). Status offenders and children with behavioral problems did not fit neatly into either system. In part to create a safety net for runaways who might not be served by either system, the federal government began to support private sector services for runaway and homeless youth. This has resulted in multiple systems of care for runaways that are not mutually exclusive.

In the mid-1970s, the U.S. Congress began to enact a flurry of youth-oriented legislation. In 1974, President Ford signed two important policy initiatives into law – the Child Abuse Prevention and Treatment Act (CAPTA; P.L. 93-274) and the Juvenile Justice and Delinquency Prevention Act (JJDP; P.L. 93-415). CAPTA and JJDP created a two-pronged approach to intervening with children and youth – the child abuse protection side and the juvenile delinquency side. The separation of child welfare and juvenile justice goes well beyond the assignation of blame to the parent or the child. These conceptual frameworks are administered by different federal departments, staffed by different types of personnel, and are located in different institutional settings (albeit

with some population overlap). Scholars, researchers, and practitioners in the areas of child welfare and juvenile justice read different journals and attend different conferences. The division between these approaches is systemic and entrenched (Staller, 2006).

Status offenses, such as runaway and truant behavior, do not fit neatly in either the child welfare or juvenile justice system (Finkelhor, 2002; McNamara, 2008). There is not always a clear case of parental maltreatment, nor is there always evidence of crime or delinquency. Sometimes there is evidence of both, as in the case when a child is thrown out of the home and engages in prostitution or petty theft for survival. In the case of behavioral problems, the blame is not easily assigned to the parent (who may be neglectful or provide an intolerable home environment) or the child (who may be incorrigible or acting out). Out of necessity, both systems have developed the capability of handling these cases (Staller, 2006). For the same social problem of runaway behavior, the juvenile justice system punishes the child (for a runaway offense) and the child welfare system rescues the child (from child neglect). Youth who run away and are not found are categorized as missing persons, and their cases are handled by local law enforcement (Staller, 2006)

The initial Runaway Youth Act (RYA) which provided federal funding for emergency shelters for youth was embedded within the JJDPA as a delinquency prevention measure that would, among other things, provide a safety net for youth traveling between states. The bill supported the argument that runaways should be considered a social problem, not a law enforcement problem. The shelter structure created by the RYA of 1974 is still in place today, offering a “crash-pad service delivery” model developed to meet the needs of 1960s counter-culture youth (Staller, 2006).

In 1977, the RYA was expanded to include not only runaway youth, but also “otherwise homeless youth” (Juvenile Justice Amendments of 1977, P.L. 95-115). The Act was renamed to reflect this in 1980 and it became the Runaway and Homeless Youth Act (RHYA) (Juvenile Justice Amendments of 1980, P. L. 96-509). In 1994, the scope of the legislation was expanded once again to include “street youth,” defined by congress as “a juvenile who spends a significant amount of time on the streets or in other areas of exposure to encounters that may lead to sexual abuse” (Juvenile Justice Amendments of 1994, P. L. 103-322: Runaway and Homeless Youth Act. § 5712d(d)(2)). The legislation was also expanded to include the provision of early intervention services such as home-based services for the prevention of future delinquent behaviors.

The revised legislation reflected the uncertain and wavering definition of “runaway youth”. On the one hand, these changes reflect a concern for family reunification and support (supposing that runaways can and should return home), while on the other they suggest that runaway shelters are serving a group of youth that are significantly estranged from home and society and who have embraced a street culture (Staller, 2006).

The services supported by the RHYA were similarly outside of traditional systems. Starting in 1992, the federal grant guidelines for runaway shelters suggested that services be delivered “outside the law enforcement system, the child welfare system, the mental health system, and the juvenile justice system” (RHYA 42 USC § 5711 (a)). At the same time, these programs were required to add educational opportunities and comprehensive mental health supports (RHYA 42 USC § 5701 (6) (7)).

The expectation appears to be that the private sector would provide an increasingly comprehensive package of alternative services for an increasingly complicated and diverse population. It is unknown whether these services are provided *in addition to or instead of* those traditionally provided by public sectors such as mental health, child welfare, public schools, and juvenile justice. Duplication of services diminishes the cost-effectiveness of resources. Given the financial stressors on these institutions and the immense cost of caring for high-risk youth, examining service overlap could allow children's services to use existing resources more efficiently.

#### *Runaways and Service Use*

The hidden nature of runaway and homeless youth makes accurately counting them problematic (Raleigh-DuRoff, 2004). Not only are there tremendous barriers to accurately estimating the size of such a changing population, the majority of methods for developing such estimates are flawed (Link et al., 1995). Compared to homeless adults and families, youth have fewer shelters available (Wilder Research, 2005). Many youth avoid shelters and researchers whom they may mistake for social service workers (Ringwalt et al., 1998; Robertson & Clark, 1995; Taylor, Lyndon, Bougie, & Johanssen, 2004).

The best federal estimates may come from NISMART, The National Incidence Studies of Missing, Abducted, Runaway, and Throwaway Children. According to the second wave of NISMART data (NISMART-2) collected between 1997 and 1999, there are an estimated 1,682,990 youth who had a runaway episode (Hammer et al., 2002). Only 21% of these youth were reported missing to police or a children's agency for the purpose of locating them. Most runaway youth, 68%, were older teens between the ages

of 15 and 17. According to the National Runaway Switchboard (2001), many youth who run away from home only do so for a short while, but long enough to meet the definition of being a runaway (overnight). It is estimated that 40% of teens who leave home remain away from one to three days (Flowers, 2001).

Most of the research on runaway children has been devoted to identifying the family and personal characteristics of runaway youth and the risk factors associated with running away. Some of the factors associated with young people leaving home have been identified in the academic research literature across multiple populations of runaway and homeless youth. Demographic characteristics consistently associated with running away include race, gender, age, living arrangements, and changes in family structure. For example, youths of color, older youths, and youths not living with parents are overrepresented in the runaway population (Baker et al., 2003; CDC, 1995; Greene, Ennett, & Ringwalt, 1997). Family conflict, disorganization, and abuse are correlated with runaway behavior and youth homelessness (Whitbeck & Hoyt, 1999; Kaufman & Widom, 1999; Thompson & Pillai, 1996).

The risk factors for youth runaway behaviors have often been examined with unique populations of runaways. The findings related to youth homelessness most pertinent to this research are those based on samples of foster care runaways, runaway status offenders, and sheltered youth. These findings are discussed below. In addition, a summary of all risk factors found to be associated with runaway youth, regardless of sample, are summarized.



### *Foster care runaways*

By definition, children placed in foster care have come from troubled families. Intensity of involvement with child welfare systems can vary, but research based on street youth and runaways using alternative services clearly suggests that out of home placements are related to runaway behavior. Adolescents who use alternative services (i.e., shelters and drop-in centers) often report histories of foster care or other institutional placements, with rates ranging from 21 to 53% (Cauce et al., 1998; Robertson, 1989, 1991; Robertson & Toro, 1998; MacLean Embry, & Cauce, 1999; Toro & Goldstein, 2000, as cited in Haber & Toro, 2004). Of runaway and homeless youth admitted to shelters, 20% came to the shelter directly from foster or group homes (Bass, 1992; Belitsos, 2002). Youth using shelter services immediately following an out-of-home placement were likely to use shelter services more than once (Thompson & Pillai, 2006).

The number of homeless youth with prior child welfare involvement and, conversely, the number of runaway and homeless episodes among youth in public systems, together suggest that youth involvement with social welfare systems and youth homelessness are closely linked (Haber & Toro, 2004). Studies of street youth in San Francisco and Hollywood suggest that the relationship between public system placements and youth homelessness may be due to adolescents' risk of becoming homeless upon separation (by emancipation or running away) from residential placements and institutional settings. In these samples, more than one in four youth who had been in foster care, group homes, or a detention center became homeless after their most recent separation, meaning they had spent their first night after leaving these sites in a shelter or on the streets (Clark & Robertson, 1996; Robertson, 1989). In a study of 364 homeless

youth using alternative services in Washington, 33% reported having lived in a foster care placement, and 18% reported that their homelessness resulted from being removed from their parents by a public official (Cauce et al., 2000).

MacLean and colleagues (1999) interviewed adolescents at a drop-in center for homeless youth. Those who reported running away from out of home placements had the most problematic histories, compared with youth who ran away from their families of origin and youth who were thrown out of their homes by their parents (MacLean et al., 1999). Supporting the hypothesis that runaways with child welfare involvement represent a particularly troubled population, Molnar and her colleagues (1998) found that street and shelter-using runaways with a history of child welfare services were the most likely group of runaways to have attempted suicide.

Studies based on national survey data and juvenile justice records, although limited, also find that runaways are likely to have a history of out-of-home placement. A study using Add Health survey data found that youth who did not live with any parent (biological or non-biological) were the most likely to self-report recent runaway behavior (Sanchez, Waller, & Greene, 2006). Kempf-Leonard and Johansson (2007) found that out-of-home placements (including foster families, group homes or institutions, and living with a relative or friend) increased the odds of a runaway charge among youth involved in the juvenile justice system.

Despite the apparent connection between out-of-home care and running away, runaway behavior remains an under-studied phenomenon in foster care (Nesmith, 2006; Staller, 2006). Only since the 1990s have researchers asked runaways whether they ran from home or a substitute placement. These findings demonstrate that children in out-of-

home placements are disproportionately represented among runaways: as many as 16%-46% of runaways report having lived in out-of-home placements prior to running, whereas children in the foster care system comprise only 0.23% of the general population (Child Welfare League of America [CWLA], 1997; Kennedy, 1991; Lindsey, Kurtz, Jarvis, Williams, and Nackerud, 2000; MacLean et al., 1999). These findings have considerable limitations, however, due to the lack of consistency among definitions of “out-of-home care,” the use of self-report data, and the lack of distinction between runaways who reported being placed in substitute care during the 12 or 24 months prior to running away versus the runaways who ran directly from foster care placements.

Few studies specifically examine runaway behavior from the child welfare and foster care perspective, but those that do tend to find considerably lower percentages of runaway behavior. Courtney and Barth (1996) found that 23.4% of 2,653 foster children who were at least 17 years old at exit from foster care (*M* age at entry = 12.5) had a final discharge status of “unsuccessful.” Approximately 90% of those in this category had run away from the foster home or similarly refused service. However, “running away” *per se* was not analyzed. Courtney and Wong (1996) analyzed longitudinal data on 8,625 children who spent time in substitute care and who entered care under 17 years of age. They found that 6% of those children aged 6 through 16 that had exited care did so by running away. The authors found that being older, female, and placed in a group home as opposed to a foster home were strong predictors of runaway behavior. In Fanshel, Finch, and Grundy’s (1989) study of the Casey Family Program, only 3.9% of 579 foster care children ran away. Not surprisingly, this study found that children who ran away scored very low on measures of adjustment (Fanshel et al., 1989).

### *Runaway status offenders*

The juvenile justice response to runaway youths remains a contentious policy issue, in part because there is limited information. As a status offense, runaway falls within the provision for deinstitutionalization of status offenders in the JJDP A of 1974 (DSO provision). Given the lack of viable alternatives, in 1986, the Advisory Board on missing children criticized this provision and recommended that police be allowed to detain runaway children who otherwise could leave police stations and shelters “regardless of the risks and dangers on the street” (Moss, 1986, p. 28). Because of the DSO provision, incarceration for runaway and homeless youth is allowable only through reclassification of the status offense as a law violation termed *bootstrapping* (Chesney-Lind & Shelden, 1998), or by parental consent (and payment) to confine youths in a private facility (*Parham v. J.R.*, 1979, as cited in Kempf-Leonard & Johansson, 2007). The general practices of reclassification and privatization are frequently criticized (Castellano, 1986; Schneider, 1984; Schwartz, 1989; Weithorn, 1988). It has been suggested that the criticism may be more pointed for runaway offenses than for other status offenses such as truancy or curfew violations because punitive strategies such as confinement are more commonly implemented for runaway status offenses (Kempf-Leonard & Johansson, 2007).

As discussed earlier, the federal system of alternative services for runaway and homeless youth was designed, in part, to protect precociously independent teens from the juvenile justice system and to relieve the burden that homeless teens placed on law enforcement agencies. Yet runaways continue to be a concern for juvenile justice systems. According to the Uniform Crime Reports, in 2005 there were approximately

109,000 arrests for running away, about 7% of all arrests for juveniles. Kempf-Leonard and Johansson (2007) examined 42,577 youth processed by the juvenile justice system in a metropolitan area over a six year period, from 1997 through 2003. Of these, 6,473 youth (15%) had at least one referral for running away from home. Females constituted the majority of youths with runaway referrals (65.3%) but the minority of youth referred to juvenile justice for other offenses or charges (27.7%). Comparing youth with runaway referrals to those without, runaways were less likely to live with a biological parent, more likely to have been involved with the child welfare system, and more likely to be pregnant or parenting teens. Substance abuse was also higher among the runaway group. Most youths were referred only once for a single offense (status or otherwise), but runaways were more likely than other offenders to have multiple charges.

The majority of runaway charges were first time offenses; only 25% of runaways were charged with multiple runaway violations. Serious charges, such as homicide, robbery, burglary, aggravated assault, and weapons violations were not as common among runaways as other youth in the juvenile justice system. More than 10% of runaways were charged with simple assault or theft during the study time frame. Half of the youths charged with prostitution were girls who also had at least one runaway charge (Kempf-Leonard & Johansson, 2007).

Runaway youth identified by the juvenile justice system are unlikely to receive services or intervention. In Kempf-Leonard and Johansson's (2007) evaluation of juvenile justice offenders, all charges were dismissed for 7.4% of runaways. Although fewer runaways had their charges dismissed or deferred when compared to other juvenile offenders, the most common juvenile justice intervention with runaway youth was a stern

warning cautioning them against further offending (60.4%). The remaining interventions involved formal outcomes following petitions and adjudication: for runaways, 3% had no recorded disposition, 17% received probation (compared to 27% of runaway boys and 11% of runaway girls), and 4% were committed to out-of-home care (8.2% of boys and 1.1% of girls). Just over 1% of all adjudicated youth were certified as adults, and the highest level was among runaway boys (1.7%).

In this study (Kempf-Leonard & Johansson, 2007), the likelihood of runaway referrals to juvenile court increases if the child is white, a known or suspected victim of child abuse, a substance abuser, and previously living in a group setting such as foster care. Formal juvenile justice interventions (probation, commitment, or certification) were more likely when runaways were living in group settings without two parents, were African-American, had substance abuse problems, gang involvement, and had other charges along with running away (Kempf-Leonard & Johansson, 2007).

#### *Sheltered runaways*

Despite the fact that much of the literature on runaway and homeless youth is based on samples of sheltered runaways, we actually know very little about how sheltered runaways differ from homeless youth who choose not to use services. Through the RCYA Basic Center Program, ACF provides core funding for many emergency shelters across the country. According to the RHYA, the primary purpose of youth shelters is to stabilize the youth and promote reunification with families or find other appropriate long-term placements. Family reconciliation is not uncommon among sheltered youth; younger youth and those experiencing their first episode of homelessness are more likely

to reconcile with families (Robertson & Toro, 1998; Thompson, Pollio, Constantine, Reid & Nebbitt, 2002; Thompson, Safyer, & Pollio, 2001).

Federally funded emergency shelters provide services to adolescents between the ages of 12 and 18 years, are limited to approximately 20 beds, and restrict stays to fewer than 15 days (Greene, Ringwalt, & Iachan, 1997). A range of crisis and basic services are provided, including crisis intervention, individual counseling, family and group counseling, recreation programs, and aftercare services (Human Services Research, 1997).

Homeless youth in emergency shelters may represent a different population than longer-term homeless youth living on the streets. Shelters often receive youth directly from their homes who have never spent a night on the streets and are frequently brought to the shelter by parents or police (Thompson, Maguin, & Pollio, 2003). Shelters require youth to commit to staying until suitable housing can be found for them and provide a range of supportive services, such as counseling geared toward reuniting youth with their families. These youth are often younger and less likely to have extensive histories of homelessness than other non-sheltered homeless youth (Haber & Toro, 2004; Robertson & Toro, 1998). Even without parent or police intervention, newly homeless youth may be more likely to access shelters and community-based agencies rather than becoming immediately immersed in street life and culture (Boesky, Toro, & Bukowski, 1997).

Thompson and her colleagues (2003) examined data collected in 1997 from all 344 federally-funded youth shelters, nationwide. The federal dataset known as RHYMIS (Runaway and Homeless Youth Management Information System) assigns a unique identifier to each youth so that youth traveling between regions of the country can be

tracked with the same RHYMIS number. The sample included 84,846 admissions records. To maintain a sample of unique cases, only the data from first stays (in 1997) were utilized for the study, eliminating 18,861 (22%) duplicate cases.

Also excluded from data analysis were 41,233 cases (48%) where the youth receiving alternative services was not identified as runaway, throwaway, or homeless. This finding has significant implications for runaway research based on shelter or alternative-service-using samples; it is possible that nearly 50% of the youth in these research samples are neither runaway nor homeless. This study, however, clearly addresses the use of shelters by youth identified as runaway, throwaway, or homeless.

Thompson and her colleagues (2003) found that runaway and homeless youth who utilize emergency shelters are more likely to be female, minority, and older than respective national samples of adolescents. Males may be less likely to seek shelter services (Kipke et al., 1997; Kurtz, Jarvis, & Kurtz, 1997; McCabe, Yeh, Hough, et al., 1999) choosing to live on the street or in temporary housing with friends. Thompson and her colleagues (2002) found that shelter users were predominantly female, while longer-term day treatment users were predominantly male. Males and females may have differential access to shelter services due to referral pathways, or may make different choices when faced with a crisis situation. The over-representation of minority groups in youth shelter populations is consistent with over-representation of minorities across the juvenile justice, child welfare, and mental health service sectors (McCabe et al., 1999).

