

**The Transition of Youth with Disabilities from the Child Welfare System:
An Analysis of State Administrative Data**

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Dedication

This dissertation is dedicated to James and to Frances.

Abstract

Youth with disabilities are disproportionately represented in the child welfare system (Crosse, Kaye, & Ratnofsky, 1992; Sullivan & Knutson, 2000). Although research on this topic is limited, youth with disabilities who are emancipating from foster care are at risk for particularly poor outcomes, experiencing even lower rates of employment, educational attainment, and economic stability than their non-disabled peers who are aging out of care (Anctil, McCubbin, O'Brien, & Pecora, 2007a; Anctil, McCubbin, O'Brien, Pecora, & Anderson-Harumi, 2007b; Zetlin, 2006). Using state administrative data, the study compares youth with disabilities emancipating from foster care to their non-disabled peers, examining prevalence and demographics, as well as differences between the two groups in key education, child welfare, and disability-specific variables. It examines how transition outcomes in the areas of secondary and postsecondary education and adult corrections differ for youth with and without disabilities who have aged out of foster care. Finally, it examines the relationship between the identified transition outcomes and the key predictor variables in the areas of education, child welfare, and disability-specific services.

Analysis found significant differences between youth with disabilities and their non-disabled peers who have aged out of foster care. Youth with disabilities are more likely to be male, Native American, or Asian than their non-disabled peers. They experience different permanency plans and are less likely to access child welfare transition services. All of the youth experienced high rates of placement instability, and youth with disabilities appeared to experience slightly higher rates. Youth with disabilities were placed in juvenile corrections and/or residential treatment prior to

finishing high school in greater numbers than their non-disabled peers. However, they were also more likely to attend school regularly. Youth with disabilities were less likely to graduate from high school, less likely to be enrolled in postsecondary education and training, and more likely to appear in the adult correctional system. Additionally, child welfare transition services were associated with negative adult school completion outcomes, such as increased risk for drop out for youth both with and without disabilities. Thus, it is critical that researchers, policymakers, and practitioners improve their expertise, programming, and focus on older youth with disabilities in the child welfare system.

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Chapter 1: Introduction

Youth with disabilities are disproportionately represented in the child welfare system (Crosse, Kaye, & Ratnofsky, 1992; Sullivan & Knutson, 2000). Research has demonstrated that transition outcomes for both youth with disabilities aging out of special education and youth with disabilities aging out of foster care are poor in comparison to their same-aged peers (Courtney & Dworsky, 2005; Johnson, Stodden, Emanuel, Luecking, & Mack, 2002). Youth emancipating from foster care and youth aging out of special education are more likely to be unemployed or underemployed, more likely to struggle with poverty and homelessness, and less likely to be enrolled in postsecondary education or training than their same-aged peers (Courtney & Dworsky, 2005; Johnson et al., 2002; Wagner, Newman, Cameto, Garza, & Levine, 2005). Although research on this topic is limited, youth with disabilities who are emancipating from foster care are at risk for particularly poor outcomes, experiencing even lower rates of employment, educational attainment, and economic stability than their non-disabled peers who are aging out of care (Anctil, McCubbin, O'Brien, & Pecora, 2007a; Anctil, McCubbin, O'Brien, Pecora, & Anderson-Harumi, 2007b; Zetlin, 2006).

Federal policymakers have increasingly focused on creating policies to support youth who are at-risk during their transition years. The Individuals with Disabilities Education Improvement Act (IDEA 2004), the federal policy that mandates special education services, contains specific language about required transition services. For youth aging out of foster care, the John H. Chafee Foster Care Independence Act of 1999 (Chafee Act) more than doubled the amount of annual funding available to states to provide transition services. Both policies specifically call for a collaborative

approach in the provision of these services to eligible youth. However, examination of the outcomes for the youth receiving services through both the child welfare and special education systems indicates that despite the existence of a “policy space” (Berk & Rossi, 1990) for collaboration and an integrated approach to transition, the systems in question are not achieving their desired effects.

Perspectives on organizational and systems collaboration help provide insight into the barriers to successful collaboration among public agencies. Although policymakers have called for integration of human services since the 1960s (Hassett & Austen, 1997), it has not been achieved in most child-serving systems. Youth with disabilities who are in foster care are almost always involved with multiple service systems and agencies, but are rarely able to experience a seamless, coordinated approach to their care. Instead, they may receive contradictory or duplicative services or may fall through the cracks and receive very few services at all (Altshul, 2003; Geenen & Powers, 2006; Goerge, VanVoorhis, Grant, Casey, & Robinson, 1992; Van Wingerden, Emerson, & Ichikawa, 2002).

This dissertation examines the transition experience of youth with disabilities as they age out of foster care. Using state administrative data, the study compared youth with disabilities emancipating from foster care to their non-disabled peers, examining demographics as well as the differences between the two groups in key child welfare, education, and disability-specific indicator variables. It examined how transition outcomes in the areas of employment, education, and adult corrections differ for youth with disabilities who have aged out of foster care and youth without disabilities who have aged out of foster care. Finally, it examined the relationship between the

identified transition outcomes and the key predictor variables in each of the three service areas. This latter analysis was completed for both the entire sample of youth aging out of care and for the youth with disabilities sub-sample.

This introductory chapter provides definitions of some of the key terms used in this study, such as “transition” and “disability;” provides an overview of the prevalence of children with disabilities in the child welfare system; and briefly discusses the potential impacts of the study. Chapter Two: Literature Review outlines the existing research on the transition experiences of youth aging out of foster care, youth with disabilities transitioning out of special education, and youth with disabilities aging out of foster care. Chapter Two also discusses the federal and state policies that mandate transition services for these populations, as well as the theories of transition that provide the framework for this dissertation research. The third chapter, Method, outlines the specific steps involved in the study, including the research question, sample, research design, analysis, reliability, and validity. The fourth chapter, Findings, outlines the statistical analysis of the data elements. The fifth chapter, Discussion, connects the results to theory and previous research, while the final chapter outlines implications of the research for practice and policy and identifies areas for future research.

Definitions

Transition is generally defined as the act of passing from one state or place to the next (Merriam-Webster, 2009). Here, it refers specifically to the passage of youth from youth-serving systems and services to adulthood. This passage may also be referred to as “aging out” or “emancipation” from the children’s systems. Transition policies and services generally encompass youth ages 14-18 or 14-21, although this

varies from program to program and state to state. Transition services for young adults generally focus on connecting the young person with postsecondary or vocational education, employment, adult social services, and community resources, and preparing them to live independently. In this paper, *transition* will be used to refer generally to this process of leaving youth-serving systems at the age of majority (either 18 or 21); *transition-aged* will refer to youth ages 14-21, unless otherwise specified. Youth who have already aged out of care may be referred to as *foster care alumni*.

Disability: The Americans with Disabilities Act defines disability as a physical or mental impairment that substantially limits one or more major life activities . . . which include, but are not limited to, caring for oneself, performing manual tasks, seeing, hearing, eating, sleeping, walking, standing, lifting, bending, speaking, breathing, learning, reading, concentrating, thinking, communicating, and working. (P.L. 110-325)

In public schools, students may receive special education services and supports under the IDEA 2004 if they have an impairment involving one of thirteen conditions—mental retardation, hearing impairments (including deafness), speech or language impairments, visual impairments (including blindness), serious emotional disturbance, orthopedic impairments, autism, traumatic brain injury, other health impairments, or specific learning disabilities—and can demonstrate that they need “special education and related services” as a result (P.L. 108-446). A disability may be diagnosed and interventions put into place (through written plans such as an Individualized Education Program) or a disability may be undiagnosed (or not acknowledged) with no interventions put into place. This paper will utilize a broad definition of disability,

inclusive of emotional and behavioral disorders, mental illness, and learning disabilities, unless otherwise specified in the discussion.

Transition outcomes: In IDEA 2004, the Chafee Act, and Minnesota statute for youth in foster care, a successful transition is measured in terms of the young person's achievement in the areas of education, employment, independent living, and community participation. Table 1 outlines the key transition components in each of the policies examined in this project.

Table 1-1: Transition Components in Policy

Transition Outcome Area	IDEA 2004	Chafee	Minnesota Statute
Academic Achievement	<p>Completion of secondary education</p> <p>Participation in postsecondary education, including 4- or 2-year college or vocational or technical education</p> <p>Continuing and adult education</p>	<p>High school diploma</p> <p>Postsecondary education and training</p>	<p>Completed secondary education</p> <p>Enrolled in postsecondary education</p> <p>Applied for and obtained financial aid</p>
Employment	<p>Integrated employment or supported employment</p>	<p>Employment</p> <p>Career exploration</p> <p>Vocational training</p> <p>Job placement and retention</p>	<p>Employment</p> <p>Vocational planning</p>
Independent living and community participation	<p>Connection with appropriate adult services</p>	<p>Training and education in:</p> <ul style="list-style-type: none"> • Financial management • Housing • Counseling • Substance abuse prevention • Preventative health activities <ul style="list-style-type: none"> ○ Smoking 	<p>If male, registered for Selective Service</p> <p>Housing plan and alternative housing plan</p> <p>Saved money for rent, damage deposit</p> <p>Applied for disability</p>

		avoidance <ul style="list-style-type: none"> ○ Nutrition education ○ Pregnancy prevention States can expand Medicaid to age 21	income and assistance, if eligible Health care coverage, mental health needs Social and recreational skill training, connections with child's family and community Completed drivers education and/or knows how to use public transportation
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In this study, the phrase “transition outcomes” refers to young people’s goals and achievements in the areas of education, employment, and independent living.

Children with Disabilities in the Child Welfare System

Although research on the topic is not extensive, it is undeniable that many of the 20,000 young people who age out of the foster care system every year (GAO, 2004) have a disability. Over the past twenty years, studies have found that children and youth with disabilities experience a higher rate of maltreatment than children and youth without disabilities (American Academy of Pediatrics, 2001; Crosse et al., 1992; Sullivan & Knutsen, 1998, 2000; Verdugo & Bermejo, 1995; Westcott & Jones, 1999). While there has been much research on the factors related to these high rates of maltreatment (AAP, 2001; Westcott & Jones, 1999), little is known about how children with disabilities are served within the child welfare system (Lightfoot & LaLiberte, 2005). Specifically, data on the prevalence, characteristics, and out-of-home placement status of children with disabilities who are involved in the child welfare system is limited. Crosse and colleagues (1992) found that the incidence of maltreatment among

children with disabilities was 1.7 times greater than the incidence of maltreatment among children without disabilities, while Sullivan and Knutsen (2000) found that children with disabilities were 3.4 times more likely to be maltreated than their nondisabled peers.

Along with general prevalence studies of child maltreatment of children with disabilities, there have been a number of studies examining how likely children in foster care were to be in special education services, which can be seen as a proxy measure for a disability diagnosis. In a meta-analysis of 31 studies, Scherr (2007) found that children in out-of-home foster care are disproportionately represented in special education. Goerge and colleagues (1992) found that 30% of the school-age foster care population was receiving special education services, and Smithgall, Gladden, Yang, and Goerge (2005) found that students in out-of-home care had a higher prevalence of disability—specifically, emotional disturbance—compared to the general school-age population. Other studies put the percentage of children in foster care with disabilities as high as 50-80%, if mental and behavioral health problems are included (United Cerebral Palsy, 2006). Kerker and Dore (2006) report that children in out-of-home placement have higher levels of emotional and behavioral problems, which may be attributed to the abuse and neglect the child suffered prior to removal, and the trauma of being removed from the home, as well as to pre-existing conditions. A 2004 GAO report found that 30-40% of youth in foster care are afflicted by chronic medical problems, and that twice as many youth in foster care have repeated a grade, changed schools during the year, or been enrolled in special education, compared to their peers who are not in the child welfare system (GAO, 2004).

Foster children who receive special education services are, in general, older than the typical special-education population, and are disproportionately identified as having emotional disturbance as their primary disability (Emerson & Lovitt, 2004; Goerge et al., 1992). A study of foster care alumni found that mental health outcomes for youth aging out of care are disproportionately poor in comparison to youth in the general population, with foster care alumni reporting higher rates of a number of mental health diagnoses including post-traumatic stress disorder, depression and anxiety, and drug and alcohol dependence (Casey Family Programs, 2006). Due to the increasing emphasis on rapid achievement of permanency as a result of the Adoption and Safe Families Act, it is likely that children who are difficult to place, including those with disabilities, are likely to remain in foster care and ultimately emancipate from the system, thus making up a larger proportion of youth aging out of foster care than their non-disabled peers, who may be more likely to be reunified, placed with kin, or adopted (Kerker & Dore, 2006). Therefore, it is likely that many foster care alumni are youth with disabilities.

Challenges in determining the prevalence of children with disabilities in child welfare.

While current research consistently finds that children with disabilities are more likely to experience maltreatment than children without disabilities, and that their experiences of maltreatment may vary based on their disability, there is still little known about children with disabilities' experiences within the child welfare system. Existing studies (Crosse et al., 1992; Sullivan & Knutsen, 1998, 2000) provide important information on how many children with disabilities experiencing maltreatment are identified by the child welfare system. However, there is little information on the

experience of children with disabilities within the system, such as how likely children with disabilities are to be placed in out-of-home placement, what services they receive while in care, and how, if necessary, they are prepared for their eventual emancipation from child welfare.

There are several reasons why information regarding child welfare and disabilities is limited. First, state child welfare systems do not collect disability data in a standardized manner, and the Child Abuse Prevention and Treatment Act of 1988 (CAPTA) does not require states to collect such information. As of 2006, only 33% of state child welfare systems reported documenting information about specific disabilities of children within their system (Shannon & Agorastou, 2006). In addition, child welfare workers are inadequately trained in identifying children with disabilities and in identifying and connecting with disability-specific services and supports (AAP, 2001; Bonner, Crow, & Hensley, 1997; Bruhn, 2003; Lightfoot & LaLiberte, 2005; Shannon & Agorastou, 2006). Finally, there is a lack of standardized definitions of disability or eligibility criteria used across programs and states (Bruhn, 2003; Westcott & Jones, 1992).