Most youth who used emergency shelters come from their parents' homes and return to their parents' homes (Thompson et al., 2003). Nationally, more sheltered youth reported their most recent living situation was with their parent(s) (48.3%) than with



friends (26.5%), in an institutional setting (10.6%), or on the streets (14.7%) before admission to the shelter (Thompson et al., 2003). Discharge information was missing for 13% of sheltered youth, but where recorded, 57.7% of sheltered youth returned to live with their parents. Others were discharged to friends' homes (12%), institutional settings (18.3%) and the street (12%). Region 5, comprised of upper Midwestern states, reported the highest percentage of sheltered youth coming directly from their parents' homes (55.1%), while only 35% of sheltered youth in Region 1 (New England) reported their parent's home as their last living situation.

The majority of sheltered youth reported serious risk factors. More than half reported using illegal drugs, and 16% reported selling drugs during their lifetime. According to self-reported intake data, 30.9% of sheltered youth had ever contemplated suicide, 30.5% reported physical abuse, and 7.6% reported sexual abuse. Regionally, the highest rates for each of these risk factors (drug use, selling drugs, suicidality, physical abuse, and sexual abuse) were all located in Region 10 (Oregon, Washington, and Alaska). Shelter users in the mid-Atlantic states were least likely to report drug use, and sheltered youth in New York and New Jersey were least likely to report selling drugs.

There are a few significant regional differences with implications for Midwestern runaways (Thompson et al., 2003). Sheltered runaways from the Midwest region including Missouri, Iowa, Nebraska, and Kansas were more likely to come to the shelter from living on the streets than youth in any other region of the country (21.9% were on the streets prior to shelter use, compared to 14.7% of youth using shelters nationwide). Youth in the Midwest did not differ significantly from shelter users nationally on

measures of illicit drug use, selling of drugs, suicidality, past physical abuse, or past sexual abuse (Thompson et al., 2003).

*Risk factors associated with runaway behavior*

The majority of the small but growing body of literature on runaway and homeless youth that has developed since the 1970s is based on youth using alternative services (shelters and drop-in centers), street populations, and self-reported runaway behavior. This work primarily examines personal and family characteristics of RHY and the risk factors associated with runaway behavior. Summarizing the findings is complicated by the lack of consensus on population definitions. Researchers have studied “runaway,” “homeless,” “street youth,” “throwaways,” “shelter users,” and others, yet frequently these categories overlap, making it difficult to determine what we know about any given group (Staller, 2006).

With these limitations, the available research has found that risk factors for homelessness include a history of child abuse and neglect (which may or may not include a formal relationship with the child welfare system), parental substance abuse, mental health problems, poverty, family conflict and disorganization, teen pregnancy, disability,

*Child maltreatment.* A significant number of runaway and homeless youth report past experiences of abuse and neglect. When compared to housed peers, youth experiencing homelessness reported more maltreatment and received higher scores on standardized measures of family conflict (Wolfe, Toro, & McCaskill, 1999). Several other alternative-service based studies confirm that a large majority of homeless youth have been physically abused or neglected (Baker, McKay, et al., 2003; Boesky, Toro, & Wright, 1995; MacLean et al., 1999; Powers, Eckenrode, & Jaklitsch, 1990; Tyler &

Cauce, 2002). As many as 75% of 122 sheltered youth in Detroit reported any form of maltreatment (Boesky, Toro, & Wright, 1995). Sexual abuse was reported by at least 33% of street and sheltered youth in a number of studies (Boesky, Toro, & Wright, 1995; McCormack, Janus, & Burgess, 1986; Tyler, Hoyt & Whitbeck, 2000; Tyler, Hoyt, Whitbeck, & Cauce, 2001).

Two longitudinal studies also found that abused children and youth are more likely to become runaways. Kaufman and Widom (1999) found that young adults with a known archival history of abuse and/or neglect were more likely to self-report teenage runaway behaviors than a comparison group of non-maltreated youth. Using police records of runaway status offenses and child welfare records to determine runaway status, Sullivan & Knutson (2000) also found that physical and sexual abuse predicted runaway behavior. The present study was only the third to be able to prospectively examine runaway following maltreatment and the second that has a comparison group.

Many homeless youth reported abuse by more than one perpetrator. Biological parents were the majority of perpetrators of physical abuse, non-family members most often perpetrated sexual abuse prior to the youth experiencing homelessness (Tyler & Cauce, 2002). In a sample of Canadian runaway youth, approximately a third of teenagers who had been abused reported that they had not disclosed the abuse to anyone (38.3% of girls, 26.7% of boys) (Janus, Archambault, Brown & Welsh, 1995).

The type of maltreatment may influence runaway behavior. Much of the research suggests that youth who report physical or sexual abuse are at higher risk for running away (Andres-Lemay, Jamieson, et al., 2005; Janus et al., 1995; Kaufman & Widom, 1999), while a more recent study argues that youth reporting family neglect had higher

rates of runaway episodes (Thompson & Pillai, 2006). In one study, young people who reported neglect and sexual abuse ran away sooner (Yoder et al., 2001) and were more likely to be victimized on the streets. Rural adolescents who experienced high levels of physical abuse remained in abusive homes longer than their urban counterparts and were more likely to rely on deviant subsistence strategies after leaving home (Thrane, Hoyt, Whitbeck, & Yoder, 2006).

*Parental substance abuse.* Parental substance abuse is a common experience reported by runaway and homeless youth (Ginzler, Cochran, Domenech-Rodriguez, Cauce, & Whitbeck, 2003; Tyler, 2006) and has been found to be associated with both physical and sexual abuse (Whitbeck & Hoyt, 1999). Youth with substance abusing family members are more likely to use alcohol and other drugs themselves (Ary, Tildesley, Hops & Andrews, 1993; Kandel & Andrews, 1987) and are more likely to develop alcohol or drug problems themselves (Anderson & Henry, 1994; Brown, Tate, Vik, Haas, & Aarons, 1999).

*Mental health problems.* Studies consistently demonstrate that homeless youth are at elevated risk for mood disorders and suicide attempts (Cauce et al., 2000; Feitel, Margetson, Chamas, & Lipman, 1992; McCaskill et al., 1998; Molnar et al., 1998; Powers et al., 1990; Robertson, 1989; Rotheram-Borus, 1993; Toro & Goldstein, 2000; Yates et al., 1998) and PTSD (Cauce et al., 2000; Clark & Robertson, 1996; Feitel et al., 1992; Fronczak & Toro, 2003; Thompson et al., 2002). Other studies have demonstrated an association between runaway status and conduct disorder diagnoses (Booth & Zhang, 1996; Burke & Burkhead, 1989; Whitbeck et al., 1997). Rates of psychotic disorders are low among sheltered youth (McCaskill et al., 1998). A study of street and sheltered RHY

found that 48% of females and 27% of males had attempted suicide. The average number of attempts was six for females and five for males (Molnar et al., 1998).

It is difficult to determine whether the emotional problems of an adolescent who is homeless at a given point in time is caused by a chronic emotional or mental disorder, the extreme stress of homelessness, historical stressors such as family violence or parental substance abuse, the youth's own use of alcohol or other drugs, or some combination of these (Haber & Toro, 2004).

Alcohol and drug use are common among runaway youth (Whitbeck & Hoyt, 1999). In a national sample of sheltered youth, half self-reported using or selling drugs (Thompson et al., 2001). In two regional samples of sheltered youth, alcohol use by youth consistently predicted the number of runaway episodes they experienced (Thompson & Pillai, 2006).

Although alarming, the high percentage of sheltered youth reporting problems of substance abuse, suicidal thoughts, suicidal behaviors, and physical and sexual abuse, has inspired little research into their history of mental health service use. One exception studied a sample of adolescent shelter users with a diagnosis of substance abuse or dependence found that in the 90 days prior to shelter admission: 12% attended 12-step meetings, 39% reported receiving medical care, 2% received counseling for issues around alcohol abuse, 29% received emotional counseling, and 13% received counseling around issues of drug abuse (Slesnick, Meade, & Tonigan, 2001). Caretaker education, caretaker rejection, and family transitions increase the probability that an adolescent has seen a mental health professional prior to running away from home (Berdahl, Hoyt, & Whitbeck, 2005).

*Poverty.* Disproportionate numbers of adolescents who are homeless come from low-income or working class families and neighborhoods (Haber & Toro, 2004; Whitbeck, Hoyt, Tyler, Ackley, & Fields, 1997; McCaskill et al., 1998). Most parents held unskilled or blue collar jobs, and most street youth came from neighborhoods with average household income below \$40,000 (McCaskill et al., 1998). Thus far, however, no studies have been able to examine runaway prospectively within a poverty population.

*Involvement with the juvenile justice system* Though limited, the existing body of research documents high rates of involvement with the juvenile justice system among homeless youth (statistics on the number of youth that become homeless upon release from incarceration are not available) (U.S. Department of Health and Human Services, 2007). Data from a homeless youth shelter in New York City indicate that 30% of the youth who entered the shelter had a history of incarceration (New York City Association of Homeless and Street-Involved Youth Organizations, 2003). Nine federally-funded youth shelters in Washington State surveyed 940 residents, of which 29% self-reported prior involvement with the juvenile justice system (Estes & Weiner, 2001). Results from a state-wide survey in Minnesota revealed 46% of 209 homeless youth had spent at least one night in a detention center (Owen & Nelson-Christinedaughter, 2001). These youth reported that having a criminal background interfered with getting or keeping a safe place to live.

*Family conflict and disorganization.* Youth consistently report family conflict as the primary reason for their homelessness. Sources of conflict vary but include conflicts with parents over a youth's relationship with a stepparent, sexual activity and sexual orientation, pregnancy, school problems, and alcohol and drug use (Owen et al., 1998;

Robertson & Toro, 1999; Whitbeck & Hoyt, 1999). A recent qualitative study with 40 homeless youth in the Midwest found family disorganization (parental substance misuse, parental criminal activity, child maltreatment), and child transitions (running away, foster care, detention) were common themes in their social histories (Tyler, 2006).

Although conflict among the adults in the home has been noted as a possible causal agent in youths who run away (Stierlin, 1974), little is known about the impact of domestic violence on runaway behavior. To date, no published research has examined the prevalence of domestic abuse in families from which young people have run away or been thrown out of the home.

Many homeless young people have experienced multiple moves and lack of housing stability before leaving home. Cauce et al. (2000) found among their sample of homeless adolescents, the average number of changes in living situations (most of which occurred while the youth was with his or her family) over the previous 3-month period was 2.3, with about one move occurring every 45 days. A probability sample of 251 homeless youth in Detroit found the average number of lifetime housing moves was 5, with a matched housed group of 145 adolescents having experienced fewer than half that many moves (Toro & Goldstein, 2000).

Many homeless youth come from non-traditional families, and thus, family structure is often related to runaway behavior. A study of Hollywood street youth found that 16% had no previous contact with their biological fathers, 9% had no previous contact with their biological mothers or fathers. Of the known parents, nearly 75% were divorced or never married (Greenblatt & Robertson, 1993). Of 122 sheltered youth in Detroit, most grew up in single parent (34%) or blended (32%) families. 22% had been

formally placed outside the home by officials, and 48% had lived with relatives (not parents) for a substantial amount of time (Reed, 1994). Changes in family structure (divorce, remarriage, or parental separation) did not significantly impact the likelihood of running away from home for the first time, in an event history analysis (Yoder et al., 2001).

*Teen Pregnancy.* Adolescent pregnancy continues to be a serious social and health problem in the United States (Brindis, 1991), and homeless youth appear to be at disproportionate risk (Greene & Ringwalt, 1998). Greene and Ringwalt (1998) found that homeless youth ages 14-17 had the highest lifetime rates of pregnancy (48%), followed by youth residing in shelters (33%), and youth residing in single-family households (<10%).

The high rates of pregnancy among homeless youth may be related to a number of factors. Sexual abuse may play a role in teen pregnancy among homeless youth, as it has been reported by homeless youth at rates up to five times greater than in the general population (Greene, Ringwalt, Kelley et al., 1995; Yates et al., 1988; Schoen et al., 1997). Sexual abuse may be related to pregnancy because 1) it directly causes the pregnancy (Shaffer & Caton, 1984), 2) sexually abused youth have been shown to have greater numbers of sexual partners (Rotheram-Borus, Mahler, et al., 1996), to be more likely to engage in unprotected sex (Rotheram-Borus, et al., 1996), and to initiate sexual activity at an earlier age (Erikson & Rapkin, 1991). Another reason for higher rates of pregnancy among homeless youth may be the increased incidence of rape among the homeless population (Kelly, 1985; Whitbeck & Hoyt, 1999). Poverty and lack of resources may also influence pregnancy rates by negatively impacting a homeless youth's



ability to access birth control. In severe circumstances, a youth may be forced to trade sex for basic subsistence needs such as food and shelter (Yates et al., 1988; Pennbridge et al., 1991).

*Disability.* Research suggests that children and youth with disabilities are largely unidentified and unrecognized among runaway and homeless youth (Sullivan & Knutson, 2000). Cauce and her colleagues (2000) found that 32% of their sample of street youth met criteria for ADD, while another small (n=123) study of sheltered homeless youth found that 80% suffered from any diagnosable disability, including learning disabilities in reading (52%) and math (29%) (Barwick & Siegel, 1996).

Sullivan and Knutson (2000) undertook the most comprehensive study of disability among youth with runaway histories. The first of their two analyses used archival records from a large urban hospital, the state department of social services, and the city police department to find children from the hospital sample who had archival evidence of running away, childhood maltreatment, or both. After merging the data and randomly selecting a research sample, a detailed record review of hospital, child welfare, and police records was undertaken to identify the presence of disabilities as defined by the IDEA. The prevalence rate of some diagnosed disability among the maltreated runaways in the hospital sample was 83.1%, and 47% among the runaways with no history of reported abuse or neglect.

The second analysis of Sullivan and Knutson (2000) merged data from the urban public school district with state child welfare data and the police databases of the two urban counties to identify children from the school sample with evidence of running away and maltreatment. Approximately 1.4% of the school population (K-12) had some

record of running away from home (n=562). To be classified disabled for this analysis, the subject had to have been enrolled in a special education program through the public school district. Sullivan and Knutson found significant differences between the runaways and the other children. Approximately 29% of runaway children in the school sample had evidence of one or more disabilities. Behavior disorders and mental retardation were most strongly associated with runaway histories. The overall disability rate for the urban school district was 8%, meaning children and youth with runaway histories had a disability rate three times higher than that of the general school population, and the risk for running away among disabled children was approximately five times that of nondisabled children (Sullivan & Knutson, 2000).

*School-related problems.* Academic difficulties are also common among runaway and homeless youth. Runaway adolescents are more likely to have attended alternative educational programs or completely dropped out of school (Kurtz et al., 1991). As many as 55% of homeless adolescents report having been held back a year in school (Clark & Robertson, 1996; Robertson, 1989; Upshur, 1986; Young, Godfrey, Matthews, & Adams, 1983). Two studies of homeless youth on the street found that about one quarter of homeless youth reported participation in remedial or special education classes (Clark & Robertson, 1996; Robertson, 1989).

Academic problems can lead to behavior problems in school, which have also been examined in the context of runaway behavior and youth homelessness. In a Detroit sample of 251 adolescents who were homeless and on their own (using alternative services such as shelter or drop-in centers), 88% had been suspended, expelled, and/or dropped out of school (Toro & Goldstein, 2000). Conversely, in a two-city study of

shelter using adolescents, Thompson and Pillai (2006) found that self-reported school truancy and expulsion did not predict homelessness.

*Gaps in the literature and rationale for this project*

This project aims to address several questions that remain unanswered in the runaway and homeless literature. Given the prevalence of the problem, the critical public health concerns for the homeless youth population, the complexity of risk factors for youth homelessness, and the myriad service sectors involved with homeless youth, the relative lack of research in this area is surprising (Haber & Toro, 2004). Particularly lacking are longitudinal studies of runaway youth as they interact with traditional service systems, such as child welfare, schools, hospitals, and the juvenile justice system (Staller, 2006).

In part, this is because the population is difficult to study. Many runaway youth live unstable lives that make them difficult to locate and track. In addition, runaways are likely to be fearful of adults, including researchers, who may have an agenda of returning the youth to their family or to child welfare. Institutional Review Boards (IRBs) present additional constraints on studying this vulnerable population, typically requiring parental consent to conduct research on minors. This can make it difficult to study independent, high-risk, street-based youth whose parents are not readily available to sign consent forms. There are both practical and systemic disincentives to studying this mobile, parentless, system-crossing group of wandering minors (McNamara, 2008; Staller, 2006).

Despite these challenges, the multiple service options for runaway youth make the lack of cross-sector research a surprising gap in the knowledge base. Excepting the work of Sullivan and Knutsen (1998, 2000), there is no research using administrative data to

examine the relationships and linkages between the sectors known to serve runaway youth: hospitals, schools, child welfare, juvenile justice, law enforcement, and the alternative service sector. The work of Sullivan and Knutson was limited by cross-sectional data and access to only three service systems: school services, hospital services, and law enforcement. This project builds on their work by including administrative records from income maintenance, schools, juvenile justice, family court, child welfare, public mental health services, and public substance abuse services. This examination of service use over the lifetime culminates with system identification of runaway behavior: status offenders, foster care runaways, and sheltered youth.

In their review of the literature on homeless adolescents, Haber and Toro (2004) argue that studies following samples of poor or other children or adolescents at risk for homelessness over long periods of time would provide critical information for the field. However, they can cite only one existing study of this type (i.e., Courtney, Piliavin, Grogan-Kaylor, & Nesmith, 2001), which studied a specific population of youth “aging out” of foster care. By linking data from a prospective longitudinal service use study on at-risk children to users of emergency shelters for youth, this study represents the first step towards meeting the need for longitudinal studies of at-risk and homeless youth.

Only one other study has used longitudinal data capable of examining runaway issues in a prospective manner, and the study was limited in that adult subjects were asked to recall runaway behavior during their teen years (Kaufman & Widom, 1999). Recall and self-report of sensitive data may be unreliable (Widom & Shepard, 1996). Because the archival records used in the present study include dates, a prospective examination is possible even though events have already occurred. This will add to the

literature on runaway and homeless youth by providing an in-depth description of the service use histories of runaway and homeless youth based on archival records rather than self-report. This could shed light on service overlaps and/or opportunities for inter-agency coordination of services (Jonson-Reid & Drake, 2008).

With a few exceptions (e.g., Sullivan & Knutson, 1998, 2000), the currently available research examining child maltreatment among runaway and homeless youth relies on youth self-report for determining history of child maltreatment. Research examining the accuracy of adult recollections of childhood maltreatment compared self-reports to archival data and found that physically abused and sexually abused respondents substantially under-reported their childhood abuse (Widom & Shepard, 1996; Widom & Morris, 1997). Widom and Shepard found that nearly 40% of adults with records of past child maltreatment did not report a history of child abuse. Under-reporting of abuse may be due to loss of painful memories, embarrassment, a wish to protect parents and family, a sense of deserving the abuse, a wish to forget the past, or a lack of rapport with the interviewer (Della Femina et al., 1990).

The extent of reporting prior abuse varies dramatically by the criterion or measure used (Widom & Shepard, 1996). Much of the self-reported abuse in the runaway youth literature is captured using the Conflict Tactics Scale (CTS) developed by Murray Straus (1979) (e.g., Whitbeck & Hoyt, 1999). It is not surprising that homeless and runaway youth score highly on the original CTS measure of family conflict. But to use the CTS as a proxy for child maltreatment may be misleading. This project addresses these limitations by using administrative records of reported child maltreatment.

This study is also the first to comprehensively examine the population of sheltered youth. Although shelter services were designed to be a safety net for runaway youth, research suggests that shelters may be serving a much broader population of at-risk youth. Examining shelter occupancy rates, Greene and her colleagues (1997) had shelters exclude “system youth” (child welfare emergency placements) from their census and found that only half of available shelter beds were occupied by runaway or throwaway youth. Analyzing data from federally-funded shelters, Thompson et al. (2003) found that nearly 50% of shelter admissions were for youth who were not considered runaway, homeless, throwaway, or emergency child welfare placements (Thompson et al., 2003). So the question remains unanswered: what youth populations other than runaways are utilizing the emergency shelter system? If shelters are serving youth for which the program was not intended, how can we know whether these non-homeless youth are receiving appropriate care, or that the agencies are equipped to meet the needs of a broader population? This research examines a population of youth who have utilized shelter services to determine which youth are accessing shelter services in this region, and whether these youth can be sub-typed according to their service use histories.

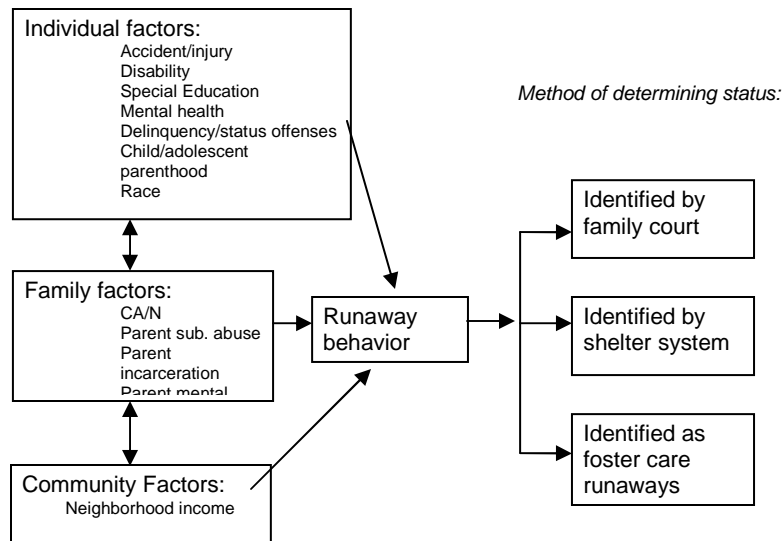
### *Theory & Conceptual Framework*

By the late 70s, the concept of the youth who runs away from home to seek adventure or pleasure was exposed as a social myth. Today’s runaways are more often running *from* something or drifting out of disorganized families rather than running *to* something (Whitbeck & Hoyt, 1999). Rather than seeking fortune, contemporary runaways are responding to troubles and stressors within their families, many of which pose serious risk of harm.

Several theories have been posited to help understand the process by which youth become homeless. These include the cumulative risk theories such as the Risk Amplification Model (Whitbeck & Hoyt, 1999), which examines stress pile-up prior to running away from home. These models are used to predict which youth are more likely to become homeless, and which youth are most likely to experience negative intrapsychic consequences of homelessness (i.e., PTSD or suicidality) based on individual characteristics and experiences.

Although this study does not examine likelihood of runaway or likelihood of negative psychosocial outcomes, it does examine likelihood of identification as a runaway by a particular service sector. The basic framework of well-known models to predict service use outcomes (e.g., Andersen & Newman, 1973; Whitbeck & Hoyt, 1999) was used to develop a simple model of runaway status identification (Figure 1). This model supposes that variations in individual, family, and community characteristics which, taken as a whole may all contribute to runaway behavior, can predict the service sector most likely to identify the youth's runaway episode.

Figure1. Model of runaway identification by service sector



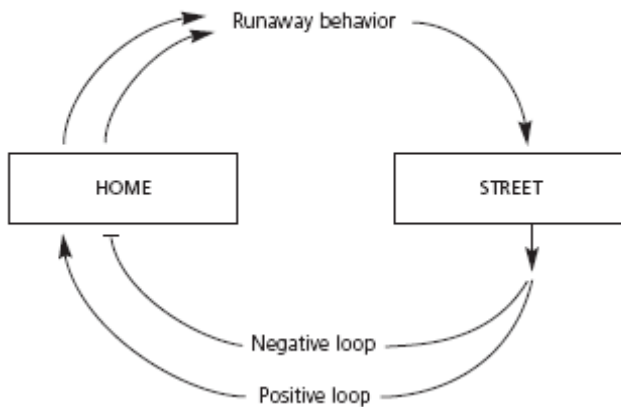
The current study's examination of shelter users, specifically, is guided in part by Karen Staller's dynamic model of runaway behavior (Staller, 2004). Dynamic social system models describe the operation of complex systems over time from an endogenous standpoint. This vantage point is important because it allows the system to be understood independently of outside influences (Richardson, 1991). And so it is the actual structure of the system that creates behavior change, which is often mistakenly attributed to external factors. Staller (2004) provides the example of the rise in the homeless youth population relative to the runaway population noted by frontline social service workers shortly after the Runaway and Homeless Youth Act was enacted. This change could have been attributed to changing social factors, but was in fact likely caused by the first-time availability of services for this population: if you build it, they will come.

The basic building blocks for dynamic models are feedback loops, which can be either positive or negative. Staller (2004) presents a simple feedback loop for runaway youth as an example: home-street-home (Figure 2). A negative feedback loop occurs when the child is frightened by the streets and returns home. A positive feedback loop



occurs when the child's street experiences are particularly successful, or when the home life is so terrible that the street is an appealing alternative. This reinforces running behavior and may contribute to future decisions to run away (Staller, 2004).

FIGURE 1. Home-street simple feedback loops.



The stress and coping model informs these feedback loops: individuals will choose the option that reduces their stress (Spaccarelli, 1994). Coping behaviors refer to a repertoire of strategies to avoid, reduce, or tolerate stress in one's environment. Coping is

hypothesized to moderate the relationship between stress and negative outcomes by buffering or protecting the individual from the negative consequences of stress. When stress is elevated, individuals who are coping by reducing or eliminating the stressor are expected to show good health and adaptational outcomes. Those with attenuated coping are expected to show poor health and maladaptation. However, coping and buffering does not always alleviate negative outcomes, particularly health outcomes. And some coping strategies may exacerbate or amplify the negative effects of stress. Individuals weigh the relative stresses of their options – in this case stressors associated with shelter residency compared to the stress of living at home – and choose the least stressful option. Depending on the level of stress in the home, running away may be an adaptive choice with fewer stressors for the child. In this way, the individual's coping strategies can create a positive or negative feedback loop for runaway behavior.

The most important contributions of Staller’s dynamic model of runaway behavior is that it does not assume that all runaway behavior originates from the home, and it does not assume that runaway behavior is influenced only by personal choices and preferences. Her model includes contributing social systems that dictate choices for many at-risk youth. The first contributing factor includes residential systems of alternative or substitute care. These may be informal (a friend’s house) or formal (foster care or detention). The second contributing factor is non-residential social systems that may unintentionally contribute to runaway behavior. These systems include public schools, juvenile and family court, and law enforcement. Figure 3 implicates all of these social service sectors as contributors to the system dynamics affecting the population of at-risk youth in search of stability (Staller, 2004). The assumption is not that youth know about their options in advance and make rational choices, but rather that at-risk youth who interface with a particular service system are likely to behave in ways that increase or decrease the likelihood of future interaction, depending on whether their experience was positive or negative.

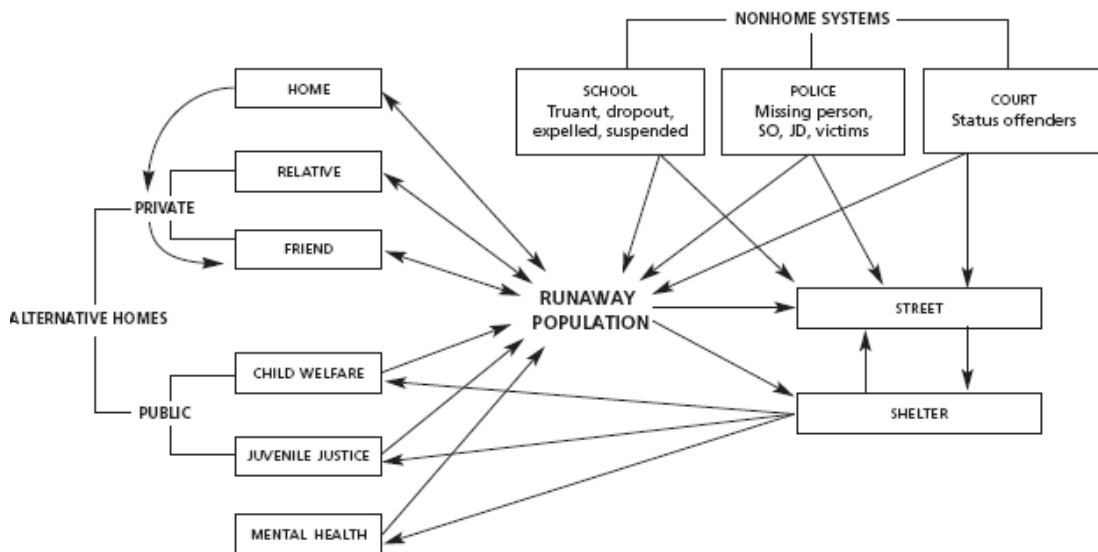


Figure 3. Dynamic model of runaway behavior (Staller, 2004).

The fundamental purpose of Staller's model is to depict influences on the rise or fall of the runaway youth population, which is clearly not the focus of the current research. However, Staller's model directly addresses the historical problem with runaway nomenclature. The various terms used to describe subsets of the runaway population may represent a struggle to label youth who fit into various time-event cells. In other words, her model provides a map for tracking youth between formal and informal placements, and provides structure to the idea that we may be able to categorize runaway youth by the systems they come into contact with. Furthermore, the dynamic model of runaway behavior can help explain the relationship between child welfare, juvenile justice, law enforcement, mental health, and public schools. The model allows for the synthesis of studies and findings from the diverse perspectives of these service sector communities.

Staller's model supports this research by 1) demonstrating the need and usefulness of thorough, longitudinal data related to runaway and homeless youth, 2) underscoring the importance of determining the service needs of shelter youth and their pathways into care (particularly if they are not runaway or homeless youth), and 3) it highlights the need to understand whether the existing policies and services for runaway and homeless youth make sense given the service use patterns among the population.

This project will use Staller's model as the basis for exploring the population of youth using shelter services, hypothesizing that sheltered youth include at-risk youth who are not runaways (Greene et al., 1997; Thompson et al., 2003). These youth may have been directly placed in the shelter by parents or by child welfare (Figure 3).

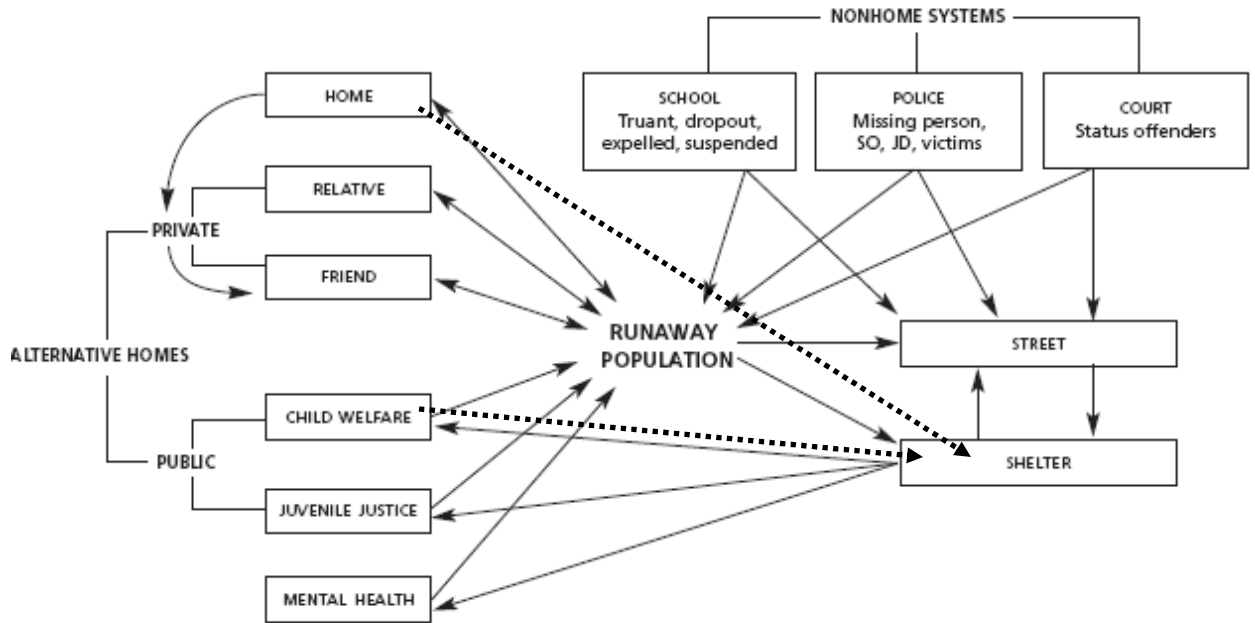


Figure 4. Modified model of runaway service use, highlighting pathways to shelter use other than running away (Staller, 2004).

### *Aims and Research Questions*

Because so little information on runaway youth exists, particularly the cross-sector service use of runaway youth, this research is largely exploratory. This research will examine users of community-based shelters for runaway youth. Using a longitudinal cross-sector service use dataset, this study examines identified runaways with a prior history of maltreatment and/or poverty, subsequently referred to as *high-risk runaways*. This dissertation provides: 1) an inter-group analysis to determine whether shelter users are a distinct high-risk runaway subtype with divergent service use histories from status offense runaways and foster care runaways, and 2) an intra-group analysis to determine whether high-risk shelter-using youth are a homogenous or heterogeneous group of at-risk young people based on histories of individual and family use of public services. To

that end, this project seeks to address two primary aims, each of which has associated research questions.

**Aim 1: To explore the characteristics of sheltered youth by performing an inter-group comparison of all high-risk runaways. Given the service use overlap, the subsamples were determined by the *first* service sector to identify the youth as a runaway: 1) a community-based shelter, 2) the juvenile court system, or 3) the child welfare system.**

#### *Research Questions*

- Among a high-risk population of youth who have experienced maltreatment and/or poverty, are there significant differences between runaway youth identified by youth shelters versus the juvenile justice system or child welfare in terms of demographics and service use experiences?
- Do these systems of care identify unique populations of high-risk runaway youth, or do runaway youth move freely between and among these service sectors?
- What individual factors and/or service use experiences among runaways increase the odds of identification as a runaway by a community-based youth shelter?

#### *Hypotheses*

Based on previous literature, described above, runaway youth are posited to be involved with many service sectors over time; however, the system that initially recognizes the youth's runaway status may be significant. Karen Staller's framework suggests that runaways may differ according to service use patterns. For example, youth running to a friend's house may represent a different type of runaway behavior than youth running away to live on the streets. While we have no way of identifying the

movements of runaway youth within the private sector, the public service use histories of these youth offer us the opportunity to begin exploring possible differences between youth identified by different service sectors.

Knowledge of the service use histories and individual characteristics of the runaways will allow us to model known risk factors for runaway behavior with identification of runaway behavior by particular systems of care. Because similar risk factors have been identified for status offense runaways, shelter users, and foster care runaways, it may be that these three groups do not significantly differ on individual risk factors or service use trajectories. Based on the limited research suggesting risk factors for status offense runaways and foster care runaways, this proposal hypothesizes that there were no significant differences between status offense runaways and foster care runaways in terms of individual characteristics or service use histories.

The previous research on sheltered youth, however, indicates that sheltered youth are likely to be living with their parents prior to intake, and are likely to be discharged back into their parents' care. This presents a much more stable living situation for the youth, and therefore sheltered youth are posited to exhibit fewer risk factors for runaway behavior than status offense runaways and foster care runaways. Specifically, sheltered youth are hypothesized to have less intensive involvement with child welfare services, lower rates of parent criminality, neighborhood poverty, emergency medical service use, and parent mental health and substance abuse problems. Consistent with the research, sheltered youth are posited to be equally likely to have a disability, school problems, and mental health problems as status offense runaways and foster care runaways.

**Aim 2: To conduct an intra-group analysis of high-risk runaways who had any record of shelter services to explore whether distinct profiles of sheltered youth exist, based on individual characteristics and service use patterns over time.**

*Research Questions*

- Are there distinct groups within a high-risk sheltered population that can be categorized in ways other than their known histories of maltreatment and/or poverty?
- How many distinct classes can be determined, with respect to individual characteristics and service use patterns?
- What are the individual characteristics and service use patterns associated with each class?
- What proportion of high-risk sheltered youth can be categorized within each class?