Conclusions

Although youth with disabilities are overrepresented in child welfare in general (Crosse et al., 1992; Sullivan & Knutsen, 2000; Westcott & Jones, 1999) and in out-of-home placement specifically (Geenen & Powers, 2006; Lightfoot, Hill, & LaLiberte, 2010), they are underrepresented in the research on child welfare transition. The topic of youth aging out of foster care is of increasing importance to policymakers; however, youth with disabilities are often specifically excluded from research on foster care

transition (for example, Courtney & Dworsky, 2005; Laflin, 2008; Reilly, 2003) despite their prevalence in the child welfare system. Expanding the typical study sample to include youth with disabilities, rather than specifically and imperfectly excluding them, will help to improve services and systems for this population by increasing knowledge and awareness of their unique challenges in the transition to adulthood.

The assumption that collaborative services are more effective and cost-efficient than categorical services is prevalent in social work. However, despite the continued discussion of collaboration and collaborative approaches as a solution to the complex challenges facing young people as they age out of care (Altshuler, 2003; Collins, 2001; Courtney, 2000; Fernandes, 2008; Geenen & Powers, 2006; Palladino, 2004) there is little research evidence to support its effectiveness (Johnson-Reid & Drake, 2008). For example, if a child receives both special education and child welfare transition supports, are they likely to have better adult outcomes than a child who receives supports through an integrated, collaborative system?

Administrative data, such as that used in this study, may be superior to other types of data (e.g., client recall, caseworker report) in identifying precisely what services were received, when, and in what order (Johnson-Reid & Drake, 2008). Given the complexity of service systems, it is not uncommon for both frontline workers and clients to have inexact or inaccurate recall of the details of the services provided. Thus, administrative data provides a unique window on transition systems and outcomes for youth with disabilities in out-of-home-placement. Finally, administrative data allows for multi-year tracking of a group of young people who are historically difficult to

identify and locate through primary data collection methods due to high mobility and other issues (Collins, 2001; Reilly, 2003).

Findings from this study have implications for both social policy and social work practice. The issue of transition from foster care is of interest to policymakers, as is evidenced by federal studies, legislation, and conferences. Federal policies have laid out guidelines for transition best practices; however, the details of the implementation of these policies remain murky at best. In order for policy and practice to be honed to better serve the needs of youth with disabilities in transition, there must first be a clearer picture of what is happening under current policies. Then, policies at the state and local levels can be either created or improved in order to better guide practice.

Implementation of the policies also can be better targeted, with trainings and supports for frontline workers focused on providing research-based improvements. Rather than simply calling for more collaboration among the multiple service systems, policymakers and practitioners at all levels can target their approach in order to best prepare young people with disabilities aging out of foster care for what lies ahead of them.

This chapter provided an overview of the prevalence of children with disabilities in the child welfare system, definitions of key terms used in the paper, and a statement of the scope of the problem of youth with disabilities aging out of foster care. The next chapter will discuss the research literature on transition for youth aging out of foster care, youth with disabilities, and youth with disabilities aging out of foster care. It will also provide an overview of the federal policies that mandate transition services and supports for these populations, as well as theoretical perspectives on transition and coordinated services that shape this dissertation research.

Chapter 2: Literature Review

The experience of and outcomes for youth with disabilities transitioning out of foster care are insufficiently studied; thus, in order to understand their experiences, it is necessary to draw from the literature on transition from foster care for all young people (often exclusive of at least some young people with disabilities) as well as the research on special education transition. In this chapter, information from multiple literatures will be examined and bridges will be created between these streams whenever possible in order to create as full a picture of the experience of young people with disabilities as they age out of foster care as possible. Additionally, the federal and state policies that create and fund the public systems that support adolescents with disabilities in their transition process will be examined to provide insight in the existing policy space for an integrated and collaborative approach to transition. An analysis of theoretical approaches to collaboration will identify areas for further study in the identification of barriers to and opportunities for collaboration in existing services. Finally, a review of the literature on using administrative data for social work research will situate this study within existing research methods.

Adolescent transition for youth at risk

Research has demonstrated that the transition from adolescence to adulthood is a challenging time for all young people (Collins, 2001; Kessler, 2004; Osgood, Foster, Flanagan, & Ruth, 2004). The concept of “transition” is situated within the sociological concept of the life course. There is a social expectation that all members of society

move through specific markers of development (i.e., high school graduation, marriage, parenting) in a similar time frame, with these expectations shaped by historical, social, and other forces (Elder, Johnson, & Crosnoe, 2003; Setterstein, 1998). Social institutions that work with adolescents reinforce the life course perspective on transition through the organization of services and payments (Shanahan, 2000). For example, young people are eligible for services through the child welfare system until they reach what is considered to be the developmental stage of adulthood, at either age 18 or 21. At this point, they must find alternate eligibilities to access services or payments, if these services are necessary, regardless of their individual development, specific challenges, or environmental factors. The social institutions which work with adolescents and young adults are designed to encourage an orderly progression through the socially approved markers of aging, with services and supports entering and leaving young people's lives based on their chronological age and the social expectations of what they should have achieved developmentally each age (Shanahan, 2000).

In Western society, as youth reach the age of majority and move into new areas of education, employment, and independent living, they are expected to become increasingly independent of family supports. A successfully transitioned young adult, it is popularly believed, would be enrolled in postsecondary education or training, economically self-sufficient, and able to live independently of his/her parents. For young people with supportive and involved families, these goals are achieved with ongoing family support, both emotional and financial. For youth who are engaged with child-serving government systems, such as child welfare, special education, or juvenile justice, this transition can be even more difficult, due to a variety of factors, including a

lack of family supports, confusion over how to access services available to them, and a lack of thorough, realistic planning for this transition period. Additionally, many of these youth must accomplish additional tasks, such as finding housing or arranging for medical care, that youth in more stable situations do not have to face (Osgood et al., 2004). Areas of concern for youth as they transition out of care include mental and physical health, family support and social relationships, residential status and housing, employment and economic stability, education, and risk and criminal behavior (Kessler & Jaklitsch, 2004).

Research has shown that youth leaving foster care suffer from a lack of sustained familial support that is an integral part of most American youths' transition to adulthood (Collins, 2001; Kessler, 2004). Older youth in foster care have been found to have particularly intense emotional and physical needs (Sullivan & van Zyl, 2008). Mech (1994) notes that adolescents in foster care have experienced many kinds of life disruption, thus, they often require extensive supports, both tangible and intangible, in their transition to independent living and adulthood. Additionally, experts agree that parent participation in the transition process for youth with disabilities is critical to its success (NICHCY, 2009). Thus, the risks associated with the absence of parental support and involvement for youth in transition from foster care may be exacerbated for those foster care youth who have disabilities.

Federal and State Policies Addressing Transition Needs of Youth with Disabilities Aging out of Foster Care

Many federal laws aim to improve transition outcomes for youth at risk. (For a comprehensive discussion, see Fernandes, 2008). Services for youth at risk are

generally categorical in nature, targeted at specific groups of youth with identifiable characteristics, behaviors, or circumstances—e.g., homeless and runaway youth, youth aging out of foster care, youth leaving the juvenile justice system, migrant youth (Fernandes, 2008). Thus, the transition needs of youth with disabilities are served through special education services; the transition needs of youth in need of protection from parental maltreatment and neglect, through child protection. Federal policies set broad guidelines for public services addressing the transition of at-risk youth; however, there is a great deal of variation in state and local implementation of these policies, as different states have different systems in place and administer their programs according to their own understandings of the needs of youth in their jurisdictions. Generally, there is very little recognition in the actual provision of services of the potential dual service identity of young people, meaning that they may be eligible for and, in fact, receiving services from multiple systems simultaneously. Federal transition laws specifically call for collaboration among service providers (Altshuler, 2007; Hill, 2009); however, it is questionable if this collaboration actually occurs.

Individuals with Disabilities Education Improvement Act.

IDEA 2004, the most recent reauthorization of the Individuals with Disabilities Education Act, is the federal law that mandates special education services for children with disabilities, from birth to age 21. IDEA 2004 provides specific direction to state education agencies and other public agencies in the provision of these services. Part C of IDEA addresses early intervention services for children under the age of 3; Part B of IDEA 2004 governs special education services for children ages 3-21, providing them with the free and appropriate public education to which they are entitled. IDEA 2004

mandated services are located and managed through the local education agency, generally the school district.

Among IDEA's provisions is the requirement that children receiving special education services through public schools have an Individualized Education Program (IEP), which is a detailed plan for the child's yearly educational goals completed by their teacher, family, and other concerned individuals, such as social workers or vocational counselors. IEPs for students are completed yearly, each year that the student is enrolled in special education. IEPs are written at annual team meetings; IDEA 2004 indicates that the parents of the student, his/her teachers, other individuals who have knowledge or special expertise regarding him/her, and the student should all be invited to attend. Attendance by an outside individual or agency is not required if the parent and school representatives are in agreement that their attendance is not required.

The IEP process itself is largely teacher-driven, in that the student's special education teacher or transition coordinator takes the lead in scheduling and running the IEP meeting. Often, parents also play an important role in advocating for their child's needs and goals during this meeting (van Wingerden, Emerson, & Ichikawa, 2002).

Once a child reaches the age of 16, IDEA 2004 mandates that transition planning be part of the IEP. Transition plans focus on the areas of education, employment, independent living, and community participation, and must be developed based on each individual youth's strengths, needs, and interests. Ultimately, the IEP transition plan should provide a road map for the young person to successfully leave special education and live as a self-sufficient adult.

John H. Chafee Foster Care Independence Act

The John H. Chafee Foster Care Independence Act was signed into law in December 1999. The Chafee Act amends Title IV-E of the Social Security Act to provide states with greater funding for the provision of independent living services for youth transitioning out of foster care, including youth ages 18-21 who have already aged out (English & Grasso, 2000; GAO, 2004). Similar to IDEA 2004, Chafee's transition services focus on the areas of education, training and employment, and independent living. Chafee funds can be used to offer youth education, vocational training, and employment training. The Act includes special help for youth ages 18-21 who have aged out of foster care, stating specifically that states must use some portion of their Chafee funds for youth in this age group. States can allocate up to 30% of their Independent Living Program funds for room and board for these older youth or may choose to extend Medicaid to 18-20-year-olds who have been emancipated from foster care (Child Welfare League of America, 1999). States must coordinate their independent living funds with other funding sources for "similar services" (CWLA, 1999, p. 2).

In 2001, the Chafee Act was amended to include the Educational and Training Voucher Program (ETVP) through the Promoting Safe and Stable Families Amendments. The ETVP authorized \$60 million in payments to states for educational and training vouchers for youth participating in postsecondary education and vocational programs. Up to \$5,000 per year is available to youth who meet eligibility requirements and are attending institutions of higher education. Each state is allocated ETVP funding based on its total number of children in foster care; the federal government provides

80% of the total amount of funds paid to states, the remainder must be provided by the state through either a cash or in-kind match (National Foster Care Coalition, 2005).

Fostering Connections to Success and Increasing Adoptions Act of 2008.

Passed in 2008, the Fostering Connections to Success and Increasing Adoptions Act of 2008 (FCSIA) allows states to extend Title IV-E foster care services for youth until age 21 if the young person meets certain requirements. In order to qualify for these extended services, the young person must be completing secondary education, enrolled in postsecondary or vocational education, participating in an employment program, or employed, or be deemed medically unable to accomplish these requirements. If a state chooses to expand its Title IV-E services, then the young person will also be eligible for Medicaid through the new age limit (Lester & Winder, 2009).

Minnesota legislation: Child welfare transition.

Each state implements federal child welfare transition policies slightly differently. In Minnesota's child welfare services, this variation is exacerbated because of the county-based nature of the child welfare system. Each of the 87 counties and two tribal agencies in the state administers its own child welfare system, leading to inevitable differences in available services. However, state statute requires that each youth in care, by the time they are 16, have an independent living plan that addresses specific transition requirements in the areas of education, health care, transportation, money management, housing, social and recreational skills, and maintaining community and family connections, as well as other transition goals identified in statute. Youth are able to remain in foster care until age 21 if the county through which they are receiving

services approves their request for extending services beyond age 18 (MN DHS, 2009). Effective August 1, 2010, youth who left care will be able to return to care any time between the ages of 18 and 21 (Session Weekly, 2010). Beginning in 2008, state statute (Minnesota Statutes §260C.212, subd. 7d) mandates that a county's progress in meeting the ILP requirements be assessed and monitored by the Juvenile Court. The court can review the provision of services and the child's progress toward meeting the plan goals as long as the case remains open (Laflin, 2008).

Currently, statewide, transition services are available to youth aging out of foster care through age 21, most often through the Support for Emancipation and Living Functionally (SELF) program. The SELF program is largely county-based, although nonprofit agencies provide SELF-funded services in some parts of the state. Again, because of the county-based nature of services in the state, there is variation in the services provided by SELF (Hill, Lightfoot, & Kimball, 2010). However, SELF services generally include independent living skills trainings; educational supports and connections, such as GEDs; help gathering vital documents, such as birth certificates or drivers licenses; and help developing Independent Living Plans (Hill et al., 2010; Laflin, 2008; MN DHS, 2009). Youth emancipating from foster care are also eligible for the Education and Training Vouchers program, which is administered in compliance with the federal standards included in the Chafee Act (MN DHS, n.d.). At this time, Medicaid is not available to youth over 18 who have aged out of care. Caseworkers are advised to refer youth who do not have access to health insurance after leaving care to MinnesotaCare, a subsidized public health care program for low-income individuals (MN DHS, 2005).

Minnesota legislation: special education transition.

A state's special education transition activities are guided by the federal IDEA legislation. In Minnesota, although transition services vary between school districts, all districts must hold annual IEP meetings with their special education students and include transition planning in the IEP by the time the student turns age 14 (note that this is different than federal requirements) or enters ninth grade, whichever comes first (Minnesota Rules 3525.2900). Planning for the transition from secondary school should focus on postsecondary education and training, employment, and community living. As required by IDEA 2004, a student's transition plan should be dictated by their interests, needs and strengths, and may include work, recreation and leisure, home living, community participation, and postsecondary training and learning opportunities. State rules also call for a collaborative approach to transition planning, if appropriate, specifically stating that vocational educational staff and community agency representatives should be involved in the IEP meetings if appropriate (Minnesota Rules 3525.9000). Vocational Rehabilitation counselors are assigned to every high school in the state to assist in students with disabilities' transition. Students are not required to work with Vocational Rehabilitation counselors but if they do, they are able to access state-funded employment supports (DEED, n.d.).