*Hypotheses*

The consistent efforts of researchers and practitioners to subtype and label runaways (i.e., “runaways” vs. “throwaways”) indicate that there is significant evidence for runaway subtypes, although these categories lack clarity. Previous research has found that homeless youth can be clustered according to daily activities and social bonds (Mallett et al., 2004; Cherry, 1993). Thus, it is likely that sheltered runaways can also be grouped into more than one class based on service use history and trajectories. It is hypothesized that sheltered runaways will cluster according to their living situation prior to shelter use (family home, foster care, street).

### Chapter 3: Methods

This chapter will describe the methods used to evaluate the primary aims of the dissertation. The two samples were described, along with the variables and constructs used for the analyses. Data collection and protection is also discussed.

#### *Samples*

The data used for this research are part of a larger study, “Child Neglect: Service Paths and Young Adult Outcomes” (Principal Investigator: Melissa Jonson-Reid, PhD;NIH R01 MH6173302), hereafter known as the parent study. This is a longitudinal study of service paths of youth in a large Midwestern metropolitan region. For this study, the metropolitan region included two counties: one entirely urban, the other primarily suburban, with a combined population of 1.3 million residents (U.S. Census Bureau, 2008). Data were collected from administrative sources, including the State Children’s Division (child welfare), City and County Juvenile Court, State Department of Corrections, State Department of Social Services, State Department of Mental Health, Highway Patrol, local runaway shelters, Department of Health and Vital Statistics, and Special Education Departments.

Data on children reported for abuse and neglect in 1993-1994 were linked using the common child level system identifiers (called DCNs) to Aid to Families with Dependent Children (AFDC) files (n=11,728). A random sample of families receiving AFDC *without* a report of child abuse or neglect (AFDC only) was drawn to match the maltreated/AFDC sample (CAN+AFDC) according to region and birth year(n=11,424). A third group of youth includes all remaining abuse and neglect cases from 1993-1994 that did *not* have a history of AFDC use (CAN only, n=4,024).



*Aim 1: Runaway sample*

The purpose of Aim 1 is to explore the service use histories of service-sector identified runaways to determine whether shelter users represent a unique subtype of the identifiable runaway population. Based on the research questions and aims, a specific subgroup of the parent study was selected. This subsample includes cases from the parent study which could be identified as runaway. Within the limitations of the dataset, runaways are identified in three ways: 1) Youth with a record of utilizing emergency shelter services, 2) Youth who have been charged with a status offense for runaway behavior, and/or 3) Youth in foster care with cases that were closed due to runaway behavior. Shelter status was identified through matching done by shelter staff reimbursed through grant funds. Variables describing sheltered youth were extracted from case files based on review forms created from consult regarding RHYMIS data and discussions with shelter administrators. All three youth shelters in the St. Louis metropolitan area participated in the study. Shelter case file records were collected in 2002, and include information on shelter stays prior to that year. Based on the research questions posed, a specific subgroup of the parent study population has been selected. Inclusion and exclusion criteria for the runaway sample are as follows: *1) Only subjects who used emergency shelter placements before the age of 18, were reported as runaways from foster care by child welfare, or were petitioned for a runaway status offense in the City or County of St. Louis are included; 2) Subjects who utilized emergency shelters but were referred there by child welfare are assumed to have received emergency foster care crisis placements, and are excluded from the dataset; 3) subjects with missing birthdates or*

*with caretakers over the age of 50 at the time of birth are excluded from this and the parent study.*

Of the high-risk youth included in the parent study, 710 met the inclusion criteria for this project. Of the 710 youth included in the runaway sample, more than 400 youth came from among the parent study CAN + AFDC group. Runaways represent 3.5% of the CAN + AFDC youth in the parent study. Nearly 200 in the runaway sample came from the AFDC-only group. These youth represent 1.5% of AFDC-only group from the parent study. Slightly over 120 of the youth in the runaway sample came from among the parent study CAN only group. Approximately 3.0% of the CAN only group from the parent study was included in the runaway sample. In light of the parent study sampling strategy, the runaway sample includes only high-risk youth with lifetime experiences of poverty, maltreatment, or both.

Tables 1 and 2 present demographic information on the runaway sample. The sample is 60% female. Most of the sample is non-white, nearly 90% have a history of reported maltreatment, and 83% have lived in families receiving AFDC or TANF benefits. Two out of five youth in the runaway sample have been court petitioned for a delinquent offense. More than a third of the sample received special education services for a disability, and about one third had been placed in foster care during their lifetime. The youth in the sample averaged more than two spells on income maintenance (AFDC or TANF) during their childhood (sd= 1.8), and were reported for maltreatment an average of four times prior to their first runaway episode (sd= 3.5). The average age for first maltreatment report was between six and seven years old (sd= 3.8), and the average age at first identified runaway episode was 14 years of age (sd= 2.2).

Table 1. Aim 1 Runaway Sample Characteristics (N=710)

Race		
African-American	528	74.4%
White	182	25.6%
Sex		
Female	423	59.6%
Male	287	40.4%
Poverty/maltreatment status when sampled ('93-'94)		
AFDC/TANF	174	24.5%
Maltreatment (CAN)	123	17.3%
AFDC/TANF + CAN	413	58.2%
First service system to identify runaway status		
Child welfare	63	8.9%
Juvenile court	444	62.5%
Youth shelter	203	28.6%
Multiple systems identified youth as runaway		
Yes	104	14.6%
No	606	85.4%
Census tract average household income		
<\$25,000/year	336	47.3%
\$25,000 - \$49,999/year	333	46.9%
\$50,000+/year	41	5.7%
Caregiver education		
HS grad or more	270	38.0%
Less than HS	440	62.0%
Caregiver incarceration		
Yes	19	2.7%
No	691	97.3%
Record of caregiver mental health or substance abuse treatment		
Yes	86	12.1%
No	624	87.9%
Record of child mental health treatment		
Yes	276	38.9%
No	434	61.1%
Special education eligibility		
Learning disability	123	17.3%
Emotional disability	60	8.5%
Other disability	93	13.1%
No known disability	434	61.1%
Any record of MR/DD designation		
Yes	52	7.3%
No	658	92.7%
Any report of maltreatment (hotline call)*		
Yes	619	87.2%
No	91	12.8%
Any report of physical abuse*		
Yes	375	52.8%
No	335	47.2%
Any report of sexual abuse*		
Yes	144	20.3%
No	566	79.7%
Any report of neglect*		
Yes	494	69.6%
No	216	30.4%
Family received child welfare services (in-home or out-of-home)*		
Yes	447	63.0%

No	263	37.0%
Subject ever placed in foster care*		
Yes	248	34.9%
No	462	65.1%
Delinquent offense*		
Yes	288	40.6%
No	422	59.4%
Court petitioned for truancy*		
Yes	63	8.9%
No	647	91.1%
Chronic medical condition/disability		
Yes	54	7.6%
No	656	92.4%
Rec'd services for pregnancy* (girls only, n=423)		
Yes	77	7.6%
No	346	81.8%

\*Prior to first identified runaway episode

Table 2. Aim 1 runaway sample means (N=710)

	mean (std)
Number of family spells on income maintenance	2.3 (1.8)
Number of CA/N reports prior to first identified runaway episode	3.9 (3.5)
Age at first maltreatment report (n=646)	6.7 (3.8)
Age at first identified runaway episode	14.0 (2.2)

### *Aim 2: Shelter sample*

Using a second sample of all youth with any record of shelter placement, Aim 2 addresses the characteristics of youth utilizing emergency shelter services within the metropolitan area. The shelter sub-sample includes any child from the parent study who has a record of staying in a youth shelter prior to their 18<sup>th</sup> birthday, regardless of the reason for the placement. Youth are included in the shelter sample even if the shelter use was subsequent to identification as a runaway by another social service sector. Inclusion and exclusion criteria for the shelter sample are as follows: 1) *Only subjects who used emergency shelter placements before the age of 18 are included;* 2) *Unlike the runaway sample for Aim 1, subjects referred to shelters by child welfare are included in the dataset;* 3) *subjects with missing birthdates or with caretakers over the age of 50 at the time of birth are excluded from this and the parent study.*

The number of subjects who meet the inclusion criteria for the shelter sample is 457. In light of the parent study sampling strategy, the shelter sample includes only high-risk youth with lifetime experiences of poverty, maltreatment, or both. Tables 3 and 4 present state service sector data available for this sample of high-risk sheltered youth. The shelter sample is 63% female. The majority of the shelter sample is African-American (81%), more than 90% of the youth in this sample have a history of maltreatment, and nearly 90% have lived in families receiving AFDC or TANF benefits. More than one third have been petitioned for a delinquent offense. Approximately two out of three youth in the shelter sample received in-home services through child welfare, and about half had been placed in foster care prior to their first stay at an emergency shelter.

Table 3. Aim 2 Shelter Sample Characteristics (N=457)

Race		
African-American	372	81.4%
White	85	18.6%
Sex		
Female	288	63.0%
Male	169	37.0%
Poverty/maltreatment status when sampled ('93-'94)		
AFDC/TANF	98	21.4%
Maltreatment (CAN)	49	10.7%
AFDC/TANF + CAN	310	67.8%
Census tract average household income		
<\$25,000/year	263	57.5%
\$25,000 - \$49,999/year	177	38.7%
\$50,000+/year	17	3.7%
Caregiver education		
HS grad or more	164	35.9%
Less than HS	293	64.1%
Caregiver incarceration		
Yes	13	2.8%
No	444	97.2%
Record of caregiver mental health or substance abuse treatment		
Yes	65	14.2%
No	392	85.8%
Record of child mental health treatment ( <i>does not include shelter therapeutic services</i> )		
Yes	211	46.2%
No	246	53.8%
Special education eligibility		

Learning disability	81	17.7%
Emotional disability	50	10.9%
Other disability	65	14.2%
No known disability	261	57.1%
Any record of MR/DD designation		
Yes	44	9.6%
No	413	90.4%
Any report of maltreatment (hotline call)*		
Yes	416	91.0%
No	41	9.0%
Any report of physical abuse*		
Yes	259	56.7%
No	198	43.3%
Any report of sexual abuse*		
Yes	103	22.5%
No	354	77.5%
Any report of neglect*		
Yes	350	76.6%
No	107	23.4%
Family received in-home child welfare services*		
Yes	316	69.2%
No	120	30.8%
Subject ever placed in foster care*		
Yes	213	46.6%
No	244	53.4%
Delinquent offense*		
Yes	171	37.4%
No	286	62.6%
Court petitioned for truancy*		
Yes	37	8.1%
No	420	91.9%
Chronic medical condition/disability		
Yes	36	7.9%
No	421	92.1%
Rec'd services for pregnancy* (girls only, n=288)		
Yes	63	21.9%
No	225	78.1%

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\*Prior to first identified shelter stay

Table 4. Shelter Sample Means

	mean (std)
Number of family spells on income maintenance	2.5 (1.7)
Number of CA/N reports prior to first identified runaway episode	4.5 (3.5)
Age at first maltreatment report (n=646)	6.3 (3.7)
Age at first identified runaway episode	14.3 (2.3)

Additional data is available for the shelter sample from shelter intake case files, including information pertaining to prior living situation, referral source, and whether the youth was returned to the family at discharge from the shelter (see Table 5). This data is used exclusively to evaluate Aim 2. The majority of sheltered youth lived with a parent

or family surrogate immediately prior to their stay (60%). About one third came to a shelter directly from another agency's care, which could include a foster care placement, residential placement, juvenile detention, or a hospital. Only one in five sheltered runaways in this sample was living on the streets or was on the run from home or another residential placement.

Behavior problems were common but not predominant in this sample of high-risk shelter residents. Just over 20% of intake files indicated that youth behavior problems were causing caregiver distress. One quarter of youth in the shelter sample reported drug or alcohol abuse prior to their shelter stay, and just under a third reported serious school problems such as drop-out, expulsion, frequent truancy, and current suspension. The majority of sheltered youth in this sample (57.3%) attended school regularly. Two out of five shelter residents stayed longer than the median two-week stay, and less than 30% of sheltered youth in this sample were discharged to their families' care.

Table 5. Shelter Sample Case File Data

Youth came to shelter from street or were on the run from appropriate living situation		
Yes	89	19.5%
No	368	80.5%
Youth lived in an out of home placement just prior to shelter stay (foster care, hospital)		
Yes	166	36.3%
No	291	63.7%
Youth lived with parent or surrogate prior to shelter stay		
Yes	274	60.0%
No	183	40.0%
Parent/caregiver distress		
Yes	98	21.4%
No	368	78.6%
Youth self-reports drug or alcohol abuse		
Yes	116	25.4%
No	341	74.6%
Reported school problem: dropout, expulsion, current suspension, or frequent truancy		
Yes	143	31.3%
No	314	68.7%
Youth attends school regularly		
Yes	262	57.3%
No	195	42.7%
Referred to shelter by family/guardian		
Yes	105	23.0%

No	352	77.0%
Referred to shelter by DFS (child protective services)		
Yes	234	51.2%
No	223	48.8%
Referred to shelter by other professional (doctor, school personnel, mental health provider)		
Yes	33	7.2%
No	424	92.8%
Referred to shelter by court official or law enforcement		
Yes	24	5.3%
No	433	94.7%
Unknown/other referral source		
Yes	60	13.1%
No	225	86.9%
Shelter stay longer than 14 days		
Yes	186	40.7%
No	271	59.3%
Youth discharged from shelter to the care of family		
Yes	130	28.5%
No	327	71.5%

Case file data was able to shed some light on shelter referral sources for the youth in the shelter sample. The most common referral source was child welfare, with more than 51% of referrals coming from that service sector. Few youth and/or families were referred to a shelter by school, health, or mental health professionals (7%), and even fewer were referred by juvenile court or law enforcement officials (5%). A significant percentage of youth case files listed “other” or “unknown” as the referral source (13%). Less than one quarter (23%) of youth and/or their caregivers were self-referred to an emergency shelter.

### *Variables*

Predictor variables largely reflect the risk factors associated with runaway behavior and shelter use listed in the literature cited in Chapter 2. The bullet points below name each variable to be used in the analyses, operationally define it in parentheses, and give the conditions or levels in each variable. Given that the service sector data include dates of events of interest, only those risk and protective factors that precede the first reported runaway event were included in each model.



*Aim 1: Independent variables* (Individual characteristics and service utilization associated with youth homelessness)

- Maltreatment status (whether a child was reported as a victim of child abuse or neglect prior to first identified runaway episode) – Yes/No
- Maltreatment type(s) (what kind of maltreatment is alleged from any/all reports prior to first identified runaway episode)
  - Ever reported for neglect (yes/no)
  - Every reported for sexual abuse (yes/no)
  - Ever reported for physical abuse (yes/no)
- Maltreatment age (child's age at first and any subsequent report of maltreatment) – Continuous variable
- Number of reports (how many allegations of maltreatment were received on each youth) – Continuous variable reflecting the number of reports made
- In-home child welfare services prior to first identified runaway episode (whether a child/family received any type of in-home services through the child welfare system following an initial maltreatment report) –Yes/No
- Family poverty (whether a child's family received income maintenance support [AFDC or TANF] during the study period) – Yes/No, number of spells
- Neighborhood income (average census tract income) at study intake (from 1990 census data) – Continuous variable, measured in dollars
- Parent incarceration (whether a subject's primary caregiver became incarcerated during the study period) – Yes/No

- Parent substance use or mental health services (whether a subject's parent received substance use and/or mental health services from a Medicaid provider prior to 1994 or from a Department of Mental Health provider during the study period) – Yes/No
- Subject mental health service use (whether a subject received mental health services from a Medicaid provider prior to 1994 or from a Department of Mental Health provider during the study period, including medical services for suicide attempts) – Yes/No
- Delinquent offense (whether a subject was petitioned for a delinquent offense through the juvenile justice system) –Yes/No
- Truant (whether a subject was petitioned for truancy through the juvenile justice system) –Yes/No
- Special education eligibility
  - Type (type of learning needs a study subject was determined to have)  
Learning Disability/Emotional Disturbance or Behavior Disorder/Other Disability/No identified disability
  - Any special education disability - yes/no
- Race – White/Non-white
- Chronic health condition or physical disability (presence of chronic health condition based on use of emergency medical services for the treatment of a chronic condition such as diabetes or asthma) – Yes/No
- MR/DD (Any record of MR/DD designation in school and/or medical records) – Yes/No

- Age at first identified runaway episode – continuous variable
- Multiple runaway systems (youth is identified as runaway by more than one system) – yes/no

*Aim 1: Dependent variable*

- First social service system to identify youth as runaway – Court, Shelter, or Child Welfare:
  - Foster care runaway status: whether a subject’s child welfare case was closed with a runaway status code.
  - Emergency shelter utilization: whether a subject stayed at a shelter for runaway and homeless youth.
  - Status offense runaway: Subject received a court petition for a runaway status offense.

*Aim 2: Variables included in Latent Class Analysis of sheltered runaways*

- All independent variables (listed above, for Aim 1) found to have a significant relationship with runaway identification (dependent variable for Aim 1).
- Previous living situation:
  - Street or Run (living on the street, or currently on the run from home or prior residence) - Yes/No
  - Family (living at home with parents or surrogate immediately prior to shelter stay – not on the run) - Yes/No
  - Out-of-home care (living in out-of-home care immediately prior to shelter stay, including family foster care, residential foster care, hospital, juvenile detention – not on the run) - Yes/no

- Behavior concerns:
  - Caregiver distress (parent/caregiver report of behavior problems leading to parent/caregiver distress prior to run) - yes/no
  - School problems (youth report of school problems: drop-out, expulsion, current suspension, regular truancy) - yes/no
  - School attendance (youth report of regular school attendance) - yes/no
  - Alcohol and drug use (youth report of alcohol/drug use) - yes/no
- Referral source
  - Family/youth self-referred (yes/no)
  - Referred to shelter by child service professional, including mental health care professional, school personnel, or physician (yes/no)
  - Referred to shelter by child welfare agency (yes/no)
  - Referred to shelter by law enforcement or juvenile court personnel (yes/no)
  - Referral source unknown or other (yes/no)
- Discharge information
  - Shelter stay longer than the median duration of 14 days (yes/no)
  - Youth discharged to the care of family (yes/no)

#### *Data Management*

All data was kept secure to ensure confidentiality of participants. All data were de-identified by the data programmer and principal investigator of the parent study prior to analysis for this study. The data for this study remained physically and electronically separate from the larger set of data used in the parent study. Additional precautions to

maintain confidentiality include maintaining password protected access to the data and use of computers on a secure network (within George Warren Brown School of Social Work).