In 2007, there were roughly 2,200 youth in out-of-home placement in Minnesota who were eligible for independent living program services through Chafee-funded, country administered programs (Laflin, 2008). Anecdotal evidence from a survey of independent living program providers in Minnesota (Laflin, 2008) and existing research on the prevalence of youth with disabilities in the child welfare system (Crosse et al.,

1992; Lightfoot et al., 2010; Sullivan & Knutsen, 2000) indicate that a substantial proportion of these youth would fit the IDEA 2004 definition of having a disability and are, therefore, at especially high risk for poor transition outcomes.

Transition Preparation

As can be inferred from the policy requirements for transition, public preparation of young people for adult life centers on education, employment, and independent living. The strategies for teaching young people to adhere to the social norms for adulthood, as described in policy, include specific skills trainings, building and maintaining connections with caring adults, and provision of services such as health care, access to education, and a safe place to live. Transition preparation programs are generally focused on teaching the skills young adults need to become self-sufficient; however, critics of them argue that a successful preparation for transition requires more than job training and educational credentials. Connections to caring adults, emotional support, and ongoing ties to community are all key to becoming an adult (Kessler, 2004; Packard, Delgado, Fellmeth, & McCreedy, 2008). The efficacy of formal, publically-funded programs is hampered by their inability to replicate the intangible support of family, although many try through the provision of case management, mentoring, and group supports (Packard et al., 2008).

Foster Care Independent Living Programs.

Federal recognition of the specific transition needs of youth in foster care led to the authorization of the Federal Living Program in 1986, as well as impetus for the passage of the Chafee Act in 1999. The Chafee Act doubled the amount of money available to states for independent living services for youth in or leaving foster care and

allowed them increased flexibility in how they developed and implemented Independent Living Programs (ILPs), as long as they aligned their programming with federal standards (GAO, 2004). ILP services are provided through outreach programs, education and employment assistance, training in daily living skills, individual and group counseling, integration and coordination of services, and a written transitional independent living plan. Up to 30% of state program funds can be used for room and board, and states can provide assistance to 18-21-year-old youth who have left care, and extend health insurance coverage under Medicaid to former foster children up to age 21 (Collins, 2001). Foster youth can qualify for Education and Training Vouchers (ETV) of up to \$5,000 per year toward postsecondary education and employment training. Disturbingly, a 2004 GAO report found that only 44% of youth who qualified for independent living services received them (GAO, 2004).

ILP services are provided through community agencies, non-profits, and public social services agencies. Although the types of services vary widely, generally the programs provide foster youth with personal development and independent living skills trainings, focusing on topics such as job skills, budgeting, finding housing or employment, utilizing community resources, and healthy decision making (Montgomery, Donkoh, & Underhill, 2006). Skills trainings are generally provided in a group format, while other supports, such as mentoring, may be provided one-on-one (Montgomery et al., 2006). Research has indicated that a foster youth's participation in an ILP may be linked with greater likelihood of employment, school completion, and economic independence (Lemon, Hines, & Merdinger, 2004; Montgomery et al., 2006; Reilly, 2003; Scannapieco, Schargin, & Scannapieco, 1995). In one study, youth who

received independent living skills training had fewer encounters with law enforcement and were more satisfied with their current living arrangements than youth who had not received independent living services (Reilly, 2003). ILPs also appear to increase the likelihood that foster youth develop and maintain healthy relationships and connections with caring adults for participants. For example, Lemon et al. (2004) found that ILP youth were more likely to maintain contact with past caseworkers and counselors than their non-ILP peers in the study. In sum, “ILP participation has been associated with positive outcomes, including the acquisition of independent living skills, living independently, being employed, educational attainment, and participation in vocational programs and social organizations” (Lemon et al., 2004, p. 254). Given the poor outcomes for youth with disabilities aging out of foster care, it is critical that ILPs be made accessible and available to these youth, and include appropriate accommodations and supports to help them thrive in adulthood.

Minnesota's Independent Living Program: Support for Emancipation and Living Functionally (SELF).

Minnesota’s foster youth in transition are served by the SELF program, Minnesota’s Independent Living Program. The primary services provided by counties using SELF funds are independent living skills trainings; educational supports and connections, such as GEDs; help gathering vital documents, such as birth certificates or driver’s licenses; and helping youth develop Independent Living Plans (Laflin, 2008). Minnesota statute was amended in 2008 to include a requirement that the court review youths’ independent living plans and make findings on specific transition goals prior to the young person’s discharge from foster care. These goals may include completion of

secondary education; employment or participation in postsecondary education; development of independent living skills, such as using public transportation or having a driver's license; and ensuring that the youth has access to appropriate support services, including health care, disability income assistance, and housing supports (Laflin, 2008).

Permanency and placement for older youth and youth with disabilities

Although not specifically addressed in transition planning, the permanency of children in out-of-home placement is a key component of their successful transition to adult life. The major focus of the child welfare system is, after all, to ensure the safety, permanency, and wellbeing of children in its care (Mallon & Hess, 2005). The emphasis on permanency derives in large part from the Adoption and Safe Families Act (ASFA) of 1997 that, among other goals, attempted to reduce the syndrome of "foster care drift", meaning prolonged stays of children in out-of-home placement without reunification with their biological families or adoption. ASFA placed a time limit on children's stay in foster care without a plan, mandating that permanency planning begin within twelve months of their entrance into care (Humphrey, Turnbull, & Turnbull, 2006). Additionally, ASFA calls for concurrent planning, meaning that child welfare workers must actively pursue both reunification with biological families as well as other permanence options, such as adoption (Cohen, Hornsby, & Priester, 2005). Thus, workers may be simultaneously attempting to reunify a child with their biological parents and to terminate those parents' parental rights so that the child can be eligible for adoption.

Research has indicated that stable placements and permanent homes are in the

best interests of children in the child welfare system (Humphrey et al., 2006; Mallon & Hess, 2005; Rosenberg & Robinson, 2004). However, youth with disabilities experience greater placement instability than their non-disabled peers (Brown & Rodgers, 2009). Rosenberg and Robinson (2004) found that children with medical and developmental problems were more likely to experience longer stays in placement, less likely to be reunified with their parents, more likely to experience placement mobility, and more likely to be placed in more types of out-of-home placement (i.e., home foster care, group homes, institutions) than their peers without medical and developmental problems. Other research has indicated that children with a history of mental illness are at greater risk for placement instability and failing to achieve permanence (Park & Ryan, 2009). Placement instability has been attributed to many causes, including the higher cost of care for these children, their greater demands on both foster and biological families, and a lack of appropriate supports (Park & Ryan, 2009; Rosenberg & Robinson, 2004). Humphrey and colleagues (2006) found that disability was often a barrier to a youth's adoption, as was being older. Thus, it may be that caseworkers have simply "given up" on finding placement for older youth with disabilities, because of the shortage of adoptive homes for them.

Transition Services for Youth with Disabilities.

Transition supports for young people with disabilities are largely provided through the public education system, as mandated by IDEA 2004. A young person's Individualized Education Program (IEP) is used to facilitate their transition planning, starting at age 14 and continuing until they are 21 or graduate from high school. As discussed above, the IEP is updated yearly at a meeting attended by the young person,

her special education teacher, and any other agencies or individuals who are involved in the young person's transition plan. In most cases, this includes the young person's parents. The transition team discusses the young person's educational performance; identifies transition service needs, such as instruction, community experiences, or the development of employment and other post-school objectives; and identifies the youth's transition goals. These goals are generally based on long-term future adult goals, and include multiple, short-term objectives that move the child towards the goals. Finally, the IEP includes statements of interagency responsibilities for transition and a list of special education and related services that will be available to the young person during the transition process (NCSET, 2003). When an IEP team and the resulting document functions well, it provides a blueprint for a collaborative process of preparation of a young person for independent adult life, through a process that is sensitive to the young person's educational and emotional development and is led and directed by the young person's desires and talents (NCSET, 2003).

There is an abundance of research on what makes a successful IEP and transition plan (Beach Center, n.d.; Johnson & Sharpe, 2000; NASET, 2005; NCSET, 2003). Broadly, the research supports the following as integral components of successful transition preparation: an early start to transition planning (at age 14 if not younger); interagency collaboration throughout the planning process and continuing through the implementation of the transition plan; meaningful family and youth involvement throughout the process; youth-driven identification of goals and objectives; access to the general education curriculum as well as the special education curriculum; and access to appropriate adult services upon high school graduation, including

employment, housing, postsecondary education, social and leisure, and transportation (Beach Center, n.d; NASET, 2005; NCSET, 2003).

Despite the general consensus on the components of effective transition planning and preparation, there is not yet universal access to these components. Findings from the National Longitudinal Transition Study (NLTS-2) indicate that although most young people with disabilities have transition plans in place by the time they are 18, many do not begin planning until then, rather than earlier as is widely recommended, and required by federal law (NLTS-2, 2005). Additionally, although most students with disabilities participate in IEP meetings, only about 70% of them take an “active” role, providing input or leadership at the meetings. Although special education teachers are almost always involved in the transition planning process, as are most parents (85%), only about 50% of general education teachers participate, despite the fact that many youth with disabilities take general education vocational or academic courses (43% are in vocational classes in a given semester; 70% are in general education academic courses). Finally, the participation of personnel from outside the school happens much more rarely than the participation of school personnel, with vocational rehabilitation most likely to participate (14% of the time) (NLTS-2, 2005).

Special Education and Youth with Disabilities Aging out of Care.

Educational systems are often where disability is identified and addressed; therefore the experience of foster youth in education provides insight into the experience of youth with disabilities in foster care. For example, it is well documented that young people in foster care are at a disadvantage in the education experience, due both to their past experiences with physical and emotional trauma, as well as to

challenges in both the child welfare and educational systems (Christian, n.d.; Geenen & Powers, 2006; Goerge et al., 1992). In general, foster children repeat grades more often; have higher rates of absenteeism, tardiness, truancy, and dropout; and have lower scores on standardized tests (Christian, n.d.). Placement changes lead to high rates of academic mobility, which leads to disruption in the school routine, relationships with teachers, other students, and school personnel, and often, lost credits, delayed academic progress, and lost records (Vacca, 2008; Zetlin, 2006). Additionally, the chain of responsibility for children in foster care's education is unclear—caseworkers, foster parents, school social workers, teachers, and other service providers all may take a hand in it, or fail to participate. Closely related to the lack of a responsible system is the lack of a responsible adult. The special education system is particularly dependent on parental involvement, and the lack of consistent, caring adult providing advocacy throughout the special education process can be truly detrimental to the young person's progress (Brown & Rodger, 2009; Christian, n.d.; Goerge et al., 1992). Finally, data privacy rules, incomplete and incompatible data systems, and inaccurate data sharing all contribute to a poor academic experience for youth with disabilities in foster care (Altshuler, 2003; Christian, n.d.; Emerson & Lovitt, 2003).

Goerge et al. (1992) found that foster children who receive special education services are, in general, older than the typical special-education population, and are disproportionately identified as having emotional disturbance as their primary disability. Geenen & Powers' (2006) evaluation of the IEPs of transition-aged youth who were placed in both special education and foster care found that, compared to the IEP transition plans of their peers in the general special education population, the IEPs of

the youth in care had low-quality transition plans, with vague goals and fewer goals listed around independent living skills and postsecondary education. Additionally, slightly less than a third of the foster youth in special education were not present at their IEP meeting, and an advocate (such as a family member, foster parent, or other educational surrogate) was absent from the meetings more than half the time (57.8%). None of the IEP transition plans acknowledged the transition planning that occurs through child welfare. Similarly, Van Wingerden et al. (2002) noted that “the stories of foster children in special education are all too often, stories of unserved or underserved children, lost records, minimal interagency communication, and confusion over the roles of birth parents, foster parents, and social workers” (p. 3). Clearly, there is an ongoing problem with communication and information sharing between the two systems, which must impact the transition outcomes for those youth who are participating in both of them.

Transition Outcomes

In IDEA 2004, the Chafee Act, and Minnesota statute, a successful transition is measured in terms of the young person’s achievement in the areas of education, employment, independent living, and community participation. In this project, the phrase “transition outcomes” refers to young people’s achievements in the areas of education, employment, and independent living.

Education outcomes for youth in transition.

Academic achievement is a standard baseline measure for a successful transition to adulthood (Greene, Wheatley, & Aldava, 1992), with high school graduation and postsecondary enrollment generally seen as indicators of adolescent success. Research

on youth aging out of care has found that they are at high risk for poor educational outcomes, including having disciplinary problems while they are in secondary school, failing to graduate from high school, and not being enrolled in any postsecondary education or training program. For example, Chapin Hall's 2005 Midwest Evaluation of the Adult Functioning of Former Foster Youth ("The Midwest Study") found that almost 63% of youth who had left care were not enrolled in any kind of education or training program, and only 11% were enrolled in either a 2- or 4-year college program (Courtney & Dworskey, 2005). Another study found that the majority of the youth aging out of care had been suspended at least once from school and approximately one-sixth had been expelled. (Courtney, Terao, & Bost, 2004). A 2004 GAO report found that, compared to their peers who are not in the child welfare system, twice as many youth in foster care have repeated a grade, changed schools during the year, or enrolled in a special education program. Several researchers have posited that, due to their high rates of mobility, foster children do not have the same educational opportunities as other youth (Emerson & Lovitt, 2003; Vacca, 2008; Zeltin, Weinberg, & Kimm, 2006). As well as experiencing educational disruptions, they also are less likely to be able to participate in extracurricular activities, build strong peer networks, and develop social skills as a result of this mobility (Vacca, 2008).

Educational transition outcomes for youth with disabilities are also poor, when compared to their same-aged peers. Youth with disabilities are less likely to graduate from high school and participate in postsecondary education than their same-aged peers (Johnson et al., 2002). Twenty-eight percent of youth with disabilities leave school without receiving a diploma; this percentage increases dramatically for youth with

certain kinds of disabilities (Wagner, Newman, Cameto, Garzo, & Levine, 2005). For example, 44% of youth with emotional disturbances drop out of school (Wagner et al., 2005). About 30% of youth with disabilities attend postsecondary classes at either 2- or 4-year colleges; this is less than half the rate of postsecondary attendance among their same-age peers (Wagner et al., 2005).

Employment outcomes for youth in transition.

Another standard measure of attainment of adulthood is economic self-sufficiency (Elder et al., 2003; Setterstein, 1998), which is typically assessed by an individual's employment status and ability to live without public financial supports. The Midwest Study found that employment for youth who had left foster care was sporadic and rarely provided financial security; indeed, fewer than half of the foster care alumni were employed at the time of the study (Courtney & Dworsky, 2005). This finding is substantiated by other research; for example, Foster and Gifford (2004) found that approximately one-third of youth leaving foster care were receiving public cash assistance within two years of leaving care. Another study found that youth who have left care have higher rates of unemployment than their same-aged peers (Massinga & Percora, 2004). Reilly's (2003) research indicated that many transition-aged foster youth are not prepared to live on their own at their time of discharge, often struggling to find safe places to live, gainful employment, adequate mental and physical health care, and adequate resources to fulfill their daily needs.

Youth with disabilities also struggle to attain economic self-sufficiency and independence. A recent Harris Survey found that people with disabilities were less likely to be employed either full- or part-time and three times more likely to live in

poverty compared to people who do not have disabilities (National Organization on Disability/Harris Survey of Americans with Disabilities, 2004). *After High School: A First Look at the Postschool Experiences of Youth with Disabilities* by Wagner and colleagues (2005) found that the rate of employment for youth with disabilities lagged significantly behind the rate of employment of youth in the general population (40% vs. 63%). Houtenville (2006), using Current Population Survey data, found that only 21.9% of people aged 18-64 with a disability were employed between 1999 and 2003. Young people with disabilities are less likely to have a bank account or credit card than their non-disabled peers (Newman, Wagner, Cameto, & Knoockey, 2009). In addition, youth with disabilities are less likely to be engaged in long-term employment; the average length of employment for this population in one study was ten months, rather than fifteen for their non-disabled peers (Newman et al., 2009).

Independent living outcomes for youth in transition.

Finally, the ability to live a healthy, independent life is a key indicator of a successful transition. Independent living is less universally defined than economic independence or academic achievement; however, it generally includes access to health care; lack of involvement with corrections and the justice system; being able to make healthy emotional, physical, and social choices; and avoiding dependence on public systems. Based on any of these definitions, youth aging out of care are at high risk for poor outcomes in the area of independent living. Nearly one-half of the females in the Midwest Study had been pregnant by age 19, and they were over twice as likely to have at least one child than their same-aged peers who were not in foster care. Youth who are emancipating from care are more likely than their same-aged peers to struggle with

drug and alcohol abuse (Massinga & Pecora, 2004) and to be in violent interpersonal relationships (Courtney & Dworsky, 2005; GAO, 1999; Reilly, 2003). Comparatively high numbers of these young adults have been arrested and spent time in jail (Courtney & Dworsky, 2005; Reilly, 2003). The U.S. General Accounting Office reported that a substantial proportion of youth aging out of care are dependent on public assistance and experience periods of homelessness after leaving care (GAO, 1999). Findings from Wilder Research's 2009 Homeless Study found that 64% of homeless youth in Minnesota reported a history of being in out-of-home placement (Wilder Research, 2009). A quarter of the respondents in the Midwest Study reported being "food insecure" (sometimes or often not having enough to eat), and about one in seven of those no longer in care reported that they had been homeless since leaving care.

Youth with disabilities also struggle in the area of independent adult living. They are more likely to live in criminal justice or mental health facilities or to be homeless than their non-disabled peers (Wagner et al., 2005). Youth with disabilities are estimated to comprise 32-50% of the total juvenile corrections population (Quinn, Rutherford, & Leone, 2001). Upwards of 50% of youth within correctional facilities have a history of mental health diagnoses or prior mental health treatment (Maschi, Hatcher, Schwalbe, & Rosato, 2008). Youth with emotional disturbance or learning disabilities report higher rates of substance use than their non-disabled peers (Yu, Huang, & Newman, 2008). It is important to note that for some youth with disabilities, involvement with public systems—specifically, disability-specific services and supports—is seen as a positive independent living outcome, rather than a negative one

(Loprest & Wittenburg, 2007) because these supports may supplement their efforts to live a more integrated adult life.

Gaps in the transition literature.

The majority of studies conducted on foster care transition (e.g., Courtney & Dworsky, 2005; Laflin, 2008; Reilly, 2003) specifically exclude some children with disabilities from their study populations, most often those with intellectual and developmental disabilities. However, even with the explicit exclusion of children with disabilities, many of these studies still include high numbers of children who receive special education or mental health services, indicating that they may have a disability diagnosis of some type, or benefit from disability-specific services and supports.

However, as the research does not address disability status, and does not track services for youth with disabilities or separate them from the larger sample of the studies (e.g., Courtney & Dworsky, 2005; Laflin, 2008), it is not possible to gain a clear understanding of the experience of youth with disabilities as they transition out of foster care. Thus, despite their “accidental” inclusion in studies, youth with disabilities in transition from out-of-home placement remain a vastly understudied population, despite all indications that they make up a large percentage of the broader child welfare population. In addition, adult services for disabilities are generally limited (by budget constraints if not by statute) to individuals with more severe disabilities, and will not be available to many young people who receive special education services and supports due to emotional/behavioral disorders, learning disabilities, or more moderate forms of developmental delays. Thus, although these young people have a disability diagnosis, they are not eligible for additional supports as adults. Excluding young people with

disabilities, even imperfectly, from studies on foster care transition contributes to the lack of understanding of the experience of young people with disabilities as they age out of foster care and perpetuates the invisibility of people with disabilities in society in general. Thus, it is critical for research to focus on the experiences of youth with disabilities in the child welfare system, in order to improve understanding, services, and, ultimately, outcomes for this population.

Youth with Disabilities Aging out of Foster Care

Although there is a substantial body of literature focusing on transition outcomes for youth with disabilities graduating from special education and another focused on youth aging out of foster care, little data exists on youth with disabilities who are in transition from foster care, despite their high prevalence in the child welfare system. Much of what is known about youth with disabilities aging out of foster care must be inferred from studies that, as previously discussed, do not specifically include youth with disabilities and, in fact, often explicitly aim to exclude these youth, despite the high numbers of youth in the sample who access either special education or mental health services (Courtney & Dworskey, 2005; Courtney et al., 2004; Mech, 1994). This may be attributed to any number of causes; however, the generally categorical approach to services may be most culpable, as it fosters a lack of awareness of the complicated factors that lead to poor transition outcomes for youth who are served by child welfare, special education, and disability systems (National Council on Disability, 2008).

The existing studies that focus on youth with disabilities during their child welfare transition use either secondary data from a private foster care agency alumni study (e.g., Anctil et al., 2007a; 2007b), or education data, rather than child welfare

data. Thus, the picture of what happens to youth with disabilities as they prepare for their transition out of foster care as well as after they age out remains murky at best. The educational studies tend to include all school-age children, rather than focusing on transition (Goerge et al., 1992; Smithgall et al., 2005), or are smaller studies which focus on qualitative data gathered through interviews and document analysis (Altshuler, 2003; Geenen & Powers, 2006; Palladino, 2006). Anctil and colleagues' studies using the Casey Alumni data are illuminating, but the experience of youth in private foster care is significantly different than that of youth in public care. Thus, there remains a need to learn more about how youth with disabilities are prepared for their transition from foster care and how their outcomes differ from those of their non-disabled peers.

Transition outcomes for youth with disabilities aging out of foster care.

Using data from a national survey of Casey Family Programs foster care alumni, Anctil and colleagues (2007a; 2007b) examined outcomes for foster care alumni with psychological and psychiatric impairments. The Casey National Alumni study used a national sample of alumni of Casey foster care, collecting data through case record reviews and interviews with the foster care alumni. Casey Family Programs is a privately operated foundation providing long-term foster care to youth in 23 locations in 13 states (Anctil et al., 2007a, 2007b). Anctil and colleagues identified 564 out of the 1087 total respondents (approximately 52%) as having a disability according to the guidelines provided by the Americans with Disabilities Act (2007a). Fifty percent of the sample received special education services (Anctil et al., 2007a, 2007b).

The researchers found that foster care alumni with disabilities had significantly poorer economic outcomes, lower educational attainment, more difficulty paying

monthly bills, more psychiatric diagnoses, lower self-esteem, and worse physical health than foster care alumni without disabilities (Anctil et al., 2007b). The researchers did find that foster care alumni with disabilities who received transition services reported higher levels of educational attainment and better self-esteem than those who did not receive these services, indicating that if accessed, these types of services can be effective (Anctil et al., 2007b).

While the Casey alumni studies assess specific outcomes for foster care alumni with disabilities, there are still important gaps in our understanding of these young people's experience. First, Casey Family Services is privately funded through the Casey Family Foundation, and therefore, the transition preparation services and supports received by the study sample are not equivalent to the services that youth in publicly administered foster care receive. Second, what happens to youth during their transition preparation remains unclear—are the services that youth with disabilities receive different than those that youth without disabilities receive? How do special education transition plans and foster care transition plans support or contravene each other? Third, Anctil and colleagues (2007a) indicate that they were unable to tell if youth in their sample who were referred to services were actually able to access them; using administrative data should allow a clearer picture of this as well. Finally, given the variance in state and local implementation of child welfare services, as well as the diversity of the young people who receive them, a single study from a single data set is simply inadequate to capture the transition experience.

The National Council on Disability (2008) posits that a significant barrier to youth with disabilities achieving a successful transition from foster care is the fact that

many of them are placed in group homes, rather than with traditional foster families. Group homes are often very restrictive environments, intended as placements of last resort for youth with severe mental health and behavioral problems (Barth, 2002). However, they are often used as placement options for youth in care when other placements are not available. This type of placement is most common with older youth and youth with disabilities, who are typically more difficult to place in traditional family care (National Council on Disability, 2008). Outcomes for youth aging out of group home care are poor, even in comparison to youth aging out of family foster care, with youth leaving group care having lower levels of educational attainment and higher levels of arrest and substance abuse (Barth, 2002). Youth leaving group homes are also less prepared for independent living, as the highly structured group home environment does not generally provide them with opportunities to “practice” life skills such as cooking, cleaning, or purchasing food and other necessities (Barth, 2002).

Research indicates that there is very little coordination among systems in the provision of transition services to youth with disabilities transitioning from care (Altshuler, 2003; Geenen & Powers, 2006; Johnson et al., 2002; Kerker & Dore, 2006; National Council on Disability, 2008; United Cerebral Palsy, 2006). Research suggests that the special education needs of children with disabilities in the foster care system are often neglected, which may be due to lack of collaboration between the child welfare agency and other involved services (such as special education or mental health), conflicting agency missions, lack of knowledge on the part of child welfare providers about disability and special education, and lack of a single advocate or monitor for

children in foster care to fill the role typically played by parents in special education (Altshuler, 2003; Johnson et al., 2002; Weinberg, 1997; Zetlin, 2006).

Evaluation of interventions designed to improve youth outcomes, as well as a more thorough understanding of predictive factors are both still largely absent from the literature on transition (Courtney, 2000). Existing research tends to mirror the categorical approach to services found in practice—there is very little examination of the multiple service streams that might touch these young people, or of their collaboration or lack thereof. Therefore, it is difficult to gain understanding of specific risk factors for youth in transition, as well as the efficacy of specific interventions and the intricacies and impacts of larger collaborative efforts. Research is needed on what services youth with disabilities receive during their transition, how they differ from those that their non-disabled peers receive, and the connections between these transition interventions and young people's adult outcomes.

Coordination of services for youth with disabilities aging out of foster care.

Studies on the provision of special education services to children in foster care have found ongoing problems in providing coordinated and collaborative services (Goerge et al., 1992; National Council on Disability, 2008; Van Wingerden et al., 2002; Weinberg, 1997). These problems arise both at the direct-service level and at a systemic and policy level. Zetlin, Weinberg, and Shea (2006) conducted a study of the barriers to meeting the needs of foster youth in the educational system and found that placement instability; the heavy reliance on medication to treat mental health problems; difficulties in record transfer and database sharing; a lack of accountability, monitoring, and advocacy on the behalf of the youth; and the barriers put in place by confidentiality

laws all contributed to foster youths' poor outcomes. Other studies also note the lack of a single, responsible entity organizing, advocating, and managing the multiple needs of foster youth (Emerson & Lovitt, 2003; Zetlin, Weinberg, & Kimm, 2004; Zetlin, 2006).

Woolsey and Katz-Leavy (2008) suggest that the systems in place to serve at-risk youth in transition often are unable to meet the needs of their target populations, with the young people either failing to receive services at all, or receiving inappropriate services, with the focus often being on what is best for the system, rather than what is best for the young person. Other research suggests that medical, educational, and social services are put “on hold” while the child with a disability is in out-of-home-placement, due to records, geographic, or other disruptions (Weaver, Keller, & Loyek, 2005).

Certainly the sheer number of services, supports, and programs related to youth transition complicates efforts to provide a seamless, integrated approach to transition. Over 50 federal programs administered by over 20 different agencies seek to address the needs of youth with disabilities in transition (Fernandes, 2008). Minnesota's Interagency Committee on Adolescent Transition specifically called for greater cross-disciplinary, collaborative work in the provision of services for youth in transition (2005), and Minnesota's Child Welfare Program Improvement Plan (PIP) calls for alignment and continuity across multiple systems of care for youth in care—including corrections, mental health, and developmental disability—in order to improve permanency outcomes for youth (Minnesota Department of Human Services, 2008).