### *Data Analysis Plan*

#### *Multinomial Logistic Regression*

To address Aim 1, multinomial logistic regression is used to determine whether status offense runaways, sheltered youth, and foster care runaways represent high-risk runaway subtypes with divergent service use histories (runaway sample, N=710). The regression model compares the log odds of either experiencing a status offense violation for running away or being reported as a foster care runaway, in comparison to the sheltered runaway population. Odds ratios were interpreted (Cody & Smith, 2006). Sheltered runaways are used as the basis for comparison because the literature suggests they have the least complex history of service use. An odds ratio greater than one indicates that a predictor variable is associated with an increased probability of the outcome, and an odds ratio less than one indicates a decreased probability of the outcome (Drake & Jonson-Reid, 2007).

Independent variables were selected for the model if there is a significant bivariate relationship with the dependent variable. Variance Inflation Factors (VIF) were analyzed, with plans to consider eliminating any variable with a VIF greater than 2 (Drake & Jonson-Reid, 2007). The multinomial logistic regression was modeled in SAS for Windows, using PROC SURVEYLOGISTIC, which adjusts estimates based on the dependency inherent in modeling individual-level data clustered within census tracts. Appropriate fit statistics are included in the analysis.

### *Latent Class Analysis*

The second aim of this research, to investigate whether distinct profiles of high-risk sheltered youth exist, is analyzed using latent class analysis. This analysis is conducted using a sample of sheltered youth (shelter sample,  $n = 457$ ). Latent class analysis (LCA) is considered one of a number of “person-centered” analytic techniques, allowing for the creation of various groups of individuals within the data (Bright, 2007). This stands in contrast to “variable-centered” analyses, which assess the potential relationships among variables, versus among people (Bogat, Levendosky, & von Eye, 2005). Latent class analysis groups subjects based on similarities in characteristics, as represented by variables (Muthén, 2002). LCA uses maximum likelihood estimation to determine categories of a latent variable, and does not require assumptions about the distribution of variables to be met (McCutcheon, 1987). Specifically, LCA is a type of mixture modeling that allows for the representation of a latent variable, group membership, in which individuals are categorized in homogeneous clusters (Muthén & Muthén, 1998-2007). While a latent variable is by definition unobserved within the sample being analyzed (Bollen, 2002), it can be represented by a number of indicators, which are measured dichotomously (Romano, Zoccolillo, & Paquette, 2006).

For this research, the latent variable is group membership (Kohl & Macy, 2007). That is, it is hypothesized that categories, or subgroups, of the youth in the sheltered runaway sample can be identified, based on the presence or absence of indicator variables (the predictor and outcomes variables described above). The classes are exhaustive and mutually exclusive (McCutcheon, 1987). Because the goal of the research is exploratory, rather than confirmatory, a number of classes, or groups, is not specified *a priori*. Rather,

the LCA adds one class at a time until model fit statistics, including the Bayesian Information Criterion (BIC), entropy, and Akaike Information Criterion (AIC) indicate that adding more classes does not improve the model (Ferdinand, de Nijs, van Lier, & Verhulst, 2005; McCutcheon, 1987; Nylund, Asparouhov, & Muthén, 2008). Indicator variables consisted of the service use variables and individual characteristics found to be statistically significant in bivariate analyses, along with case file data.

LCA calculates two types of probabilities: 1) latent class probabilities, which describe the number of classes and the proportion of the sample within each class, and 2) conditional probabilities, which indicate the probability that any given subject will appear in a particular class (McCutcheon, 1987). Latent class analysis was conducted with Mplus, using the TYPE=MIXTURE command (Muthén & Muthén, 1998-2007).

#### *Missing Data*

Because this study employs retrospective analysis, there is no concern for sample attrition based on residential transience. The primary concern for missing data is incomplete case files for youth. While it is unlikely that a large enough number in the sample will have incomplete case file data to cause concern, it is possible that data could be missing for specific variables. The large number of data sources is both a potential help and a potential hindrance in this situation. While more sources of data mean a higher potential for errors, to the extent that variables are common across datasets, there is also the ability to fill in missing values or correct errors. For example, if a subject is missing a value for date of birth in one source of data, that information might be recovered by matching the individual to another data source. No variables were found to have missing data for more than 10% of the sample, precluding the need for imputation procedures.

### *Power Analysis*

Power analysis was not conducted in preparation for the latent class analysis. As LCA is not a hypothesis-testing analytic technique, but rather a method for classifying data, efforts to assess feasibility are based on ensuring the sample size is large enough to model accurate and consistent maximum likelihood estimates. LCA is a demonstrably accurate method of classifying individuals into subgroups, especially when sample sizes are larger than 300 (Cleland, Rothschild, & Haslam, 2000). As such, this study's shelter sample size above 400 (n=457) should be adequate for the maximum likelihood estimation required in the procedure.



## Chapter 4: Results

In this chapter, the results of the analyses conducted with respect to the primary aims of the dissertation are presented. Next, bivariate analyses and multinomial logistic regression results are presented for Aim 1. Then the results of a latent class analysis for Aim 2 are described.

### *Aim 1: Inter-group analysis of runaways*

As mentioned in the previous chapter, the runaway sample includes at-risk youth who have been identified as runaways by one of three service sectors: Runaway shelters, family/juvenile court, and the child welfare system (refer back to Table 1, Chapter 3 for the proportion of youth identified by each of these systems). Given that youth may be identified as runaways by more than one service system over time, this analysis groups runaways according to the *first* system to identify runaway behavior.

Aim 1 of this project is to inform our understanding of the sheltered youth population by comparing sheltered runaways to status offense runaways and foster care runaways. First, bivariate analyses were conducted to determine whether these independent variables (family and individual characteristics and service use histories, see Chapter 3) had a significant association with the dependent variable (first system to identify runaway behavior). Second, significant (and nearly significant) independent variables were included in a multinomial logistic regression model to determine the individual factors and/or service use experiences that increase the odds of identification as a runaway by a specific service sector.

*Bivariate analyses*

The bivariate relationships between individual characteristics and service use experiences and identification as a runaway by a specific service sector were examined using Chi-square and Analysis of Variance procedures. Table 6 presents the percentages of categorical independent variables by service sector first identifying the youth as a runaway. Table 7 presents the means of continuous independent variables by service sector first identifying the youth as a runaway.

Table 6. Percentages of child/family characteristics and service sector identification of runaway behavior

<i>Child/family characteristics and service use history</i>	First service sector to identify youth as a runaway					
	<i>Child Welfare</i> <i>N=63 (8.9%)</i>		<i>Court</i> <i>N=444 (62.5%)</i>		<i>Shelter</i> <i>N=203 (28.6%)</i>	
	<i>Row %</i>	<i>Col %</i>	<i>Row %</i>	<i>Col %</i>	<i>Row %</i>	<i>Col %</i>
<b>Race</b>						
African-American	9.7%	80.9%	60.0%	71.4%	30.3%	78.8%
White	6.6%	19.1%	69.8%	28.6%	26.6%	21.2%
<b>Sex</b>						
Female	8.0%	54.0%	61.9%	59.0%	30.0%	62.6%
Male	10.1%	46.0%	63.4%	41.0%	26.5%	37.4%
<b>Poverty/maltreatment status in '93-'94 (study intake)***</b>						
AFDC /TANF only	4.6%	12.7%	69.5%	25.7%	29.9%	25.6%
Maltreatment (CAN) only	4.9%	9.5%	77.2%	21.4%	17.9%	10.8%
AFDC/TANF + CAN	11.9%	77.8%	56.9%	52.9%	31.2%	63.6%
<b>Census tract average household income**</b>						
<\$25,000/year	11.0%	58.7%	55.1%	41.7%	33.9%	56.2%
\$25,000 - \$49,999/year	7.8%	41.3%	68.8%	51.6%	23.4%	38.4%
\$50,000+/year	0.0%	0%	73.2%	6.7%	26.8%	5.4%
<b>Caregiver education</b>						
HS grad or more	8.2%	65.1%	64.1%	61.0%	27.8%	63.0%
Less than HS	9.3%	34.9%	61.6%	39.0%	29.1%	37.0%
<b>Caregiver incarceration</b>						
Yes	8.7%	4.8%	52.6%	2.3%	31.6%	3.0%
No	15.8%	95.2%	62.8%	97.7%	28.5%	97.0%
<b>Record of caregiver mental health or substance abuse treatment</b>						
Yes	15.1%	20.6%	55.8%	10.8%	29.1%	12.3%
No	8.0%	79.4%	63.5%	89.2%	28.5%	87.7%
<b>Record of child mental health treatment (<i>does not include shelter therapeutic services</i>)</b>						
Yes	9.4%	58.7%	61.6%	61.7%	29.0%	60.6%
No	8.5%	41.3%	63.3%	38.3%	28.3%	39.4%
<b>Special education eligibility*</b>						
Learning disability	5.0%	30.2%	70.0%	15.8%	25.0%	16.7%
Emotional disability	15.4%	4.8%	56.9%	9.5%	27.6%	7.4%
Other disability	5.4%	7.9%	55.9%	11.7%	38.7%	17.7%
No known disability	8.3%	57.1%	64.5%	63.1%	27.2%	58.1%
<b>Any record of MR/DD designation</b>						
Yes	7.7%	6.4%	61.5%	7.2%	30.8%	7.9%

No	9.0%	93.6%	62.6%	92.8%	28.4%	92.1%
Any report of physical abuse prior to first runaway identification						
Yes	10.4%	61.9%	61.9%	52.2%	27.7%	51.2%
No	7.2%	38.1%	63.3%	47.8%	29.6%	48.8%
Any report of sexual abuse prior to first runaway identification						
Yes	11.8%	27.0%	58.3%	18.9%	29.9%	21.2%
No	8.1%	73.0%	63.6%	81.1%	28.3%	78.8%
Any report of neglect prior to first runaway identification ***						
Yes	11.9%	93.6%	58.3%	64.9%	29.8%	72.4%
No	1.9%	6.4%	72.2%	35.1%	25.9%	27.6%
In-home child welfare services received prior to first runaway identification ***						
Yes	13.3%	90.5%	56.8%	54.7%	29.9%	63.1%
No	2.1%	9.5%	71.3%	45.3%	26.6%	36.9%
Delinquent offense **						
Yes	10.8%	49.2%	66.7%	43.2%	22.6%	32.0%
No	7.6%	50.8%	59.7%	56.8%	32.7%	68.0%
Court petitioned for truancy						
Yes	15.9%	15.9%	61.9%	8.8%	22.2%	6.9%
No	8.2%	84.1%	62.6%	91.2%	29.2%	93.1%
Chronic medical condition or disability						
Yes	5.6%	4.8%	57.4%	7.0%	37.0%	9.9%
No	9.1%	95.2%	63.0%	93.0%	27.9%	90.1%

See Table 1 for frequencies in each category

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

Several categorical variables were significantly associated with the type of service sector to identify a youth as runaway. Bivariate analysis of poverty/maltreatment status in 1993-1994 (study intake) found that foster care runaways were the least likely to be sampled from the AFDC-only group, status offense runaways were the most likely to be sampled from the maltreatment-only group, and sheltered youth were the most likely to be sampled from the AFDC and maltreatment group ( $\chi^2 = 22.6$ ,  $df = 4$ ,  $p < .001$ ).

Neighborhood poverty (census tract income at study intake) was associated with runaway identification, with court-identified runaways being least likely to have lived in the poorest neighborhoods as children ( $\chi^2 = 18.1$ ,  $df = 4$ ,  $p < .01$ ). Foster care runaways were nearly twice as likely to have an identified learning disability, but were the least likely to be diagnosed with an emotional or other disability of the three runaway groups ( $\chi^2 = 14.5$ ,  $df = 6$ ,  $p < .05$ ). The majority of all identified runaways had experienced a report of neglect, but nearly all of the foster care runaways had been reported for neglect (94%)

( $\chi^2 = 22.7$ ,  $df = 2$ ,  $p < .001$ ). While not surprising that 90% of foster care runaways had received in-home child welfare services, a number significantly greater than the other runaway groups, more than half of shelter and court runaways had also received in-home services ( $\chi^2 = 30.4$ ,  $df = 2$ ,  $p < .001$ ). Foster care runaways were the most likely to have a court petition for a delinquent offense prior to first identified runaway episode ( $\chi^2 = 9.4$ ,  $df = 2$ ,  $p < .01$ ). Nearly significant variables included race, where court-identified runaways were the most likely to be white ( $\chi^2 = 5.6$ ,  $df = 2$ ,  $p = .06$ ). Foster care runaways appear most likely to have parents who have used mental health and/or substance abuse services ( $\chi^2 = 5.0$ ,  $df = 2$ ,  $p = .08$ ), and appear more likely to have received a court petition for truancy ( $\chi^2 = 4.8$ ,  $df = 2$ ,  $p = .09$ ).

Table 7. Means of child/family characteristics by service sector identification of runaway behavior

<i>Child/family characteristics and service use history</i>	Service sector to first identify youth as runaway mean (std)		
	<i>Child welfare</i>	<i>Court</i>	<i>Shelter</i>
Number of family spells on income maintenance	2.9 (2.1)	2.1 (1.7)	2.6 (1.8)
Number of CA/N reports prior to first identified runaway episode***	6.9 (3.7)	3.4 (3.3)	3.9 (3.4)
Age at first maltreatment report (n=646)	6.7 (3.4)	6.7 (3.9)	6.6 (3.8)
Age at first identified runaway episode***	16.0 (2.1)	13.7 (2.0)	14.2 (2.4)

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

Four one-way Analyses of Variance (ANOVAs) were calculated on 1) the number of family spells on income maintenance, 2) number of maltreatment reports prior to first identified runaway episode, 3) age at first maltreatment report, and 4) age at first identified runaway episode. Results showed statistically significant findings for the number of maltreatment reports prior to the first identified runaway episode ( $F(2, 707) =$

30.43,  $p < .001$ ) and for the age at first identified runaway episode ( $F(2, 701) = 33.04, p < .001$ ).

As seen in Table 7, runaways from child welfare had a greater number of maltreatment reports prior to their first identified runaway episode ( $M = 6.9, SD = 3.7$ ) than runaways identified by the court ( $M = 3.4, SD = 3.3$ ) or the shelter system ( $M = 3.9, SD = 3.4$ ). Comparisons indicated that the runaways from child welfare had significantly more maltreatment reports than the runaways identified by the court,  $t(707) = 3.5, p < .05$ , and more maltreatment reports than the runaways identified by the shelter system,  $t(707) = 2.97, p < .05$ . The difference in the number of maltreatment reports between court-identified runaways and shelter-identified runaways was not significant.

Youth identified as runaways from foster care were also older ( $M = 16, SD = 2.1$ ) than youth first identified as runaways by the court ( $M = 13.7, SD = 2.0$ ) or the shelter system ( $M = 14.2, SD = 2.4$ ). The ANOVA found significant differences between groups ( $F = 33.04, p < .01$ ). The age differences between all three groups were statistically significant,  $t(701) > 1.96, p < .05$ . Foster care runaways were significantly older than both court-identified runaways, and shelter-identified runaways. The difference in ages between court-identified runaways and shelter-identified runaways was smaller, but also significant. Shelter-identified runaways were older than court-identified runaways.

#### *Multivariate Analysis*

A multinomial logistic regression, using PROC SURVEYLOGISTIC in SAS, was used to explore the relationships between child/family characteristics of runaway youth and the first service system to identify a runaway episode. The CLUSTER statement was used to adjust for the potential effects of sibling groups (using the family case number

variable) and census tract clusters (using the census tract code). The first service sector to identify a runaway episode was the dependent variable, with three categorical response values: child welfare, court, and shelter. The multivariate multinomial logistic regression model estimated the likelihood—in terms of odds ratio estimates—of a runaway being identified by the court system, the child welfare system (as a foster care runaway), or the shelter system. Odds ratio estimates and 95% confidence intervals were calculated from the regression parameters. The reference category for the equation was shelter-identified runaways.

Independent variables found to have significant or near-significant associations with the dependent variable were included in the analysis. Because neighborhood poverty and AFDC status at intake were both significantly associated with the dependent variable, it was decided to include number of spells on income maintenance in the model as well, as an indicator of persistence of poverty. To reduce bias in the estimation of risk, sex was included as a control variable. Fifteen cases were lost due to missing data, yielding a final sample size of 695.

Table 8 presents model fit statistics. The model  $LR [\chi^2 (26, N=695) = 156.7, p<.0001]$  indicated that the data fit the model better than expected by chance. Table 9 shows the odds ratios with 95% confidence intervals from the multivariate analysis. Significant values are bolded. Among the sample of runaways, after controlling for the covariates, the odds of first being identified as a runaway by the child welfare system were increased if a youth was older at the time of their first identified runaway episode (OR=1.60, 95% CI: 1.28, 2.00) and more likely to have had more reports of maltreatment prior to the runaway episode (OR=1.21, 95% CI: 1.09, 1.33).

Table 8. Model fit statistics for inter-group analysis by multinomial logistic regression.

Test	$\chi^2$	df	p
Overall model evaluation			
Likelihood ratio test	156.69	26	<.0001
Score test	142.70	26	<.0001
Wald test	100.87	26	<.0001

Runaways were 60% more likely to first come to the attention of family court as compared to the shelter system for each prior court petition for a delinquent offense (OR=1.6, 95% CI: 1.11, 2.31). If a runaway is younger, the odds are increased that they were identified as a runaway by the court rather than the shelter system (OR=0.89, 95% CI: 0.81, 0.98). Each additional spell a youth's family spends on income maintenance (AFDC or TANF) reduces the odds of that runaway being identified by the court system as opposed to the shelter system.