Although federal policies for youth in transition (i.e., IDEA 2004, the Chafee Act) specifically call for collaborative services in order to improve youth outcomes (Hill, 2009; National Council on Disability, 2008), as do state policies and improvement

plans, the categorical approach to service provision in human services obfuscates attempts to integrate these services. Sandfort (1999) notes that some policies that promote service collaboration may in fact be symbolic, “adopted for political rather than substantive reasons” (p. 315). The tension created by statutes and policies which simultaneously maintain categorical services through their funding streams and call for increased collaboration amongst these categorical services is one of the primary barriers to the successful provision of coordinated (either collaborative or integrated) services for youth with disabilities aging out of foster care. Policymakers created a “policy space” (Berk & Rossi, 1990, p. 12) for integration of services for young people with disabilities in foster care; however, it remains unclear if the agenda of lawmakers is reflected in services as they are provided to young people. Existing research, like the services it is examining, tends to focus on youth in individual “categories”, such as child welfare or special education, rather than looking across service categories in order to create a more holistic, integrated picture (Palladino, 2006). Thus, analysis of timing, duration, or intensity of services tends to be limited to a single viewpoint, rather than including the multiple areas that may be involved in the young person’s life. Collaboration may not in fact be occurring, but if no one is looking for it, this can be neither demonstrated nor disproven.

What does successful collaboration look like?

Huxham (1996) argues that collaboration among agencies should be, in some way, transformative of the agencies that participate, either by expanding their shared reach or by improving their services and systems. Collaborative advantage occurs when synergy among participating organizations creates something that is outside of or better

than what each of the organizations could have created on its own (Huxham, 1996).

Longoria (2005) suggests that, in order to succeed, there must be dialogue on meaning and assumptions in collaboration, adequate and sufficient resources to maintain it, human service program accountability, data-driven decisions and relevant evaluation models, and sharing knowledge on outcomes of collaboration.

Regarding services for youth with disabilities in the child welfare system, collaborative approaches could include increased flexibility and autonomy for front-line workers and school personnel, so that they could truly meet the diverse transition needs of the children they serve (Geenen & Powers, 2007); consolidation of funding for transition services, rather than the categorical approach currently in place (Geenen & Powers, 2007); a universal approach to services for youth aging out of care, which would incorporate services for young people of all ability levels (Hughes & Rycus, 1998); the creation of a point person or transition team who would be responsible for managing the process (Emerson & Lovitt, 2004; Palladino, 2006; Zetlin et al., 2006); and the incorporation of best practices from both systems of practice (e.g., person-centered planning, youth engagement and participation) in the development of services as well as the desired goals and outcomes of transition services.

Conclusions

Based on the preceding review of the literature, it is clear that the experience of youth with disabilities as they transition out of foster care is under-studied and poorly understood. Many studies focus on the experiences of either youth with disabilities in transition or youth aging out of child welfare, but very little research is available on the experience of transition-aged youth with disabilities who are also in the child welfare

system. Despite the continued calls for collaboration and resource sharing in both policy and research, there is inadequate information available on the numbers of youth in child welfare who access other service systems, which services they access, and the impact of these services, both alone and in combination. Given the prevalence of young people with disabilities in the child welfare system (Crosse et al., 1992; Sullivan & Knutsen, 1998; 2000) and in out-of-home placement (Ancil et al., 2007a, 2007b; Lightfoot et al., 2010), it is critical that this knowledge gap be remedied. Youth with disabilities in transition from foster care are particularly poorly equipped to manage the multiple systems they might come into contact with, given their traumatic life experiences, lack of appropriate role models and supports, developmental level, and disability-related challenges (Altshuler, 2003; Geenen & Powers, 2007; Zetlin, 2006). Thus, it is very important that knowledge is increased, in order to improve and refine the types of services and supports available to these very high-risk young people.

Despite the existence of a policy space for collaboration, providing successful integrated services for youth with disabilities aging out of care remains elusive. Theories of organizational collaboration would suggest this is due to competing service technologies, institutional rigidity, and political pressure to maintain funding streams (Hasenfeld, 1992; Sandfort, 1999; Wood & Gray, 1991). Proponents of collaboration would argue that the poor outcomes for youth with disabilities aging out of foster care are at least partially attributable to the lack of systemic, coordinated collaboration among the various systems that work with this population. Although there may be individual collaborative efforts on the part of front-line staff and a theoretical commitment to collaboration as codified in public policy, the barriers to providing

collaborative services may simply be too great at the present time. Longoria (2005) suggests that collaborative services are not, in fact, the panacea that their supporters suggest; indeed, there may be other flaws in the way that young people with disabilities aging out of foster care are prepared for adulthood which supersede the need for systems to collaborate, such as a more universal approach to service in general, or an improvement in specific services, rather than a collaboration among them. Regardless, it is clear from the magnitude of the problems faced by youth during their transition and the high prevalence of youth with disabilities in the child welfare population, that a more systemic and policy-oriented approach to change must be undertaken, rather than focusing on the medical model of identifying deficits in young people and focusing change on the individual level.

Current research does not address the specifics of collaborative services for young people in care. Courtney (2000) calls for cross-systems research on how outcomes for children in foster care are affected by the interaction of the child welfare system with other systems that serve children and families—specifically, research that examines how various systems can work together most successfully in achieving positive outcomes for children. Research into this question would begin to answer if collaboration is actually occurring in the provision of services for young people with disabilities aging out of care, as well as expand understanding of the efficacy of current collaborative approaches to transition for youth with disabilities in out-of-home care.

This study takes a cross-systems approach, focusing on identifying youth with disabilities who are aging out of care, analyzing their performance on key indicator variables—e.g., school and placement mobility, access to independent living services—

and comparing them to their non-disabled peers, and examining their outcomes after they age out of care. It also begins to identify the relationships between the various services provided in order to ascertain what sort of impact they have on youths' adult outcomes.

Chapter 3: Method: Using Administrative Data for Policy Research

This dissertation examined the experience of youth with disabilities in foster care as they are prepared for and experience transition to adult life. As discussed in the first chapters of this dissertation, the experience of and outcomes for youth with disabilities during their transition out of foster care are understudied. This study is an attempt to increase understanding of the prevalence, demographics, and service use of youth with disabilities as they age out of foster care, as well as to compare youth with disabilities and their non-disabled peers regarding their educational and child welfare experiences and their post-transition outcomes in the areas of education and correctional involvement. The findings are not conclusive; however, they do begin to shed light on this understudied population.

Secondary Data: Using State Administrative Data

The method used for this study is secondary data analysis of state-level administrative data sources from multiple state data systems. Specifically, data from child welfare, education, and corrections were linked in order to begin to answer the research questions. Using administrative data for policy research is a method with both strengths and weaknesses; however, it has the potential to be effective in program monitoring, cross-systems evaluation and research, and intervention efficacy and outcomes evaluation (Hotz, Goerge, Balzekas, & Margolin, 1998; Johnson-Reid & Drake, 2008; Smith, 2008). A primary strength of using administrative data is that it removes the inaccuracies of self-report data from a study design. For example, data collected through client recall or caseworkers' reports may reflect inexact or inaccurate

recall of services received or referrals made (Johnson-Reid & Drake, 2008; Sorensen, Sabroe, & Olsen, 1996). Given the complexity of the service systems with which youth in child welfare interact and the high caseloads of workers in all of these systems, it is not unlikely that there is often this kind of error in self-report data. Additionally, administrative data allow examination of the assumption that collaborative services are more efficient and cost-efficient than categorical services. This assumption is prevalent in social work. However, it is not known if the receipt of multiple services in fact positively or negatively impacts outcomes (Johnson-Reid & Drake, 2008). For example, if a child receives both special education and child welfare transition supports, are they likely to have better adult outcomes than a child who receives supports through only one system? Thus, as well as being an efficient source of data, administrative data are also an effective method for assessing the delivery and outcome of services to complex populations.

Limitations and key assumptions of administrative data analysis.

The data in this project were acquired through the Minn-LInK project of the Center for Advanced Studies in Child Welfare at the University of Minnesota. Minn-LInK data are administrative data gathered by an array of state government agencies. Human service programs collect data for multiple purposes: program administration, compliance with federal and state reporting, fiscal management, and local outcome measures; rarely are policy and practice research the intended use of the data. Thus, the findings of this study are somewhat limited, due to the nature of the data, as well as the questions that are not asked or answered in it.

Limitations to using administrative data include missing data, either due to data entry issues or due to the fact that certain variables or constructs may simply not be recorded in a given system (Johnson-Reid & Drake, 2008; Rubin & Babbie, 2008). Rubin and Babbie (2008) also identify reliability issues as key to the quality of secondary data, as the data may not be an accurate representation of what it claims to report (Rubin & Babbie, 2008). Minnesota is consistently recognized for having a high-quality administrative statewide information system and county child welfare training system (Minnesota Department of Human Services, 2008). However, some user error, county differences in recordkeeping, and differences in the front-line worker training and understanding of different issues are inevitable, and threaten the reliability of the data.

Threats to validity specific to secondary data generally include differences in how variables are defined for research as opposed to recordkeeping and administrative accountability, underreporting or over reporting of certain data points, and improper or rushed data-collection methods by direct service workers (Rubin & Babbie, 2008; Smith, 2008). As well, the reliability and validity of administrative data must be considered, due to challenges such as the validity of worker recall, or the impact of un-uniform training on certain data elements or recording methods. Finally, ethical issues of confidentiality and client consent must be considered when using secondary data (Johnson-Reid & Drake, 2008).

Perhaps the most critical limitation to this study is the threat of missing data. As with any secondary analysis, crucial data are missing from the data set (Rubin & Babbie, 2008). However, in the case of this study, the missing data extends beyond

simply errors in entering specific data points, instead encompassing a large segment of the study population—youth who have aged out of foster care and are not involved in public systems after leaving the child welfare system. There is no way to ascertain from this study if the youth who are missing from the sample are atypical, successful, or particularly at-risk. They are simply missing from the data sets, and thus, totally unknowable in this study. As well, a youth may be included in one data system (e.g., child welfare), and not in another (e.g., corrections) and there is no way to ascertain which data set is “correct” or the most accurate. The youth’s absence from a given system was interpreted as a lack of access to or involvement with that system when this simply may not be the case. The missing data may be a systematic rather than a random error, meaning that the findings will be biased (Sorensen, Sabroe, & Olsen, 1996). However, given the lack of available information on the population of youth with disabilities aging out of foster care, as well as the relative nature of than analysis (meaning, analysis comparing two similar groups relative to one another, rather than absolute measures for each individually), then the missing data may be acceptable, although it does weaken the power of the study (Sorensen et al., 1996). In this study, missing data was interpreted as purposeful; for example, if a young person was absent from special education, the inference was made that they had not received the services, rather than their absence being presumed to be due to a systematic or random error.

The researcher’s interpretation of data not intended for research purposes may also be a threat to the validity of the study (Baker & Charvat, 2008; Smith, 2008). Administrative data may be conflicting or inconsistent in ways that are not obvious to those unfamiliar with the intricacies of the data source. In this study, the Minn-LInK

coordinator's expertise and experience with the data set helped to offset this threat, because she had extensive working knowledge of the data, data sources, and contacts within all of the data-providing agencies, who were willing to assist the researcher with interpretation of the variables.

Finally, and related to the previous limitations, due to the "real time" nature of the data, there are not data available on all of the youth included in the sample up to the same chronological age. Ideally, data would be included for all youth in the sample through age 21. However, for those youth who turned 18 in 2008, they simply had not yet reached that age at the time the data were pulled. The decision was made to include this younger group of youth in the data to increase the sample size and provide insights into the pre-aging-out experiences of the sample, but it does limit the validity of the findings, because they simply may not have had enough time to achieve the outcomes under consideration in the study.

Institutional Review Board

All data use took place within the guidelines set by strict legal agreements between the Minnesota Department of Human Services, the Minnesota Department of Education, and the University of Minnesota that protect personal privacy. All data are fully de-identified prior to analysis in accordance with data sharing agreements with these state agencies. The study met the criteria for an exempt review from the University of Minnesota's Institutional Review Board, due to the nature of the secondary data. Appropriate privacy measures including working on specified computers with firewalls and security protections and locking data sources securely. Agency-specific protocols for handling data were followed throughout the analysis.

Data Set

This project utilized the state administrative data available through the Minn-LInK project at the Center for Advanced Studies in Child Welfare in the University of Minnesota's School of Social Work. Minn-LInK is a collaborative, university-based research project to study child and family well-being in Minnesota. Minn-LInK relies on secondary administrative data obtained from statewide public programs.

Data sources.

The Minn-LInK project draws data from the Minnesota Department of Human Services (utilizing the Social Services Information System, or SSIS), which oversees the state child protection system in Minnesota, and the Minnesota Department of Education's public school education records. Additional data sources used in this study include:

- Developmental Disability Services from the Minnesota Department of Human Services (DHS); and
- Minnesota adult corrections data gathered through publically-available data sources.

Sample and Data Set Creation.

The sample for this study is made up of youth who are identified in Minnesota's SSIS data system as: having turned 17 while in foster care; being in out-of-home placement at any time during 2006, 2007, or 2008; and determined to be in long-term foster care, defined here as being in care for 32 days or more. Based on this criteria, 2,385 youth were identified for study inclusion from SSIS data. Next, the SSIS youth were matched, using unique identifiers, with youth in Minnesota's education database.

A variety of software applications were utilized for the matching process, including table matching in Microsoft Access and the file merge function in Statistical Package for the Social Sciences (SPSS).

The process of matching youth across the multiple systems of administrative data available through Minn-LInK is complicated by the fact that the datasets do not share unique identifiers. Thus, the matching process necessitates record matching using a series of algorithms that take multiple record attributes into account (Baker & Charvat, 2008). For instance, a typical matching process involves a first pass that matches upon Social Security number, if available. A second pass will use a combination of first name, last name, and birth date. A third pass often involves a first-name and birth date match, as experience has shown that the majority of typographical errors on name entry occur with last names (e.g., “Yellow feather” vs. “Yellowfeather”; “Garcia Nunoz” vs. “Garcia-Nunoz”). At each pass, matched records are retained and a matched file is created to support research. After this process was completed, matching this sample from SSIS with education records, there was a 92% match, resulting in a sample size of 2,187. Not every youth in the sample had complete records, meaning that the sample size for a given variable fluctuated somewhat. For example, there were 31 young people who did not have disability information in the special education system; thus, the total sample size of youth with disability data (either having or not having a disability) was 2,156.

Once the youth were selected through the matching process, data was gathered back on each through the year of their fourteenth birthday (2002-2004). Fourteen was selected as the starting age for inclusion in the sample because prior to its

reauthorization in 2004, IDEA mandated that transition planning for youth with disabilities begin at that age. It is also the age at which Minnesota Education Rules require that transition planning begin in special education (Minnesota Administrative Rules 3525.2900).

The data set was created in the following order:

1. Youth who met the initial inclusion criteria were selected. Working backwards, data on each youth were collected from the year they turned 14 through their exit from child welfare.
2. Second, the pool of youth ($n=2,380$) was matched with youth in the education system data, using birthdates and Social Security numbers to match. Ninety-two percent of the youth in the child welfare data were also found in the education data, creating a new data set with an n of 2,187.
3. Comparative frequencies were run on the “matched” pool of youth (those in education and child welfare and those found only in child welfare) in order to determine if there were any significant differences in the two data sets. Comparing the race, gender, and year they turned 17, no significant differences were found between the two data sets. For example, the gender breakdown of the matched data set was 57.2% male and 42.8% female, while the gender breakdown of the unmatched data set was 57.5% male and 42.8% female.
4. The matched pool of youth were then matched with data from sources other than MINN-LInK, using the identifying information in the original data set, such as Social Security numbers, names, birthdates, Person ID codes, or other information. The other data sources included the Minnesota Department of

Human Services (Education and Training Vouchers, Developmental Disability Services) and the Minnesota Department of Corrections (adult corrections information, which is public record).

Disability Identification

As previous research has demonstrated, the identification of youth with disabilities in the child welfare system is not always reliable or consistent (Lightfoot et al., 2010; Shannon & Agorastou, 2006). Therefore, youth were placed in the “disability” group if they had a disability diagnosis in the public special education data system; if they did not have a disability diagnosis in the education system, they were placed in the comparison group of youth in foster care without a disability diagnosis. Based on these criteria, 1,312 youth (60%) had a disability diagnosis and 844 (38.6%) did not (the remaining 31 youth could not be coded into either category).

Data Set Cleaning and Preparation

The researcher and the Minn-LInK coordinator completed all of the data cleaning and preparation using a consistent and replicable method (Baker & Charvat, 2008). The process allowed the researchers to compare and double-check the process, which enhances the reliability of the data preparation. As the combined data set was created, additional variables were created by hand. For example, school attendance ratios were calculated using daily attendance data available in the education records. Other created variables included: disability, urban/rural/suburban, number of maltreatment reports, number of foster care placements, and the length of each placement. The data set was also “cleaned” to eliminate repeated or extraneous variables, fill in blank or missing data, and remove variables that were not necessary for

this analysis. The final data set consisted of 2,187 cases and 27 variables, from education, child welfare, corrections, and developmental disability services. As mentioned previously, given the frequency of missing data in this administrative sample, the total sample size for each variable varied markedly. These variations are noted in the Findings and Discussion chapters.

Research Questions and Hypotheses

This study examined three related research questions.

Research Question 1: What are the disability diagnoses, prevalence, and disability-specific service experiences of youth with disabilities who are aging out of foster care?

Research Question 2: How do youth with disabilities who are aging out of foster care differ from youth without disabilities who are aging out of foster care, in relation to their demographic characteristics and child welfare, educational, and independent living experiences?

Hypothesis: Youth with a disability diagnosis who are aging out of foster care will differ significantly from their non-disabled peers in the identified areas.

Dependent Variable: Disability diagnosis. This is defined by the young person's eligibility for special education services in school. Any youth who is identified as eligible for special education (or a 504 plan) is considered to have a disability in this study. All other youth are placed in the no disability group. Of the 2,187 youth in the sample, 844 did not have a disability diagnosis; 1,312 had a disability.

Independent Variables: Demographic characteristics, child welfare variables (type of abuse, number of maltreatment reports, number of placements, length of

placements, access to independent living services through the SELF program, type of permanency plan), and education variables (attendance, mobility, receipt of schooling in either a juvenile corrections or residential treatment facility, educational progress).

Research Question 3: How does having a disability diagnosis impact transition outcomes in the areas of education and adult corrections for youth who have aged out of foster care?

Hypothesis: Youth without disabilities who have aged out of foster care will have better transition outcomes than youth with disabilities who have aged out of foster care.

Dependent Variable: Transition outcomes. Transition success is generally measured in the areas of employment, education, and independent living. A youth is considered to have successful transition outcomes if they graduate from high school or gain their GED, are employed or in school, and are able to live independently of public services and supports (e.g., public assistance). Other areas considered in transition outcomes are if a youth is incarcerated or had contact with the justice system, is pregnant or parenting, or has access to stable housing. This study will focus on outcomes in the areas of educational completion (high school graduation or dropout, access to Education and Training Vouchers) and adult corrections involvement.

Independent Variables: Demographic characteristics, child welfare variables (number of placements, length of placements, access to independent living services through the SELF program, type of permanency plan, existence of a concurrent plan), education variables (attendance, mobility, receipt of schooling

in either a juvenile corrections or residential treatment facility), and other outcomes (i.e., school completion in relation to adult corrections). Additionally, outcomes for the disability subgroup will be examined in relation to access to disability services (special education, special education setting, access to developmental disability services).

Study Variables

The variables under consideration in this study are drawn directly from the administrative databases that provide the study data. The outcome (dependent) variables analyzed in this study are directly related to the transition guidelines included in the federal and state policies (including the Chafee Act, IDEA 2004, FCSIA, and Minnesota Statutes and Rules) in the areas of education and child welfare. Table 3-1 (Appendix 1) provides a list of study variables. Table 3-2 (Appendix 2) provides definitions of each of the study variables. A sample of youth with disabilities who have aged out of foster care were compared with a sample of youth without a disability diagnosis who were also aging out of foster care in the areas of demographic characteristics, education and child welfare services, and transition outcomes, as well as in proxy measures in two of the transition areas identified by statute and policy (education, independent living). Additionally, the disability group was analyzed in relation to their type of disability and access to disability-specific services such as special education and developmental disability services.

Data Analysis Plan

This study compares the aging out process and outcomes for youth with disabilities in the child welfare system compared to their nondisabled peers. Data

analysis was conducted using the Statistical Package for Social Sciences (SPSS). Table 3-3 provides a summary of the data analysis methods used to answer each of the research questions.

Table 3-3: Research Questions and Methods

Research Question	Independent Variable	Dependent Variable	Analysis
1. What are the disability diagnoses and disability-specific service characteristics of youth with disabilities in foster care?	n/a	n/a	Descriptive statistics
2. How do youth with disabilities who are aging out of foster care differ from youth without disabilities who are aging out of foster care, in relation to demographics, child welfare experience, and educational experience?	Disability	Demographics Child Welfare Experience Educational Experience	Descriptive statistics Chi Square and <i>t</i> -test Binary logistic regression
3. How does having a disability diagnosis impact transition outcomes in the areas of education and adult corrections for youth who have aged out of foster care?	Disability	Transition Outcomes	Descriptive statistics Chi-Square and <i>t</i> -test Logistic regression-binary and multinomial

Descriptive Statistics.

Descriptive statistics were used to profile the youth in the data set. Youth characteristics such as gender, race/ethnicity, and geographic location were examined

for all youth; disability-specific characteristics (for example, disability diagnosis), were examined for the disability subgroup. Frequency statistics were used to describe the dependent variables (Field, 2009), which include the youth's preparation for transition through both child welfare and special education and the youth's transition outcomes in the areas of education and adult corrections. Measures of central tendency were used to describe continuous variables, such as school attendance ratios and number and duration of out-of-home placements.

Chi-square and measures of association.

Chi-square analyses are used to assess the relationship between categorical variables (Field, 2009). In this study, these statistical tests were used to test the relationship between the categorical variables in Research Question 2 and Research Question 3. For continuous variables (school attendance ratio, total number of child protection reports, total number of out-of-home placements, average length of out-of-home placements, length of participation in the SELF program), *t*-tests were used to test whether the means of the two groups (disability and no disability) were different (Field, 2009).

Logistic Regression Analysis.

Logistic regression analyses were used to determine the relationship between a youth's disability status and specific demographic, child welfare, and educational indicators (Research Question 2) or their disability status and attaining certain outcomes (Research Question 3), based on the identified predictor variables (Field, 2009; Rubin & Babbie, 2008). Logistic regression analysis were conducted for all of the pairs of variables that were determined to have a significant association, based on the chi-square

or *t*-test analysis. For Research Question 2, binary logistic regression was used in order to assess if a youth’s disability status was positively or negatively linked with their participation in certain activities (i.e., SELF services, school attendance, out-of-home-placement duration) or membership in certain groups (i.e., gender or race). For Research Question 3, the same analysis method was used in order to ascertain the likelihood of the youth achieving specific outcomes, based on their disability diagnosis as well as on other identified child welfare and education variables. Each of the analyzed variables were re-coded to 0/1 “dummy variables”, as identified in Table 3-1. This is necessary in order to proceed with the regression analysis of categorical variables (Field, 2009; Gordon, 2010). For example, for the variable “gender” was coded 0=male (the reference variable), 1=female.

For Research Question 2, binary logistic regression analysis was conducted for all of the pairs of variables that were found to have a significant association through chi-square or *t*-tests. These were:

Table 3-4: Binary Logistic Regression: Research Question 2

Disability X Gender
Disability X Race
Disability X Number of Placements
Disability X Length of Placement
Disability X Primary Permanency Plan
Disability X Concurrent Planning
Disability X Participation in SELF
Disability X School Attendance Ratio
Disability X Juvenile Corrections
Disability X Residential Treatment

For Research Question 3, both binary and multinomial logistic regression analyses were completed. Binary regression was used to examine the relationship between identified independent variables and binary outcome variables (adult

corrections involvement, ETV receipt) (Field, 2009; Simon 2002). Multinomial logistic regression was used to examine the relationship between identified independent variables and the school completion outcome variable, which has more than two categories (Field, 2009; Petrucci, 2009).

The transition outcomes that were analyzed were:

- School completion (graduate, still enrolled under age 19, still enrolled after age 19, dropout)
- Postsecondary educational access (Education and Training Voucher)
- Adult corrections involvement

As in the previous analysis, each of the independent variables in the blocks were re-coded to 0/1 “dummy variables”, as identified in Table 3-1. This is necessary in order to proceed with the regression analysis of categorical variables (Field, 2009; Gordon, 2010).

A forced entry method (Field, 2009) was used to analyze the relationship between each of the outcomes and the blocks of independent variables. The forced entry approach is recommended when other research indicates that the chosen predictors should be included in the regression model, but does not indicate the order in which they should be entered into the model (Field, 2009; Petrucci, 2009).

Effect Size Analysis.

In addition to the forced entry method, the regressions were also run using “blocks” of variables, divided into service areas of child welfare, education, and disability-specific. These blocks are described in Table 3-5.

Table 3-5: Variable “Blocks” for Regression Models

Variable block	Specific Variables
Demographics	Gender, Race, Ethnicity, Location, Disability
Disability (only used with the disability-subgroup)	Type of disability, Special education status, Developmental disability services
Child Welfare	Number of placements, Length of placements, SELF services, Evidence of concurrent planning
Education	School attendance, Educational mobility, Juvenile corrections, Residential treatment

The regressions were run first testing only the demographic block, then with the demographic block and one of the possible service area blocks (child welfare, education, and disability services) in turn, and then finally including all the variables (see Table 3-6 for the models). This method allowed for an assessment of the effect size of each of the individual blocks of variables and the outcome of interest (Field, 2009; Petrucci, 2009). The effect size is a measure of the magnitude of an observed effect—in this case, the magnitude of the effect of each of the blocks of variables on the transition outcome areas.

Table 3-6: Regression Models

Model 1	Model 2	Model 3	Model 4 (Disability Only Sub-Group)	Model 5
Demographic Block	Demographic Block	Demographic Block	Demographic Block	Demographic Block
	Child Welfare Block			Child Welfare Block
		Education Block		Education Block
			Disability	Disability

			Block	Block (Disability-Only Sub-Group)
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The effect size for binary logistic regression was assessed using the Nagelkerke R^2 . The Nagelkerke, like any R^2 value, is a partial correlation between the outcome variable and the predictor variables (Field, 2009). A positive value indicates that as the predictor variable increases, so does the likelihood of the outcome; a negative value indicates that as the predictor variable increases, the likelihood of the outcome decreases. The Nagelkerke R^2 is adjusted to range from -1 to 1; the larger the value of the R^2 , the more the predictor variable contributes to the model (Field, 2009). The Nagelkerke was selected because it is adjusted to run from -1 to 1, make it more interpretable (Petrucci, 2009). For multinomial logistic regression, both the McFadden transformation of the likelihood ratio statistic and the Nagelkerke are reported (Petrucci, 2009). It should be noted that R^2 values in logistic regression are often markedly lower than they would be in linear regression models.

Chapter 4: Findings

This section discusses the findings of the analysis described in the previous chapter. The chapter is divided into three sections, reflecting the three research questions that guided the study. Thus, first it will discuss the disability-specific information of the youth in the sample. Next, it will discuss the findings related to the second research question, which compares youth with disabilities in the sample to youth without disabilities in the sample in terms of demographics and child welfare and educational services. Finally, it will discuss the findings from the analysis of the transition outcomes for youth, using binary and multinomial regression analysis.

Sample Characteristics

Demographically, the youth with disabilities in the sample do appear to be significantly different from their non-disabled peers. Specifically, the youth with disabilities are more likely to be male (65.3% of the sample vs. 44.8%), Caucasian (62.3% vs. 53.1%), and living in a metropolitan area (64% vs. 61.8%) than their non-disabled peers. Youth without disabilities were more likely to be either American Indian (17.5% vs. 12.7%) or Asian (4.6% vs. 1.6%), female (55.2% vs. 45.8%), and living in a non-core (rural) area (21.9 % vs. 20.6%). Data from the NLTS-2 are included in this table for comparison with the general population of youth with disabilities. Data from the Minnesota Department of Human Services indicates that American Indian and African American children are the most likely to be placed in out-of-home care (78.8 children and 34.6 children per thousand respectively), followed by

multi-racial children (28.0 children per thousand), Hispanic children (14.1 children per thousand), White children (6.6 children per thousand) and Asian children (5.4 children per thousand) (MN DHS, 2010). Therefore, it appears that the youth in this sample differ from both the general population of youth in special education as well as the general population of youth in the child welfare system.