Table 9. Odds ratio estimates (and confidence limits) of multinomial logistic regression, first system to identify youth as runaway (N=695)

	Child welfare vs. shelter (foster care runaways)	Court vs. shelter (status offense runaways)
Sex	2.06 (0.97, 4.41)	1.12 (0.77, 1.62)
Race	0.76 (0.34, 1.70)	1.08 (0.66, 1.76)
Sample group	0.81 (0.49, 1.34)	1.04 (0.79, 1.35)
Special education status	1.00 (0.73, 1.39)	1.03 (0.86, 1.23)
Neglect	1.61 (0.47, 5.52)	0.75 (0.45, 1.24)
Parent MH/SA treatment	1.13 (0.46, 2.75)	1.02 (0.59, 1.78)
Delinquency	1.51 (0.78, 2.92)	<b>1.61 (1.11, 2.31)</b>
Truancy	2.75 (0.96, 7.85)	1.16 (0.61, 2.19)
In-home services	2.68 (0.86, 8.38)	0.86 (0.55, 1.32)
Neighborhood income	1.08 (0.59, 1.95)	1.30 (0.91, 1.86)
Age at first identified run	<b>1.60 (1.28, 2.00)</b>	<b>0.89 (0.81, 0.98)</b>
Number of hotline reports	<b>1.21 (1.09, 1.33)</b>	0.98 (0.91, 1.05)
Number of spells on IM	1.09 (0.91, 1.30)	<b>0.88 (0.79, 0.98)</b>

Notes: Reference category for the equation is Shelter Identified Runaways.

Standard errors in parentheses.

LR [ $\chi^2$  (26, N=695) = 156.7, p<.0001]

For convenience, cells with statistically significant adjusted relative risk ratio or odds ratio are shown in bold.

*Aim 2: Intra-group analysis of sheltered youth*

In order to determine whether distinct classes of users were apparent in the shelter sample, a Latent Class Analysis (LCA) was conducted using Mplus software. Thirty-three parameters representing known concerns among this population were entered into the initial LCA model. These parameters included: 1) covariates found to significantly increase or decrease the odds of being identified as a runaway youth by the shelter system (vs. the court or child welfare), 2) parameters known to be associated with shelter use or general runaway behavior in the literature, and 3) parameters hypothesized to be associated with shelter use and runaway behavior in prominent theories. The thirty-three dichotomous parameters are listed in Table 10.

Table 10. Parameters for inclusion in latent class analysis.

	<i>Control variable</i>	<i>Significant covariate</i>	<i>Associated with shelter use and/or runaway behavior in literature</i>	<i>Associated with runaway behavior or outcomes in theory</i>
Race			X	
Sex			X	
Original sample (maltreated vs. non-maltreated)	X			
Foster care			X	X
Types of abuse (three parameters: physical abuse, sexual abuse, neglect)			X	
Prior delinquent offense		X		X
Mental health service use			X	X
Physical disability			X	
Mental retardation or developmental delay			X	
Incarcerated parent				X
Caregiver education (high school diploma or GED vs. none)				X
Caregiver mental health /substance abuse service use			X	X
Pregnancy			X	
Family poverty – duration		X	X	
Age at first identified runaway episode		X		
Neighborhood poverty			X	
Special education eligibility			X	
Shelter referral source (5 binary parameters, not mutually exclusive: self/family, court/law, professional, DFS,				X



other/unknown)		
Prior living situation (3 binary parameters, not mutually exclusive: street/runaway, home, foster care and/or institutional care)	X	X
Discharge – length of stay	X	
Discharge – back to family	X	X

Some variables were dichotomized to maintain binary parameters to ease interpretation of the LCA model. Continuous variables including 1) subject age at first identified runaway episode, 2) family poverty – duration, and 3) discharge – length of stay were dichotomized at the medians. Age at first identified run was dichotomized at 14 years (0 is  $\leq 14$  years, 1 is  $>14$  years), duration of family poverty was dichotomized at 2 spells on income maintenance (0 is  $\leq 2$  spells, 1 is  $>2$  spells). Neighborhood poverty was dichotomized into neighborhoods (census tracts) with average household incomes above or below \$25,000. The shelter sample for the LCA included all youth from the parent dataset identified as users of an emergency shelter for runaway and homeless youth (n = 457).

After the preliminary analyses were conducted, it was determined that six of the parameters were non-informative in the sense that they did not distinguish classes from one another regardless of the number of classes modeled. These parameters were: Incarcerated parent, and all five shelter referral sources (referred by self/family, referred by DFS, referred by court/law, referred by professional, referred by other/unknown). They were removed the model one at a time, leaving a final model with twenty-seven parameters.

### *Latent Class Analysis*

In the twenty-seven parameter LCA, the first solution fitted was a one class model of group membership (positing that separate classes of subjects could not be

differentiated). A two-class model was then fitted, and so on. With each successive iteration, measures of model fit were compared to those of the previous iteration to determine whether adding a class improved the utility of the model. Two series of fit statistics were examined. The first series included the Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), sample-size adjusted BIC, and entropy. When these model fit statistics began to show a decrease in model utility, the best-fitting model was selected. Table 11 presents fit statistics for the six models tested:

Table 11. Latent Class Analysis Model Fit Statistics

Number of classes	AIC	BIC	Sample-size adjusted BIC	Entropy
1	14400.246	14511.613	14425.923	N/A
2	13954.239	14181.096	14006.544	0.831
3	13827.564	14169.912	13906.496	0.856
4	13706.771	14164.611	13812.332	0.943
5	13648.611	14221.942	13780.799	0.891

The four-class model demonstrates improvement on all four measures of model fit from the one-, two-, and three-class models. Fit measures were inconsistent in the next iteration with the five-class model showing improved AIC and sample-size adjusted BIC fit scores, but a higher BIC value and a lower value for entropy. Therefore, a second series of analyses were used to determine whether the four-class model or five-class model provided the most utility. The Vuong-Lo-Mendell-Rubin Likelihood Ratio Test was used to test for the utility of four versus five classes. The four-class model fit represents the null hypothesis. The null hypothesis was not rejected, indicating that the five-class model does not demonstrate improved utility compared to the five-class model ( $H_0$  Loglikelihood Value -6745,  $p=0.34$ ). In addition, the Lo-Mendell-Rubin adjusted LRT test was performed, with results concurring that the five-class model was not a

significant improvement over the four-class model (LRT value 119.337,  $p=0.34$ ). The same tests performed to test the utility of three versus four classes found that the four-class model was a significant improvement over the three-class model ( $H_0$  Loglikelihood Value = -6814, LRT value 143.174,  $p<.05$ ). The four-class solution was therefore retained.

Table 12. LCA: Probability of category membership by class

	Class 1 <i>N=153</i>	Class 2 <i>N=122</i>	Class 3 <i>N=73</i>	Class 4 <i>N=109</i>	Shelter sample <i>N=457</i>
African American	0.83	0.78	0.86	0.79	0.81
Girl	0.71	0.6	0.59	0.58	0.63
Maltx sample	0.9	0.76	0.74	0.68	0.79
Foster care	0.68	0.34	0.67	0.19	0.46
Phys abuse	0.69	0.44	0.57	0.55	0.57
Neglect	0.86	0.69	0.78	0.71	0.76
Sex abuse	0.29	0.23	0.29	0.09	0.23
Delinquency	0.36	0.36	0.49	0.33	0.37
Mental Health	0.52	0.49	0.52	0.31	0.46
Disability	0.07	0.05	0.11	0.1	0.08
MR/DD	0.09	0.09	0.12	0.09	0.1
Caregiver HS	0.34	0.39	0.33	0.36	0.36
Parent SA/MH	0.18	0.12	0.21	0.07	0.14
Pregnancy	0.27	0.22	0.26	0.1	0.2
Poverty >2 spells	0.48	0.45	0.36	0.38	0.43
Young age	0.5	0.6	0.44	0.66	0.56
Poor neighborhood	0.56	0.55	0.71	0.53	0.58
Special ed eligibility	0.46	0.4	0.48	0.39	0.43
Attends school regularly	1.0	0.0	0.0	1.0	0.57
School problems	0.07	0.75	0.74	0.06	0.36
Came from family	0.41	0.84	0.08	0.93	0.6
Came from OOH	0.62	0	0.99	0	0.36
Caregiver strain	0.12	0.18	0.04	0.49	0.21
Came from street	0.21	0.17	0.34	0.1	0.19
Drug/Alc use	0.23	0.3	0.33	0.17	0.25
Long stay	0.68	0.27	0.53	0.11	0.41
Family discharge	0.09	0.32	0.06	0.66	0.28

Each class was distinguishable from the others based on the prevalence of the 27 parameters (variables) entered into the analysis (see Table 12). The classes are most clearly distinguished by the parameters of school attendance (“attends school regularly” –

yes/no) and living situation pre- and post-shelter use (specifically “parent/surrogate” as last living situation and “returned to family” as discharge statement). Using these parameters as guidelines, the classes are identified by the likelihood of connection to school and family as follows:

Class 1 appears to be comprised of individuals likely to have ongoing involvement with child welfare services, and represents the largest of the four classes (N=153). Nine out of ten members of Class 1 comes from a maltreated sample of the parent study. This class has the highest rates of reported abuse and neglect (69% and 89%, respectively). Members of this class are attending school regularly, but 60% live in out of home care prior to shelter placement. Although 40% come to the shelter from a living situation with a parent or surrogate, nearly 70% have experienced a foster care placement and fewer than 10% are discharged to family from the shelter. One in five is a runaway or has spent time on the street. This group has the highest likelihood of having girls as members. Class 1 is tied (with Class 3) for the class with the highest rates of reported sexual abuse. Female members of this group are the most likely to have received medical services for pregnancy prior to their shelter stay. One in four reports using drugs and/or alcohol. Members of Class 1 are the most likely to stay at the shelter for an extended timeframe (68% stay longer than 2 weeks).

Members of Class 2 (N= 122) are the least likely to have a past report for physical abuse or neglect. None attend school regularly, and 75% report serious school problems such as drop-out, expulsion, suspension, or regular truancy. Nearly one out of every three members of this group reports using drugs and/or alcohol. One-third of this class has had a foster care placement, but the majority (84%) lived at home before staying at a

shelter. Approximately 60% are at or below the median age of 14. Fewer than one in five members of Class 2 ran away or spent time on the street just prior to their shelter stay. The parents of Class 2 subjects are most likely to have a high school diploma. Members of Class 2 are the least likely to be disabled, and have a slightly lesser risk of special education eligibility. Only 25% experienced extended shelter stays, and one in three are discharged to family.

Class 3 was the smallest class, comprised of 73 highly disconnected and disadvantaged youth. The majority of this class was over the age of 14 (66%), and it is the oldest of the four classes. Out of school and disconnected from family (fewer than 10% entered or left the shelter under the care of family), this group had the most members with at least one delinquent offense (49%). Class 3 was comprised of youth with the highest rates of reported alcohol and drug use (33%), disability (11%), MR/DD (12%), special education eligibility (48%) and mental health service use (52%) of the four classes. None of these youth attend school regularly. Parents of these youth have the highest proportion of mental health and/or substance abuse service use (21%) and the lowest high school graduation rate of the four classes (33%). This class has the most members from high-poverty neighborhoods (71%). Members of this class were most likely to report an out-of-home placement or institutional care as their last living situation (99%), and one-third of the class members (34%) reported running away from their previous living situation and/or spending time on the street prior to shelter intake. More than half of the youth in this class have extended stays at the shelter (53%), and only 6% of this class is discharged from the shelter into the care of family.

Class 4 (n=109) is the youngest class (66% are at or below the age of 14), and in many ways is the most connected to school and family. All members of Class 4 attend school regularly, and 93% came to the shelter from a home with a parent or surrogate. Although their rates of reported physical abuse and neglect are only slightly below the sample average (55% and 71%, respectively), this class has by far the fewest members with reports of sexual abuse (only 9%) and the lowest rates of lifetime foster care placement (19%). Members of this class are the least likely to have a delinquent offense (33%), least likely to receive mental health services (31%), least likely to report drug or alcohol use (17%), the girls are the least likely to have received healthcare for pregnancy (10%), and the least likely to have a parent with a record of receiving mental health or substance abuse services (7%). This class has the smallest proportion of runaways and/or youth coming to the shelter from the street (10%). Nearly half of the parents of this class report frustration with their child's behavior at shelter intake (49%), the highest percentage of any class. They are least likely to have an extended stay at the shelter (only 11%), and two-thirds are discharged to family care, by far the greatest proportion of the four classes.

#### *Latent class probabilities and conditional probabilities*

Latent class probabilities are calculated in LCA to precisely state the proportion of the sample within each class (McCutcheon, 1987). Latent class probabilities were as follows: 0.33 for Class 1, 0.27 for Class 2, 0.16 for Class 3, and 0.25 for Class 4.

Conditional probabilities, or posterior probabilities, provide an average estimate of the probability that a particular subject will appear in a latent class, indicating more precisely how sensitive and specific the maximum likelihood procedure is with respect to

individual subjects (McCutcheon, 1987). Posterior probabilities are shown in Table 10 on the rows, while actual classification appears in the columns.

Table 13. Average Latent Class Probabilities for Most Likely Latent Class Membership (Row) by Latent Class (Column)

	Class 1	Class 2	Class 3	Class 4
Class 1	0.945	0.000	0.000	0.055
Class 2	0.000	0.996	0.004	0.000
Class 3	0.000	0.000	1.000	0.000
Class 4	0.049	0.000	0.000	0.951

As the Table shows, the probabilities of correct classification were excellent for all four groups. Subjects' probabilities of being members of their actual classes were between 94% and 100%. The classes with the highest probability of correct subject placement were Class 2 (99.6%) and Class 3 (100%).

## Chapter 5: Discussion

This chapter discusses the results of multivariate and latent class analyses presented in the previous chapter. After a discussion on the comparability of the current sample to existing research, the first half of the chapter is organized by primary aims and their associated research questions. Although not a specific aim of the study, it was interesting to note that youth in the original parent study who had some report of maltreatment were twice as likely to have a record of runaway than those who solely had records of childhood poverty. Possible interpretations of these results are discussed, with an emphasis on hypothesized relationships, existing theory, and prior literature, where available and applicable. Strengths and limitations of the study are addressed. The second half of the chapter discusses implications for policy and practice, contributions to theory development, and directions for future research.

### *Sample comparability to existing research*

The goal of this section is to compare the descriptive findings from this research with other researchers' descriptive findings with service-using runaway samples. This dissertation's runaway data is unique in that it is both longitudinal and involves the use of multi-system administrative records. Other runaway samples found in the literature include residents of a single shelter, users of a drop-in center for homeless youth, street youth, and self-report runaways.

The sample for this dissertation was constrained by the parameters of the parent study, namely that all subjects in this sample of runaways had a childhood marked by poverty (income maintenance) and/or maltreatment. These youth are referred to as *high risk runaways* throughout the dissertation. The youth in this sample do not represent *all*



system-identified runaway youth in the metropolitan area during the timeframe of the study – only those sampled by the parent study due to maltreatment or poverty during childhood. Although not all subjects experienced maltreatment (some only poverty), and not all experienced poverty (some only maltreatment), the parent study offers a high-risk sample of runaways, and rates of individual and family service use are expected to be higher than those found in examinations of broader runaway populations.

Only 3.2% of the subjects included in the parent study were identified by service systems as runaway. This compares to survey research findings that 7-15% of U. S. adolescents have reported a runaway episode (Cauce, Paradise, Ginzler, Embry, Morgan, & Lohr, 2000; Greene, Ringwalt & Iachan, 1997; Hammer, Finkelhor, & Sedlak, 2002; Kidd, 2003; Tenner, Feudo, & Woods, 1998; Greene, Ringwalt, Kelly, et. al., 1995). It is unknown what percentage of such self-report runaway episodes were also identified by one or more social service sectors, but these frequencies suggest that fewer than half of runaway episodes are identified by social service sectors. While prior studies suggest that most runaways are lower income ((Haber & Toro, 2004; Whitbeck, Hoyt, Tyler, Ackley, & Fields, 1997; McCaskill et al., 1998)), our study suggests that youth without additional history of maltreatment have a much lower likelihood of runaway (about half as likely in this sample). Further 62% of the runaway youth who were originally from the poverty only comparison group, later had reports of maltreatment. The average age of a first report of maltreatment in the runaway sample was about 6 years old.

Similar to other runaway studies, this sample portrays runaway youth as frequent consumers of public services. Not surprising is the high level of involvement with the child welfare system – 87% of runaways in this sample had been reported for child

maltreatment prior to their first identified runaway episode. Given the parent study inclusion criteria, high rates of maltreatment are expected. The highest rate of maltreatment among runaways published to date is 75% of a sample of sheltered youth in Detroit (Boesky, Toro, & Wright, 1995). Also expected is the large proportion of runaways in the sample (83%) that lived in families that received income maintenance (AFDC or TANF) at least once during their childhood. This is consistent with the research finding disproportionate numbers of runaways come from low-income or working class families and neighborhoods (Haber & Toro, 2004; Whitbeck, Hoyt, Tyler, Ackley, & Fields, 1997; McCaskill et al., 1998). The frequency of both poverty *and* maltreatment suggest that runaways from this at-risk sample seldom experience poverty or maltreatment independently of one another.

Given the sampling of maltreated youth for the parent study, fewer runaways were reported for sexual abuse than expected. Only 20% of the high-risk runaway sample had been reported to child welfare for suspected sexual abuse. This is lower than the 33% self-report rate of sexual abuse found among street and sheltered samples of runaways (Boesky et al., 1995; McCormack, et al., 1986; Tyler, et al., 2000; Tyler, et al., 2001). Yet this is much higher than the national data on sheltered runaways, which finds only 7% of youth self-report sexual abuse at shelter intake (Thompson et al., 2003). This could be due to sample differences as well as variations between administrative data and self-report data. For example, in a sample of Canadian runaway youth, approximately a third of teenagers who had been abused reported that they had not disclosed the abuse to anyone (Janus, Archambault, Brown & Welsh, 1995).

Also surprising, the high-risk sample used for this study did not have higher rates of out-of-home placement than other sampled runaway populations. In line with existing studies, 35% of this runaway sample experienced an out-of-home placement by child welfare prior to their first identified runaway episode. The rates of foster care placement in the samples of published literature range from 21-53% (Cauce et al., 1998; Robertson, 1989, 1991; Robertson & Toro, 1998; Kennedy, 1991; Lindsey, et al., 2000; MacLean et al., 1999).

Nearly 40% of runaways in this sample had a record of receiving publicly funded mental health services. Studies consistently demonstrate that runaway and homeless youth are at elevated risk for mood disorders and suicide attempts (Cauce et al., 2000; Feitel, Margetson, Chamas, & Lipman, 1992; McCaskill et al., 1998; Molnar et al., 1998; Powers et al., 1990; Robertson, 1989; Rotheram-Borus, 1993; Toro & Goldstein, 2000; Yates et al., 1998), and families receiving child welfare services may be likely to get referred for mental health services by concerned caseworkers. It is possible that the rates of mental health service use among youth in this high-risk sample of runaways should be higher, and are depressed due to the low education of most parents in the sample (Berdahl et al., 2005). The parents of youth in this sample were highly under-educated (62% did not have a high school diploma or GED), even when compared to a different subsample from the same parent study (Bright, 2007)<sup>1</sup>. Berdahl and her colleagues found that youth with more highly educated parents are more likely to have received mental health services. In addition, this dissertation presents the only findings of state-funded mental health service use. Any mental health services provided by private practitioners would

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<sup>1</sup> The metropolitan school district attended by the majority of the families in the sample has a high dropout rate of 22% annually (for the 2007-2008 school year).

not be included in this dataset. The only study examining actual service use among runaways found that 29% of sheltered youth reported receiving emotional counseling in the 90 days prior to their shelter stay (Slesnick, Meade, & Tonigan, 2001). The higher rates among the current sample could be due to a number of factors, including the high-risk sample from the parent study, different time frame (90 days vs. lifetime), the type of data (self-report vs. administrative), or the inclusion of status offense and foster care runaways in the current sample.

Nearly 40% of runaways in this sample received special education services, 7% had service use records indicating presence of MR/DD, and a similar proportion had service records indicating the presence of a chronic health disability. While research has consistently found high rates of disability and eligibility for special education services among runaway populations (Cauce et al., 2000; Barwick & Siegel, 1996), rates of previously diagnosed disability and/or services for a disability are far less available. Sullivan and Knutson's sample of maltreated, hospitalized youth with runaway histories (comparable in risk to the current sample) found a remarkable 83% of their sample had been diagnosed with a disability (2000). For the hospitalized youth with runaway history but no history of maltreatment, the rate of previously diagnosed disability was 47%. Examining a sample of school-aged students with a runaway history, a comparable 29% had evidence of one or more disabilities (Sullivan & Knutson, 2000).

Nearly 41% of high-risk runaways in the current sample had been charged with a delinquent offense, in contrast with a study of status offenders that found delinquent offenses to be uncommon among status offense runaways (Kempf-Leonard & Johansson, 2007). This could be due to a low rate of petitioning status offenses in sample region

(Melissa Jonson-Reid, personal communication, 2009). In the metropolitan region of the current study, status offenses made up only about 10% of juvenile court petitions for status or delinquency in 2005 compared to more than half in a nearby rural county (Puzzanchera & Sickmund, 2008).

Surprisingly, only 7% of the girls in this high-risk runaway sample had received medical services for pregnancy prior to their first identified runaway episode. These medical services could include prenatal care, abortion, live birth, or medical care following a miscarriage. Greene and Ringwalt (1998) found that street youth ages 14-17 had the highest lifetime rates of pregnancy (48%), followed by youth residing in shelters (33%), and youth residing in single-family households (<10%). It may be that the runaway sample used for this study is younger on average (mean age of 14) than the sample used by Greene and Ringwalt, in which 14 year olds represented the youngest runaways. The measure of pregnancy (medical services) may also exclude pregnant teens who did not receive medical attention for their condition until after their identified runaway episode.

The sample of high-risk sheltered runaway youth used for this dissertation is quite different from national and regional samples of sheltered youth in expected ways (Thompson et al., 2003). As Table 14 shows, youth in the current sample include a much higher proportion of African-Americans, and significantly higher proportions of youth who experienced physical or sexual abuse. Surprisingly, a larger percentage of youth reported living with family prior to shelter use than in the larger population samples, and yet fewer youth were discharged to family. The difference in rates of maltreatment is influenced by the high-risk sample used for this study, and the differences may be

heightened further by the method of data collection (the abuse history of the national and regional samples here was self-reported). The sample used for the national and regional statistics only includes sheltered youth considered runaway, homeless, or throwaway by the shelter staff person conducting the intake (Thompson et al., 2003).

Table 14. Comparison of samples of sheltered youth

Race	Current high-risk sample due to maltreatment and/or poverty (one metro area)	National	Regional
		African-American	81.4%
White	18.6%	59.6%	68.2%
Sex			
Female	63.0%	62.0%	63.6%
Male	37.0%	38.0%	36.4%
Discharged to			
Family	28.5%	57.7%	58.0%
Non-family	71.5%	42.3%	42.0%
Living situation prior to shelter			
Family	60.0%	48.3%	43.3%
Non-family	40.0%	51.7%	56.7%
Physical abuse			
Yes	56.7%	30.5%	32.0%
No	43.3%	69.5%	68.0%
Sexual abuse			
Yes	22.5%	7.6%	7.4%
No	77.5%	92.4%	92.6%

*Primary Aims, Research Questions, and Hypotheses*

*Aim 1: Inter-group analysis of runaway youth*

*Research questions.* Among a high-risk population of youth who have experienced maltreatment and/or poverty, are there significant differences between runaway youth identified by youth shelters versus the juvenile justice system or child welfare in terms of demographics and service use experiences? Do these systems of care identify unique populations of high-risk runaway youth, or do runaway youth move freely between and among these service sectors? What individual factors and/or service

use experiences among runaways increase the odds of identification as a runaway by a community-based youth shelter?

*Service use history and service sector identification of runaway status.* Based on the existing empirical literature examining broader populations of runaways, the research hypothesis was that there would be no difference between foster care runaways and status offense runaways, but that sheltered runaways would be younger, more connected to family, and have fewer risk factors (see Chapter 2). This hypothesis was not supported. Bivariate analyses suggested that many factors were associated with the service sector to first identify the high-risk youth as a runaway, including poverty, maltreatment history, school-identified disability, report of neglect, receipt of in-home child welfare services, and court petition for a delinquent offense prior to first identified runaway episode. Other variables that trended toward significance included ethnicity, parent mental health or substance abuse treatment, and a court petition for truancy.

The results of the multinomial logistic regression suggest that, controlling for covariates, the only variable able to discriminate between each of the groups was age at the time of the first identification as a runaway. High-risk runaways identified by different service sectors are more alike than different in terms of their service use histories. Covariates able to differentiate sheltered youth from the other runaway groups in this sample include age, prior delinquent offense, and persistent poverty. Shelter users are younger than foster care runaways and older than status offense runaways, less likely than status offense runaways to have a delinquent offense, and more likely than status offense runaways to have multiple episodes on AFDC/TANF.

In this inter-group comparison of high-risk runaways, sheltered youth consistently fall between court-identified runaways and foster care runaways on values of significant variables. For example, the sheltered runaways are neither the oldest nor the youngest high-risk runaway group, and they are neither most likely nor least likely to have a record of service use. Once these were entered into a multinomial logistic regression, however, only age discriminated between all three groups. The status offense runaway group was younger than either sheltered youth or foster care runaways.

It makes sense that child welfare would be willing to close a case on an older foster child with a “runaway” status, but would leave the case open and make further attempts to locate younger child – perhaps even seeking assistance from an emergency shelter or family court, which would then become the identifying service sector for this sample. Further research is needed to test this possibility.

Court petitioned runaways are the youngest high-risk runaway group, not sheltered runaways as hypothesized. Although statistically significant, the difference in mean age between shelter-identified runaways and court-identified runaways has little practical significance (14.2 vs. 13.7), and the variance in ages was similar as well (shelter  $sd= 2.4$ , court  $sd= 2.0$ ). One reason these runaways may be younger may be that someone needs to care enough about the behavior to file a complaint. While this could be a DJO or court-involved professional, as discussed below, it is also possible that parents and guardians are more likely to file a complaint when the runaway is younger. If the problem is relatively new, the parent/guardian may be seeking help or guidance from the court. Parents of older youth might feel the situation is too hopeless, or may have realized through past experience that there is little the court can do to intervene with



runaways. It is also possible that high-risk youth are more likely to come to the attention of the court system at an earlier age, and any results from this analysis must be interpreted in light of the high-risk nature of the parent study from which the data was collected. Further research is needed to glean the decision-making processes of caregivers of runaway youth.

Other significant differences were found between the sheltered runaways and the court-identified runaways in this sample. Court-identified runaways had higher odds of a previous delinquent offense (OR=1.6, 95% CI: 1.11, 2.31), suggesting that once a youth is involved with the juvenile justice system, runaway behavior is more likely to be addressed or identified within that system. Court-involved youth are likely to be monitored by a DJO or other court professional, and runaway behavior would be particularly conspicuous for youth on probation. Court-identified runaways were also less likely to have a family with multiple episodes on income maintenance (AFDC or TANF) than shelter-identified runaways (OR=0.88, 95% CI: 0.79, 0.98). This could be related to the younger age of court-identified runaways (fewer years in which to have spells on income maintenance), or could possibly reflect a pattern of higher-income families (relative to the sample) being more likely to seek assistance from law enforcement and the courts. Again, this finding could be unique to this unique population of high-risk runaways. Further investigation is needed to explore the possible reasons for this difference in persistence of poverty between court and shelter identified runaways.

The analysis suggests that the identified high-risk runaways are a relatively homogeneous group of youth in terms of their service use histories. The early childhood risk factors the groups have in common appear to heavily influence the service use

trajectories of youth later identified as runaways. It may be tempting to think that, in light of this homogeneity, the service sector identifying runaway behavior is random – luck of the draw in one way or another – but only 15% of the sampled runaways were identified by more than one system over time. This suggests that there may be a “go-to” service sector for different types of runaways or runaway families, but the discriminating factors were not captured by the data available for this study.

The three groups of high-risk runaways may also represent early sorting of future outcomes. The groups may have more in common prior to their first identified runaway episode than following it, due to the services received (or not) at the time of identification. Runaway youth who first come to the attention of juvenile court may receive supervision that precludes further incidents, or these may be the runaways who become “street youth” outside the system. Further research is needed to explore this possibility. Examining the subsequent adolescent outcomes along with young adult outcomes for each of the three groups will increase the utility of inter-group analysis.

*Aim 2: Intra-group analysis of sheltered youth.*

*Research questions.* Are there distinct groups within a high-risk sheltered population that can be categorized in ways other than their histories of maltreatment and/or poverty? How many distinct classes can be determined, with respect to individual characteristics and service use patterns? What are the individual characteristics and service use patterns associated with each class? What proportion of high-risk sheltered youth can be categorized within each class?

*Classes of sheltered youth.* As with Aim 1, the sample for this analysis was drawn from a parent study including only youth with a prior history of maltreatment

and/or poverty. Despite the predisposed risk, only 20% of the sheltered youth in the current sample were runaway or homeless in that they ran away from their previous residence or spent time living on the street. The remainder of the sample was comprised of child welfare referrals, youth transitioning from institutional care, or youth delivered to the shelter by their parents. This is consistent with prior studies finding that shelter residents are heterogeneous in terms of prior placement. Greene and her colleagues (1997) had shelters exclude “system youth” (child welfare placements) from their census and found that only half of available shelter beds in their sample were occupied by runaway or throwaway youth. Analyzing data from federally-funded shelters, Thompson et al. (2003) found that nearly 50% of shelter admissions were for youth who were not considered runaway, homeless, throwaway, or emergency child welfare placements (Thompson et al., 2003). Definitions of these terms (e.g., “homeless” or “throwaway”) further hamper an understanding of precisely which youth are utilizing shelter services.

The results of the Latent Class Analysis (LCA) indicate that in this sample of high-risk sheltered youth, four distinct classes of shelter users can be identified. Runaway characteristics clustered within those four classes. Despite the inclusion requirements of the parent sample, maltreatment and/or poverty status were not the primary factors differentiating between classes. The primary variables (or parameters) to discriminate between classes included previous living situation, discharge to family, and regular school attendance. Using these parameters as guidelines, the classes are identified by the likelihood of connection to school and family as follows:

Figure 5. Four classes of high-risk sheltered youth identified by Latent Class Analysis

	Attending school regularly	Not attending school regularly
Consistent family connection*	<p>Class 4: Parent “time-out” N= 109</p>	<p>Class 2: School/behavior problems N=122</p>
Weak family connection	<p>Class 1: DFS placements N=153</p>	<p>Class 3: Multi-Problem N=73</p>

\*Family connection is the composite of “parent or surrogate” as last living situation and “returned to family” at discharge.

Class 1, “DFS Placements,” is the largest class, with 153 members. This class primarily represents youth currently in foster care or with an extensive history of foster care and child welfare involvement. More than 90% were included in the parent study sample due to reports of maltreatment. Although a substantial minority of this class (40%) came to the shelter from living at home with family, members of this class are likely to be placed at the shelter as a transition to out-of-home care, or as a transition between out-of-home placements. This is supported by the finding that fewer than 10% of youth in this class are discharged from the shelter to a parent or surrogate. Despite high levels of family stability indicated by few discharges to family and multiple maltreatment reports over their lifetime, this group remains engaged in school, and very few have significant school problems such as expulsion or regular truancy.

The findings related to the DFS placement group correlate with prior research finding many “system” or “non-homeless” youth residing in shelters (Greene et al., 1997; Thompson et al., 2003). As this population is often merged with other shelter residents and considered “homeless” or excluded from runaway samples using shelter data, little is

known about the needs and resources available to this group of shelter users. The DFS group may be over-represented in this sample because approximately half of the parent sample has been involved with child welfare services, possibly inflating the number of youth in foster care.

Class 2, the “School and Behavior Problems” group, report significant school disruption but maintain some connection to family (N=122). Nearly 85% of the youth in this group report that their last living situation was with family, 20% report running away from home and/or spending time on the streets prior to shelter use, and none of the youth in this class came directly to the shelter from out-of-home care (only 30% have a record of foster care placement). Approximately one out of every five families in this group report caregiver distress as a reason for shelter use. Parents of the School/Behavior Problem group are a bit more likely to have high school diplomas, and are less likely to have received treatment for mental health or addiction-related problems. Despite some connection to family and being relatively younger than the other groups (60% are age 14 or younger), behavior problems are apparent. Nearly a third use alcohol and/or drugs. Consistent with research finding runaways are more likely to drop out of school (Kurtz, 1991), none of the youth in this class attend school regularly, and three out of four report significant school disruptions such as expulsion, suspension, drop-out, or regular truancy. It is interesting to note that among this sample of high-risk sheltered youth, school disruption often happens prior to the first identified runaway episode.

The most striking implication of this finding is the high level of school disturbance among sheltered runaways, particularly among this group and the Multi-Problem group. Given the high-risk sample, the relevance of school-related difficulties,

and research suggesting a relationship between school problems and special education services (e.g., Wagner, 1995), a post-hoc analysis was conducted to determine whether there was an association between latent classes and special education services. No significant association was found ( $\chi^2 = 3.08$ ,  $df = 3$ ,  $p = .38$ ), indicating that school disruption discriminates between high-risk shelter groups regardless of special education status.

One-third of the School/Behavior Problem group is eventually discharged to family. Given the presence of family connection and serious behavior problems, this group may be similar in nature to the “throwaway youth” described in the literature (Thompson, Safyer & Pollio, 2001; Zide & Cherry, 1992). These youth are described as being kicked out of their homes by frustrated caregivers without a safe alternative living situation. It is unknown whether throwaway youth, runaway youth, and sheltered youth have similar histories of maltreatment and/or poverty, and therefore unknown how the prevalence of poverty and maltreatment in the current sample might create biased findings with this group of high-risk sheltered youth.

Class 3 is the class for older, Multi-Problem youth ( $n=73$ ), and is thankfully the smallest of the four classes. Members of this group were likely to spend their early years in high-poverty neighborhoods (71%), compared with 56%, 55%, and 53% of the other three classes. This group is nearly tied with Class 1 for the highest rates of foster care (67% of the class), and has among the highest rates of reported sexual abuse (29%). Taken together, the Multi-Problem and DFS groups support the hypothesis of Haber and Toro that youth involvement with social welfare systems and youth homelessness are closely linked (2004).

The Multi-Problem group also has the highest proportion of members with physical disability (11%), MR/DD (12%), and special education eligibility (48%). Half the members of this class have been petitioned for a delinquent offense, and more than half have received state-funded mental health treatment. More than 20% of the youth in this sample have a primary caregiver who received services for mental health or substance abuse, and only a third of these caregivers graduated from high school or received a GED. This is an older class, with only 44% being age 14 or younger. None attend school regularly, and three quarters of this class reports significant school disruption. All of the youth in this class report an out-of-home placement as their living situation prior to the shelter. They are likely to have an extended stay at the shelter, and are almost never returned to family care. These youth are likely to be in state custody, institutional care, or residential settings, with a history of running away and/or being discharged from placements due to behavior problems. Unlike members of the DFS group who are also likely to be placed in the shelter by child welfare services, members of the Multi-Problem group appear more likely to have behaved in ways that precipitated a change in placement.

The high rates of service use, particularly foster care placement, among the Multi-Problem group members supports prior findings that runaways with foster care involvement had the most problematic histories, compared with youth who ran away from their families of origin and youth who were thrown out of their homes by their parents (MacLean et al., 1999). The number of runaway and homeless episodes among youth in public systems suggests that youth involvement with social welfare systems and youth homelessness are closely linked (Haber & Toro, 2004). The connection between

out-of-home care and shelter use for the Multi-Problem group may be due to adolescents' risk of becoming homeless upon separation (by emancipation or running away) from residential placements and institutional settings. In some studies, more than one in four youth who had been in foster care, group homes, or a detention center became homeless after their most recent separation, meaning they had spent their first night after leaving these sites in a shelter or on the streets (Clark & Robertson, 1996; Robertson, 1989).

Class 4, the Parent Time-Out group, represents shelter-using youth who come from home and return home at the end of their stay (n=109). This is consistent with findings that shelters often receive youth directly from their homes who have never spent a night on the streets and are frequently brought to the shelter by parents or police (Thompson, Maguin, & Pollio, 2003). This class is the youngest of the four, and the least likely to have experienced foster care. Despite this, the rates of reported maltreatment are on par with the other three classes (with the exception of sexual abuse, which remains low for the Parent Time-Out group), probably due to the inclusion criteria for the parent sample.