Table 4.1: Sample Characteristics by Disability Status

	All		Disability		No Disability		χ^2	NLTS-2
	n	%	n	%	n	%		
Gender							88.5*	
Male	1252	57.2	857	65.3	378	44.8		65.8
Female	935	42.8	455	34.7	466	55.2		34.2
Race							38.5*	
Caucasian	1281	58.6	817	62.3	448	53.1		62.1
African American	486	22.2	291	22.2	187	22.2		20.7
Native American	321	14.7	166	12.7	148	17.5		n/a
Asian	59	2.7	20	1.6	39	4.6		2.7
Other	40	1.8	18	1.4	22	2.6		n/a
Ethnicity							2.2	
Hispanic	133	6.1	77	5.9	54	6.4		14.2
Non-Hispanic	2051	93.8	1232	93.9	790	93.6		n/a
Location							1.96	
Metro	1380	63.0	840	64.0	522	61.8		29.2
Micro	357	16.3	217	16.5	137	16.2		56.8
Non Core	450	20.6	255	19.4	185	21.9		14.0

*p<.001

Disability Characteristics and Service Use

Of the 2,188 young people in the sample, 1,312 had a disability diagnosis in the education system (60%). Of those who had an identified, specific disability diagnosis in the special education data (1,296), the most common disability diagnosis was emotional disturbance (55.0%), followed by learning disability (13.6%), other health impairment (12.4%), and mental retardation (10.4%; for the rest of this paper the term “Intellectual Disability” or ID will be used in place of mental retardation, which is the

term used by the data sources). The disability diagnoses data are displayed in Table 4-2.

Data from the U.S. Department of Education’s Office of Special Education Policy (OSEP) and the NLTS-2 are included in this table for comparison with the general population of youth with disabilities. It is notable that emotional disturbance, other health impairments, and autism all seem to be overrepresented in this sample of youth with disabilities aging out of foster care, in comparison to the general population of youth with disabilities, while learning disabilities and ID appear to be underrepresented.

Next, the disability sub-sample was analyzed for access to disability-specific services—namely, special education and developmental disability services (see Table 4-2). While the majority of youth with disabilities in this sample participated in special education, almost 10% did not. The most common setting for special education was in a separate classroom or resource room (39.7% of the sample), followed by services integrated in the general education classroom (28.4%), and special education in a separate public or private day school (15.7%). Comparatively, in 2004, 60% of all students in special education in Minnesota received special education in regular classrooms for at least of 80% of each day (Westat, 2006). Some 12.7% of the sample received developmental disability services through the state. All of the youth who received DD services began receiving them prior to their eighteenth birthday.

Table 4-2: Disability Status and Services

	Youth with Disabilities		OSEP/NLTS-2*
	n	%	%
Diagnosis			
Emotional Disturbance	707	55.0	7.9
Learning Disability	173	13.6	46.4
Other Health Impairment	163	12.8	8.4
ID	132	10.4	9.3
Autism	67	5.0	*

	Youth with Disabilities		OSEP/NLTS-2*
	n	%	%
Multiple Disabilities	27	2.0	*
Misc.	27	2.0	9.2 (all others combined)
Special Education			
Yes	1176	89.6	94.7*
No	128	9.8	5.3*
Special Education Setting			
General Ed Class	373	28.4	52.1 (80% of the day or more)
Special Ed Class	520	39.7	43.8
Separate School	205	15.7	4.0 (all separate environments)
Residential Facility	101	7.7	
Homebound/Hospital	45	3.4	
DD Services			
	167	12.7	n/a
Yes, before turning 18	167	12.7	n/a

*data from NLTS-2

In summary, more than half of the youth in the total sample of youth aging out of care had a disability diagnosis. Of those youth, the majority (55%) had an emotional or behavioral disorder, with learning disabilities and developmental disabilities being the next most common diagnoses. Most of the youth with disabilities (89.6%) were connected with special education services, and 12.7% received developmental disability services.

Differences between youth with disabilities and their non-disabled peers

The second research question focused on identifying the differences between youth with disabilities who are aging out of foster care and their non-disabled peers in the areas of demographics, child welfare, and education.

Binary logistic regressions, presented in Table 4-3, were run in order to identify the likelihood of a youth of a specific demographic category (i.e., gender or race), having a disability diagnosis. Youth with disabilities are 40% as likely to be female than male. Additionally, the findings indicate that American Indian and Asian youth

are more likely to have a disability diagnosis (1.5 and 3.1 times more likely, respectively) than other youth, while Caucasian youth are 70% as likely to have a disability diagnosis than any other racial/ethnic group. The findings for African American youth were not significant. Regressions were not completed on the Hispanic or location variables, as chi-square analysis (see Table 4-1) indicated that there was not a significant association between the variables.

Table 4-3: Logistic Regression of Disability Status and Demographics

Variables	Odds Ratio	95% Confidence Interval
Gender	0.4*	0.4-0.5
Race		
Caucasian	0.7*	0.6-0.8
African American	1.0	0.8-1.2
Native American	1.5*	1.2-1.9
Asian	3.1*	1.8-5.4

*p<.05

Child Welfare.

In the area of child welfare, analysis was completed to identify differences among youth with disabilities and youth without disabilities in the areas of: type of reported abuse, number of out-of-home placements, average length of out-of-home placements, primary permanency plan, evidence of concurrent planning, and access to the SELF independent living program. In reviewing the following tables it is important to note that the total sample size varies for each item, due to inconsistencies in the data. The changing sample size is a weakness of using administrative data; some data fields are simply less well populated than others (the issue of missing data in administrative analysis is discussed in greater detail in both Chapters 3 and 5).

Based on the descriptive analysis of the data set, presented in Table 4-4, youth with disabilities have higher rates of reported sexual abuse than their non-disabled

peers, have a higher average number of out-of-home placements, are less likely to have a concurrent plan for their permanency outcomes, and are more likely to have a different primary permanency plan than their non-disabled peers. Specifically, more youth with disabilities have their primary permanency plan as either long-term foster care or adoption, whereas more youth without disabilities have reunification with their parents or principal caregivers or living with relatives as their primary permanency plan. Finally, youth with disabilities appear to be less likely to participate in the SELF independent living program than their non-disabled peers.

Table 4-4: Child Welfare Experiences by Disability Status

	All		Disability		No Disability		χ^2 or <i>t</i> -test
	n	%	n	%	N	%	
Allegation codes							8.4
Neglect	403	18.4	220	16.8	174	20.6	
Medical Neglect	12	0.5	7	0.5	5	0.6	
Physical Abuse	249	11.4	146	11.1	100	11.8	
Sexual Abuse	133	6.1	83	6.3	49	5.8	
Mental Injury	4	0.2	1	0.1	3	0.4	
# of placements							-4.7*
Average	5.1 (sd=4.4)		5.5 (sd=4.7)		4.6 (sd=3.9)		
Length of placement (months)							-3.2*
Average	23.5 (sd=28.9)		24.7 (sd=30.4)		21.4 (sd=26.3)		
Perm. plan (Primary)							39.2*
Reunification	1176	61.4	658	57.2	502	68.2	
Live with relatives	58	3.0	28	2.4	29	3.9	
Adoption	139	7.3	97	8.4	40	5.4	
Long term foster care	382	20.0	269	23.4	108	14.7	
Guardianship	6	0.3	4	0.3	3	0.3	
Independent Living	35	1.8	22	1.9	13	1.8	
Not yet determined	53	2.8	38	3.3	15	2.0	

	All		Disability		No Disability		χ^2 or <i>t</i> -test
	n	%	n	%	n	%	
Concurrent planning?							1.1
Yes	924	60.0	545	58.9	365	61.5	
No	616	40.0	380	41.4	227	38.3	
SELF Services							5.6**
Yes	921	42.1	528	40.2	383	45.4	
No	1265	57.9	784	59.8	461	54.6	

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

Next, logistic regression analysis was completed in order to determine the relationship between youth's disability status and the selected child welfare indicators. The findings from this analysis, presented in Table 4-5, indicate that there are significant differences between youth with disabilities and their non-disabled peers on the selected child welfare variables. In the area of permanency planning, youth with disabilities are 70% as likely to have family reunification identified as their primary permanency plan. Instead, youth with disabilities are more likely to have either adoption (1.6 times more likely), long-term foster care (1.8 times more likely), or "plan not yet determined" (1.7 times more likely) as their primary placement plan.

Once they are in out-of-home placement, the findings indicate a very slight difference in the amount of placement instability for youth with disabilities (1.1 times more likely to have one more placement) as well as a very slight difference in the length of placement for the two groups (1.0004 times more likely to be in placement 1 month longer if they have a disability). Finally, youth with disabilities are 80% as likely to access SELF independent living services than youth without disabilities.

Table 4-5: Logistic Regression of Disability Status and Child Welfare

	Odds Ratio	95% Confidence Interval
Permanency Plan		
Reunification	0.7*	0.6-0.8
Live with Relatives	0.7	0.5-1.0
Adoption	1.6*	1.0-2.3
Independent Living	1.1	0.6-2.2
Long Term Foster Care	1.8*	1.4-2.2
No Primary Plan Identified	1.7*	2.6-3.0
SELF Participation	0.8*	0.7-0.9
Length of Placement (months)	1.0004**	1.0-1.0
Number of Child Welfare Placements	1.1*	1.0-1.1

*p<.05, **p<.10

Education.

In the area of education, analysis was completed to identify differences among youth with disabilities and youth without disabilities in the areas of: educational mobility, school attendance, enrollment in a school within a juvenile corrections facility, and leaving a school in order to enter residential treatment. Descriptive analysis was conducted in order to identify differences in key educational indicators for the youth in the sample; these findings are presented in Table 4-6. The descriptive findings indicate that youth with disabilities have a higher attendance rate and lower educational mobility than their non-disabled peers, although both groups experience relatively high educational mobility overall (17.2% of the overall sample were educationally mobile). A youth was coded as educationally mobile if they had both residential moves and status end codes indicating school changes in the education data for a given year. More youth with disabilities had been in school in a juvenile correctional facility (11.9% vs. 9.0% of youth without disabilities) and more youth with disabilities had been placed in residential treatment at some point between age 14 and leaving school (18.6% vs. 15.6% of their non-disabled peers).

Table 4-6: Education Experiences by Disability Status

	All		Disability		No Disability		χ^2 or <i>t</i> -test
	n	%	n	%	N	%	
Educational mobility							0.6
Yes	376	17.2	222	16.9	154	18.2	
No	1810	82.8	1090	83.1	690	81.8	
Juvenile corrections							4.5*
Yes	234	10.7	156	11.9	76	9.0	
No	1952	89.3	1156	88.1	768	91.0	
Residential treatment							3.1**
Yes	372	17.4	241	18.6	128	15.6	
No	1814	83.0	1071	81.6	716	84.8	
Attendance Ratio							-3.4*
Average	89.7% (sd=.13)		90% (sd=.13)		89% (sd=.12)		

* $p < .05$, ** $p < .10$

Finally, binary logistic regressions were run on the variables that the chi-square or *t*-test identified as significant, in order to identify the likelihood of a youth with a disability diagnosis having specific educational experiences (see Table 4-7). The findings indicate that youth with disabilities are 1.4 times more likely to be in juvenile corrections than their non-disabled peers and 1.2 times more likely to be in residential treatment. However, the confidence intervals for both of these variables include 1, meaning that there is a 95% chance that the odds ratio is inclusive of 1, indicating no difference between the two groups for this variable (Fields, 2009). Thus, these findings must be interpreted with caution, despite being statistically significant. Youth with disabilities also are more likely to have higher school attendance ratios (3.3 times as likely to have a one degree higher attendance ratio).

Table 4-7: Logistic Regression of Disability Status and Education

	Odds Ratio	95% Confidence Interval
Juvenile corrections	1.4*	1.0-1.8
Residential treatment	1.2**	1.0-1.6
Attendance ratio	3.3*	1.6-6.5

* $p < .05$, ** $p < .10$

In summary, youth with disabilities experience significant differences in the permanency planning they receive while in the child welfare system; experience slightly more out-of-home placements but spend the same amount of time in those placements, on average, than their non-disabled peers; and are less likely to access the SELF independent living program. They may be more likely to be in juvenile corrections and in residential treatment during their high school careers. Youth with disabilities in the sample have better school attendance rates than their peers without disabilities.

Transition outcomes

The third research question examined the relationship between a youth's disability status and their achievement of specific transition-related outcomes, namely:

- Education: School completion (graduation, still enrolled, enrolled after age 19, or dropout), and access to postsecondary education (ETV); and
- Adult Corrections: Did the youth appear in the Minnesota Adult Corrections database, indicating that they were incarcerated or paroled?

The analysis was conducted as follows: first, descriptive statistics were run on all of the outcome variables; next, binary logistic regression analysis was run on the variables that chi-squares or *t*-tests had shown had a significant association with disabilities; and finally, a more complex regression model was used to examine the relationship between each of the broader categories (demographics, disability status and services, child welfare experiences, and education indicators) and the identified outcomes.

Transition Outcomes and Disability Status

The descriptive analysis, presented in Table 4-8, of the transition outcomes found that youth with disabilities are less likely to graduate from high school or to

access Education and Training Vouchers than their non-disabled peers. Additionally, they are more likely to be involved in the adult corrections system (3.8% vs. 1.4%), and more of them (remain enrolled in high school after turning 19) than their peers without disabilities (32.4% vs 24.9%). However, a smaller percentage dropped out of high school (12.4% vs. 13.4%), and a higher percentage was enrolled in school when they were under the age of 19 (29.8% vs. 27.6%).