Despite high-risk backgrounds due to maltreatment and/or poverty, the youth in the Parent Time-Out group attend school regularly and report few significant school disruptions. What appears to set this group apart is their relative lack of service use prior to their shelter stay, and their relatively consistent family connections. Given the relative lack of prior service use, it would be interesting to learn more about how these families are referred to the shelters or become aware of the shelter option.

In accordance with previous findings that homeless youth can be clustered according to daily activities and social bonds (Mallett et al., 2004; Cherry, 1993), the



results of this LCA demonstrate that high-risk shelter users can be categorized in terms of family connections (social bonds) and regular school attendance (daily activities). The findings of this analysis support the hypothesis that sheltered runaways can also be grouped into more than one class based on service use history and trajectories. The findings partially support the hypothesis that high-risk sheltered runaways will cluster according to their living situation prior to shelter use; the significance of the prior living situation was strongest in combination with whether the subject returned to family after the shelter stay.

### *Implications for Practice*

Differences and similarities between high-risk runaways in this sample could have meaningful implications for service delivery. Although half of the youth sampled for the parent study had no prior involvement with child welfare, nearly all of the identified runaways from the sample have been reported for maltreatment prior to their first runaway episode. The time span between average age at first maltreatment report (6 years) and average age at first identified runaway episode (14 years) provides plenty of time for targeted family interventions aimed, in part, at preventing future runaway behavior. The majority of these high-risk runaways have received in-home services. This suggests a possible point for runaway prevention services or harm reduction education for youth and families (i.e., education about emergency housing options or respite care services). Because in-home child welfare services typically target caregiver behaviors, this highlights the need to assess child social emotional and educational concerns and make appropriate referrals. This is consistent with the requirements that child welfare

attend to child well-being in the federal child welfare reviews (Administration for Children and Families, 2009).

Prior research found that the most common juvenile justice intervention with runaway youth was a stern warning cautioning them against further offending (60.4%) (Kempf-Leonard & Johansson, 2007). In light of findings from this analysis that high-risk youth identified by the court as status-offense runaways are unlikely to receive shelter services, there may be a critical gap in services for this population. Given that there are no striking differences between the youth identified by the three service sectors, it suggests that the intervention or service delivery options should either become more coordinated between the siloed systems of youth shelter and juvenile justice, or provide roughly equivalent intensity of services for runaways.

Although increased coordination or intensity of services may appear intuitive, more research is needed to determine the service needs of runaways first identified by the court system. These youth may have access to other resources allowing them to out-grow their runaway behavior, or these youth may become a high-risk population of street youth not receiving shelter services. If the latter scenario proves to be the case, the court system must, at a minimum, begin to provide some kind of family intervention to prevent increasingly high-risk behavior among status offense runaways.

Case file data was available for the shelter-identified youth that was not available for court-identified runaways or foster care runaways, providing a richer dataset for the intra-group analysis. Although this sample of sheltered youth includes only youth with histories of poverty and/or maltreatment, the clustering of individual-level cases within classes of the unobserved variable, group membership, may still have practical

implications for shelter services. Despite common histories of maltreatment and/or neglect, these high-risk shelter residents are a diverse group in terms of their social histories, individual needs, and familial needs. It is likely that this diversity is present in broader population samples of runaways, as well, but the specific findings of the LCA are not generalizable. Given the high-risk inclusion parameters and the single geographic location, these findings are only suggestive of what a broader sample of sheltered youth might look like.

The latent class analysis provides clear within-group differences for this high-risk sample of shelter-using youth. Shelters for runaway and homeless youth commonly serve a dual role as both emergency shelters for unhoused youth and emergency placement for youth in the custody of child welfare (Greene et al., 1997; Thompson et al., 2003). This is particularly true for the sample used in the present study. This finding has implications for practice, as youth more connected with family (the Parent Time-Out and School/Behavior Problems groups) are far more likely to benefit from family-reunification services such as family counseling and after-care services than the youth disconnected from family (the Multi-Problem and DFS groups), whose family reunification potential is the province of child welfare practitioners. Members of the Parent Time-Out group, in particular, would benefit from intensive and comprehensive family services including screening and referral. The young age, high risk (in terms of poverty and maltreatment), and low levels of family service use among the Parent Time-Out group makes them a prime target for preventive efforts.

The LCA further differentiates among sheltered youth in terms of school connectedness. The DFS and Multi-Problem youth may both be system-involved, but

DFS youth attend school regularly and Multi-Problem youth do not. Both Multi-Problem and School/Behavior Problem youth have serious school disruption problems such as drop-out and expulsion. Although required to provide some level of educational support, education-related services vary widely by shelter. Given the limited funding available for shelters and the required outcome of safe exits, few shelters are in a financial position to provide extensive education programming or coordination services. Yet it appears that shelter service providers should, at a minimum, identify a youth's level of connectedness with school to make appropriate referrals. Ideally, shelters would have at least one full-time education coordinator to coordinate school enrollment, re-enrollment, GED programs, special education supports, and vocational training for this high-needs population of youth (Sullivan & Knutson, 2000).

The high rates of serious school problems among sheltered runaways have implications for school social workers, as well. School social workers could be advised that youth at-risk of drop-out or expulsion are also at high risk for runaway behavior and homelessness. Before the connection with school is permanently severed, there may be an opportunity to educate at-risk youth on alternative housing options (shelters and transitional living programs), pathways to becoming an emancipated minor, and the local array of emergency services for youth. Armed with this information, youth at risk of homelessness may be better equipped to navigate the challenges of early independence and/or lack of family support.

Shelters serve youth with and without family support, and these groups may have disparate needs. Shelters should be enabled to address a variety of individual and family-level problems, reflecting the diverse needs and typologies of shelter residents. Some

shelters already take a 2-pronged approach to serving youth, recognizing that foster care placements have a different set of needs than other youth who have chosen to stay at the shelter or been placed there by parents (Patricia Holterman-Hommes, personal communication, 2008). As demonstrated by this sample of sheltered youth, youth in the DFS or Multi-Problem groups (often foster care placements) are most likely to have extended shelter stays beyond the 14-day limit.

This complicated scenario of extended stays and lack of family support raises the question of whether shelters are an appropriate “step-down” from institutional settings and/or emergency placement for youth in foster care. It is arguable that mixing this high-risk, high-needs population with youth in family time-out or younger runaways is problematic, in part due to the possibility of peer contagion related to behavior problems, emotional problems, and negative coping strategies (Lee & Thompson, 2009). It may be worth expanding the residential options for teens in care, including recruitment and training so that more foster homes are ready and capable of accepting adolescents. Institutional care settings for adolescents may need to focus time and attention on discharge planning, so that shelters no longer serve as an intermediary placement for youth exiting hospitals, treatment centers, or residential placements.

#### *Implications for Runaway Youth Policy*

The Runaway and Homeless Youth Act (RHYA) established an alternative system of care for youth which includes emergency shelters. Starting in 1992, the federal grant guidelines for runaway shelters suggested that services be delivered “outside the law enforcement system, the child welfare system, the mental health system, and the juvenile justice system” (RHYA 42 USC § 5711 (a)). At the same time, these programs

were required to add educational opportunities and comprehensive mental health supports (RHYA 42 USC § 5701 (6) (7)). This type of extensive service delivery outside the usual systems of care was thought necessary in order to reach these vulnerable youth.

The current findings demonstrate that shelter services for high-risk youth are most often provided in addition to, rather than instead of, those traditionally provided by public sectors such as mental health, child welfare, public schools, and juvenile justice. It is not clear whether this makes them redundant or if these services are filling a critical gap in services that other systems cannot currently provide. For example, crisis nurseries are available to meet the needs of parents with young children who have temporary problems caring for their children, but they do not serve adolescents. At least one group of sheltered youth appear to be similar to this in that the parents are having difficulty meeting their needs and are using the shelter as a “parent time-out.”

The RHYA established youth shelters to create a safety net for runaways who might not be served by any other systems. This research shows that shelters do serve as a safety net, but not only for youth; Shelters are a safety net for child welfare, often serving as an emergency placement for youth removed from the home, discharged from a previous placement, or expelled from residential facility. Shelters also provide a safety net for the juvenile justice system, providing a safe, temporary option for youth released from state custody but unable to return home. And parents are among those who find the shelter system to provide a safety net; shelters are clearly used for both temporary parent time-outs and as a precursor to a longer out-of-home placement for families unable or unwilling to provide care for the youth.

This safety net, however, is not entirely unidirectional. Shelter services for children in the custody of child welfare are often provided under separate contract with the state, and provide additional income for the shelter program. Federal RHYA funding is helpful, but does not cover the cost of service delivery. States have generally provided only modest funding for runaway youth services, if any (Steinhart, 1996). RHYA Basic Center funding level nationwide in FY 1994–95 was \$36 million, and this amount supported approximately one-third of the actual operating costs of the centers, according to *A state survey of runaway and homeless youth laws* (ABA, 1994). Fee-for-service contracts or state grants to provide crisis care for child welfare clients is a win-win situation for the shelter and the child welfare system in areas where the homeless youth population is less likely to access shelter services.

It is unclear whether shelter samples differ by metropolitan area. Although most runaways stay within 50 miles of home (Finkelhor et al., 1990), shelters in “destination cities” (see Thompson, Pollio, & Bender, 2008) such as Los Angeles, San Francisco, and New York may serve a higher proportion of “truly” runaway and homeless youth. This requires them to use all available beds to serve that high-risk, high-need population that is unable to get services elsewhere, and their shelters may be less likely to house emergency foster care placements. In areas similar to this study region, however, shelters may still fill an important gap in youth services but have different relationships with other agencies. Such regional differences require flexible policy and funding mechanisms (Thompson et al., 2003). For example, federal shelter funding might be more equitably and efficiently allocated on a sliding scale, according to the percent of beds reserved for youth with no other safe living option.

### *Contributions to Theory Development*

Many of the services currently available are guided by policy decisions in the absence of theory or empirical research. Recently, efforts have been made to address this concern (e.g., U.S. Department of Health and Human Services, 2007), but the term “runaway and homeless youth” has remained a vague catch-all phrase with little practical significance. This research begins to define the population of sheltered youth, and differentiate them from status offenders and street youth.

The inter-group analysis in Aim 1 demonstrates that service use history among high-risk youth is an unlikely predictor of which service sector will identify a youth as “runaway,” and that there are few between-group differences when comparing runaway status offenders, sheltered youth, and foster care runaways who have experienced poverty and/or neglect during childhood. These findings support Karen Staller’s (2004) model which proposes that runaways are involved with multiple service sectors over time.

Yet one descriptive statistic appears to call this finding into question: only 15% of the high-risk youth in this longitudinal sample were identified as runaways by more than one service sector. Perhaps this speaks to the importance of issues and variables *not* examined in Aim1 but alluded to in Staller’s model, such as: school involvement, victimization, and the use of alternative homes in the private sector – family and friends – as coping strategies for youth and parents experiencing significant strain. The results of this dissertation support the need for complex and comprehensive models such as Staller’s in order to represent the full breadth of runaway experiences and service use.

Another factor not tested here that might bear consideration is the communication patterns between parent/surrogate and child, and subsequent fear (or lack of fear) for the



child's safety. Perhaps it matters whether or not the parent is involved in the decision for the youth to leave home, or at least knowledgeable about where the child might be staying. It may be that parents without knowledge of where their child is living are more likely to seek help from law enforcement and family court, whereas those with some knowledge may be more likely to pursue shelter services as an alternative to burdening friends and family.

Although based on a non-representative sample, the intra-group analysis of Aim 2 provided useful information for intervention theory development. With four unique and mutually exclusive typologies of high-risk sheltered youth, a logical conclusion is that intervention theory may require a multi-pronged or tiered approach to service delivery, differentiating between services for youth in care and services for youth with a possibility of family reunification. The finding that runaways and street youth were in the minority even among high-risk shelter residents suggests that shelter intervention theory need not focus specifically on family reunification, as federal policy recommendations currently suggest (RHYA 42 USC § 5711).

By analyzing differences between runaway groups and among sheltered youth, we can begin to understand what types of at-risk youth are most likely to interface with the shelter system. Defining the population is an important step in evidence-based practice. By beginning to define and conceptualize sheltered youth using empirical strategies, this project lays the groundwork for the creation of relevant and timely intervention theory to guide service delivery at emergency shelters.

### *Strengths of the Study*

First, this study provides a unique opportunity to analyze longitudinal data with respect to youth homelessness. Second, this research begins to examine the cross-sector service use of homeless youth, a critical lack in the existing knowledge base given the multiple service systems interacting with runaways. This longitudinal cross-sector analysis provides a unique opportunity to determine whether policies and services for homeless youth in multiple service sectors reflect distinct service use pathways into homelessness. Third, this project is among the first to link administrative records of child welfare services with administrative records of runaway and homeless outcomes. The link between child welfare and youth homelessness appears overwhelming, yet to date the vast majority of research relies on self-report, particularly recall self-report, to make those connections. Recall and self-report of sensitive data may be unreliable.

This study's use of longitudinal data to examine of runaway behavior and homelessness among at-risk youth over time is an important contribution to the literature in this area. Two leading researchers in the field of homeless youth argue that studies following samples of poor or other children or adolescents at risk for homelessness over long periods of time would provide critical information for the field (Haber & Toro, 2004), and lament the near total lack of longitudinal studies. By linking data from a prospective longitudinal service use study on at-risk children to users of emergency shelters for youth, this study represents the first step towards meeting the need for tracking service use of at-risk youth prior to identified runaway episodes.

In spite of the multiple service sector options for runaway and homeless youth, this study represents one of the first analyses of cross-sector service use among the

runaway youth population. Except for the two studies of Sullivan and Knutsen (1998, 2000), no research examines cross-sector service use with administrative data. Self-report of service use may be insufficient for examining the relationships and linkages between the myriad sectors known to serve runaway and homeless youth: hospitals, schools, child welfare, juvenile justice, law enforcement, and the alternative service sector.

This project adds to the literature on runaway and homeless youth by providing an in-depth description of the service use histories of runaway and homeless youth based on archival records rather than self-report. With a few exceptions (e.g., Sullivan & Knutson, 1998, 2000), the currently available research examining child maltreatment among runaway and homeless youth relies on youth self-report for determining history of child maltreatment and/or history of runaway behavior.

#### *Limitations of the Study*

The youth in this sample do not represent *all* system-identified runaway youth in the metropolitan area during the timeframe of the study – only those sampled by the parent study due to maltreatment or poverty during childhood. The runaway sample for this dissertation is therefore limited by the inclusion criteria of the parent sample. The current sample includes only system-identified runaways with a childhood marked by poverty (income maintenance) and/or maltreatment. Runaways without a history of maltreatment or poverty are vastly under-represented in this sample. In addition, the samples for this research were drawn from only one geographic area. Given these limitations, it is not possible to generalize findings from this study to broader populations of runaways.

Because this study used administrative data rather than self-report or observational data, it is impossible to investigate all maltreatment, poverty, educational need, mental health symptoms, and crime; we are limited to that which is known to social service systems. As discussed previously, the proportion of runaway episodes identified by social service sectors is unknown, but identified episodes represent no more than half of runaway incidents. Another limitation of the administrative dataset is that we have minimal data on the psychosocial characteristics of these youth beyond those for which they received services.

Youth experiences in the private sector or with other alternative services for runaways are unknown. For instance, a runaway youth who leaves the family home to stay with friends and relatives and has never stayed at a shelter or been arrested for a status offense would not be included in the sample. In addition, the dataset does not include data from drop-in centers, youth clinics, or transitional living programs, all of which offer services for runaway and homeless youth. Our knowledge of alternative service use is limited to the use of emergency shelters.

These social problems are not amenable to experimental manipulation; therefore, causal inferences cannot be drawn from any findings, and we are limited to the study of association. This type of design, however, is consistent with the research questions presented at the beginning of the proposal. Future research can introduce experimental design at the stage where interventions can be tested, and their impact on young adult outcomes evaluated.

### *Directions for Future Research*

Existing literature is limited in what it can tell us about the young adult outcomes of runaway and homeless youth. Although the service use histories of three groups of system-identified runaways might be similar, the service sector that identifies the behavior may impact long-term outcomes for the adolescent. It would be particularly relevant to explore the differences in outcomes between court-identified youth and sheltered youth, as these are the populations still engaged with services and amenable to interventions.

More research is needed to explore the differences between at-risk youth who are identified as runaways and those without a record of runaway behavior. Particularly because there were few identifiable differences between groups of runaways in this dissertation, research comparing runaways with non-runaways may demonstrate significant differences between service use trajectories that could inform prevention and intervention services for youth at risk.

As findings from this study are not generalizable beyond the metropolitan area where the youth were sampled, further exploration of regional differences is needed. The inter-group similarities and intra-group differences may be more relevant in Midwest cities where youth tend to stay closer to home (Thompson, Pollio & Bender, 2008) than in attractive destination cities, where youth could lack protective social support systems.

One striking secondary finding was the unusually low rate of parent/caregiver high school graduation among sheltered youth, even compared to other sub-samples of the parent dataset. For example, using a subsample from the same parent study dataset to examine court-petitioned girls, Bright found that 54% of the parents and caregivers had

graduated high school (Bright, 2008). This is significantly higher than the 36% graduation rate of caregivers of sheltered youth. It is worth exploring whether caregiver education status is predictive of youth runaway behavior.

### *Conclusion*

Among high-risk youth with histories of maltreatment and/or neglect, sheltered youth have similar service use trajectories to runaways identified by the court and runaways from foster care. Yet high-risk sheltered youth are, among themselves, a diverse population. The needs and resources of sheltered youth require services and policies to be flexible and responsive to youth arriving from diverse living situations. Future research can explore regional differences among sheltered youth and the role of psychosocial factors in order to better predict service sector identification and provide targeted prevention efforts among at-risk youth. Understanding the cross-sector service use and service use pathways of high-risk sheltered youth will allow shelters and other service providers to better care for this population throughout their adolescence and early adult years.

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