Table 4-8: Transition Outcomes by Disability Status

	All		Disability		No Disability		χ^2 or <i>t</i> -test
	n	%	n	%	N	%	
School Completion							25.4*
Graduated	631	28.9	335	25.5	292	34.6	
Still enrolled, under 19	631	28.9	391	29.8	233	27.6	
“Linger”	653	29.9	425	32.4	210	24.9	
Dropout	278	12.7	163	12.4	113	13.4	
Access ETV							20.8*
Yes	69	3.2	24	1.8	45	5.4	
No	2117	96.8	1288	98.2	799	94.7	
Adult Corrections							9.7*
Yes	63	2.9	49	3.8	12	1.4	
No	2123	97.1	1263	96.3	832	98.6	

* $p < .05$

Binary logistic regression was conducted to examine the relationship between a youth’s achieving the transition outcomes identified in the study and their disability status. The analysis found a significant relationship between disability and school completion. Compared to their non-disabled peers, youth with disabilities are almost 1.3 times more likely to be enrolled in school at age 19 or under rather than graduate, 1.8 times more likely to still be enrolled after they turn 19 rather than graduate, and 1.3 times more likely to drop out than graduate. Youth with disabilities are 30% as likely to receive Education and Training Vouchers for postsecondary education and are 2.7 times more likely to be involved in adult corrections than their non-disabled peers. As

discussed above, odds ratio confidence intervals that are inclusive of the value 1 (here, still enrolled under age 19; dropout) should be interpreted with caution (Field, 2009).

Table 4-9: Logistic Regression of Transition Outcomes by Disability Status

	Odds Ratio	95% Odds Ratio
School Completion		
Graduation (reference category)	---	---
Still Enrolled	1.3*	1.0-1.7
“Linger”	1.8*	1.4-2.2
Dropout	1.3**	1.0-1.7
Education & Training Voucher	0.3*	0.20-0.54
Adult Corrections	2.7*	1.4-5.0

*p<.05, **p<.10

Transition Outcomes: Regression Models.

For each of the transition outcomes (school completion, ETV, and adult corrections), regression analysis was completed in order to identify the relationship between the outcome of interest and various independent variables that were identified through knowledge of the previous literature. Tables 3-5 and 3-6 (in the Methods Chapter) provide an overview of the models, which were developed around “blocks” of variables grouped by service area. Using a forced entry method (Field, 2009), all of the blocks of variables were added to the model. Each of the blocks was also added singly in combination with the “demographics” block, in order to measure the effect size of each block independently. Finally, a second set of analyses was completed for each of the five transition outcomes, looking solely at the disability subgroup. This second analysis also included an additional block of variables made up of disability-specific variables: e.g., access to special education, the youth’s disability diagnosis, and their access to developmental disability services.

Outcome: School Completion.

Multinomial logistic regression analysis was used to create a regression model for the outcome variable of school completion. For this analysis, “graduate” is used for the reference category. The remaining three variables categories are: dropout, still in school after age 19, and still in school under age of 19. Thus, all of these findings are in comparison to graduation as an outcome. Table 4-10 (Appendix 3) describes the regression analysis of the school completion outcomes.

Of the entire sample of older youth in foster care, African American youth are 1.9 times more likely to drop out of school than Caucasian youth, and Asian youth are 2.7 times more likely to drop out than Caucasian youth. Youth who drop out are 1.5 times more likely to live in a non-core (rural) area, rather than a suburban or urban area. Youth with disabilities are 30% less likely to have a drop out than youth without disabilities. Youth who experience shorter placements are slightly less likely to drop out, and youth who have higher placement instability are slightly more likely to drop out. Youth who participate in the SELF program are 1.7 times more likely to drop out. Finally, youth with a higher attendance ratio are 30% less likely to drop out for each point increase in their attendance ratio.

For the entire sample, females are 1.4 times more likely to remain enrolled in school after turning 19 rather than graduate. Likewise, youth living in rural areas are 1.4 times more likely to remain enrolled, and youth with disabilities are 40% less likely to remain enrolled. As with the youth who drop out, youth who experience a higher number of placements are more likely to remain enrolled. Youth who participate in

SELF are 2.1 times more likely to linger rather than graduate. As a young person's attendance rate increases, their odds of remaining enrolled in school decrease.

Finally, youth who are still enrolled in school and under the age of 19 are 30% more likely to have a disability, and 1.5 times more likely to live in a non-core area. They are 1.5 times more likely to have participated in the SELF program. Youth who experience educational mobility are 30% more likely to remain enrolled, and youth who have been in residential treatment are 1.5 times more likely to be enrolled.

The school completion outcomes differed for youth with disabilities in the sample and their nondisabled peers. African American youth with disabilities are 1.9 times more likely to drop out rather than graduate and 1.6 times more likely to still be enrolled in school under the age of 19. Youth with disabilities who participate in the SELF program are 1.9 times more likely to drop out, 2 times more likely to be enrolled after turning 19, and 1.5 times more likely to be enrolled before turning 19. A higher attendance ratio is linked with a lower dropout rate for youth with disabilities, and youth who experience a shorter placement are less likely to drop out. Youth with disabilities who receive developmental disability services are 71% more likely to remain enrolled as they are to graduate. Finally, youth who are in special education (3.5), have a diagnosis of emotional/behavioral disorder (1.7), or a diagnosis of learning disability (3.2) are all more likely to be enrolled in school at age 19 or under, rather than graduate. Youth who are receiving developmental disability services are 50% less likely to still be enrolled in school.

The effect size calculations presented in Table 4-11 indicate that for all of the youth in the sample, the child welfare variables have a greater impact on youths' school

completion outcomes than the education variables. This is also the case for the youth with disabilities in the sample. In both cases, the regression model that included all of the possible variable blocks explained the highest percentage of the school completion outcome (13% for the entire sample and 19% for the disability group). For the McFadden statistic, .2-.4 are “highly satisfactory” (Petrucci, 2009); Nagelkerke values range from -1 to 1 (Field, 2009; Petrucci, 2009). Thus, the effect sizes for both the youth with and without disabilities are low, indicating that they make a relatively small overall contribution to youths’ school completion outcomes.

Table 4-11: Effect Size of Service Blocks on School Completion

	All		Disability Only	
	McFadden	Nagelkerke	McFadden	Nagelkerke
Demographics	.014	.039	.011	.031
Demographics + Child Welfare	.037	.101	.033	.090
Demographics + Education	.030	.083	.022	.061
Demographics + Disability	n/a	n/a	.041	.110
Demographics + All	.049	.132	.072	.188

Outcome: Education and Training Vouchers.

Binary logistic regression analysis was used to assess the relationship between the identified “blocks” of variables and a young person’s receipt of Education and Training Vouchers (ETV). These vouchers are used to help a young person aging out of foster care pay for postsecondary education and training and, in this study, are used as a proxy measure for access to postsecondary education and training. As previously discussed, a forced entry method was used for the analysis, and the demographic variables were used in all of the possible models.

The findings indicate that, of the entire sample, youth with disabilities are significantly less likely to receive ETV (60% less likely), while African American

youth are significantly more likely (4.1). None of the other demographic categories were significantly related to ETV receipt. Youth who spend a longer time in their placements are more likely to receive the ETV. Of youth with disabilities, Asian youth are 81% less likely to receive the ETV, while youth who are enrolled in special education classes are 3.3 times more likely to receive them.

Table 4-12: Logistic Regression of ETV Receipt

	All		Disability	
	Odds Ratio	95% CI	Odds Ratio	95% CI
Demographics				
Gender	1.56	0.9-2.7	1.2	0.5-2.9
Disability	0.4**	0.2-0.7	n/a	n/a
Micro Location	1.2	0.6-2.4	0.5	0.1-2.6
Non Core	0.93	0.5-1.8	1.9	0.7-5.2
Hispanic	0.71	0.3-1.9	0.4	0.10-1.4
African American	4.1**	1.4-11.5	5.5	0.7-44.4
Native American	0.8	0.4-1.6	0.7	0.2-2.0
Asian	0.7	0.2-2.4	0.2*	0.0-1.0
Child Welfare				
Months in Placement	1.0**	1.0-1.0	1.0	1.0-1.0
Number of Placements	1.0	1.0-1.1	1.0	0.9-1.2
SELF	1.5	0.9-2.7	0.9	0.4-2.4
Education				
Mobility	1.0	0.5-2.1	0.7	0.2-2.6
Attendance	2.9	0.2-46.0	1.2	0.0-74.2
Juvenile Corrections	0.4	0.1-1.5	0.3	0.0-2.3
Residential Treatment	0.7	0.3-1.5	0.6	0.2-2.0
Disability and Disability Services				
Special Education	n/a	n/a	3.3*	1.2-9.4
DD Services	n/a	n/a	0.0	.0 ----
Emotional/Behavioral Disability	n/a	n/a	1.1	0.2-3.6
Learning Disability	n/a	n/a	1.0	0.2-4.2
Developmental Disability	n/a	n/a	0.0	.0 ----

*p<.05, **p<.10

An analysis of the effect sizes of the three “service blocks” (see Table 4-13) demonstrates that the education variables had a greater impact on the likelihood of the youth in the general sample receiving ETV than the child welfare variables, and that the

regression equation containing all of the variables had the “best” explanation of ETV receipt. For youth with disabilities, the disability variables had the greatest impact on their likelihood of ETV receipt of the single variable blocks, while the equation with all of the variable blocks also had the “best” explanation.

Table 4-13: Effect Size of Service Blocks on ETV Receipt

Variable Block	All	Disability Only
Demographics	.064	.067
Demographics + Child Welfare	.107	.081
Demographics + Education	.134	.129
Demographics+ Disability	n/a	.135
Demographics + All	.163	.167

Outcome: Adult Corrections.

Binary logistic regression analysis was used to assess the relationship between the identified blocks of variables and a young person’s involvement with the adult corrections system in Minnesota. As discussed above, a forced entry method was used for the analysis, and the demographic variables were used in all of the possible models.

The findings, presented in Table 4-14, indicate that of the sample of youth as a whole, youth with disabilities are significantly more likely to be in adult corrections (1.9 times more likely), while African American youth are 70% less likely. None of the other demographic categories were significantly related to adult corrections. Longer placements were negatively related to adult corrections—youth who spent more months in placements were 3% less likely to appear in Minnesota’s adult corrections system. Among youth with disabilities, African American youth were 61% less likely to be in adult corrections. None of the other variables were significant.

Table 4-14: Logistic Regressions of Adult Corrections

	All		Disability	
	Odds Ratio	95% CI	Odds Ratio	95% CI
Demographics				
Gender	0.0	0.0 ---	0.0	0.0 ---
Disability	1.9***	1.0-3.7	n/a	n/a
Micro Location	0.6	0.2-1.5	0.6	0.22-1.72
Non Core	1.0	0.4-2.1	0.7	0.29-1.83
Hispanic	0.6	0.2-1.6	0.5	0.16-1.35
African American	0.3**	0.2-0.6	0.4*	0.19-.81
Native American	0.7	0.3-1.9	0.9	0.30-2.39
Asian	0.9	0.1-6.8	49208259.05	0.00-*
Child Welfare				
Months in Placement	0.97*	1.0-1.0	1.0	1.0-1.0
Number of Placements	1.0	0.9-1.1	1.0	0.9-1.1
SELF	1.0	0.5-2.0	1.0	0.5-2.0
Education				
Mobility	1.2	0.6-2.4	1.3	0.6-2.8
Attendance	1.0	0.1-9.2	0.6	0.1-6.9
Juvenile Corrections	1.4	0.7-3.0	1.2	0.5-2.5
Residential Treatment	1.5	0.8-3.0	1.8	0.9-2.8
Disability and Disability Services				
Special Education	n/a	n/a	1.2	0.5-3.1
DD Services	n/a	n/a	0.3	0.0-2.1
Emotional/Behavioral Disability	n/a	n/a	1.2	0.5-3.1
Learning Disability	n/a	n/a	2.1	0.7-6.3
Developmental Disability	n/a	n/a	1.7	0.4-7.9

*p<.05, **p<.10

The findings of the analysis of the effect size (Table 4-15) of the various regression models containing “blocks” of service variables, found that, for the entire sample, education had the greatest impact on the likelihood of a youth’s involvement with the adult corrections system in comparison to only demographics or demographics + child welfare. However, the regression model containing all of the variables provides the most complete explanation of the likelihood of a youth’s adult correctional involvement. This is also the case with the disability sub-sample; the regression model with all of the variables appears to be the strongest explanation. Of the individual

service variable blocks, the disability block was found to explain the highest percentage of the likelihood of a youth's adult corrections involvement.

Table 4-15: Effect Size of Service Blocks and Adult Corrections

Variable Block	All	Disability Only
Demographics	.197	.167
Demographics + Child Welfare	.215	.179
Demographics + Education	.217	.182
Demographics + Disability	n/a	.187
Demographics + All	.225	.199

Conclusions

The findings from this analysis indicate that there are, in fact, significant differences among youth with disabilities who are aging out of foster care and their non-disabled peers. Youth with a disability diagnosis make up more than half of the youth in the sample and, in comparison with their non-disabled peers, experience significant differences in the areas of child welfare and education, as well as in their adult outcomes. In the area of outcomes, in fact, disability was the only predictor variable which was significantly associated with all three outcomes (school completion, post secondary education, and adult corrections). The discussion chapter will examine these findings in greater detail and link them with the current literature on disability, transition, and aging out of foster care.

Chapter 5: Discussion

The findings from this study raise as many questions as they answer, due to its exploratory nature. However, they do indicate that youth with disabilities are highly prevalent in out-of-home placement, and that their experience with out-of-home placement, permanency planning, transition preparation and supports, educational connectedness and mobility, and adult outcomes all differ significantly from that of their non-disabled peers. The cross-systems approach taken by this study begins to document the number and variety of systems and combinations of systems and supports that may be interacting for older youth in care, especially those with disabilities. It is hoped that by documenting the prevalence of youth with disabilities in out-of-home placement, as well as identifying just a fraction of the barriers and challenges they face to successful adult outcomes, practitioners, policymakers, and other researchers will expand their focus to be more inclusive of youth with disabilities in foster care and begin to actively work to improve services and supports for them, so that they may live happy, productive, and engaged adult lives.

Discussion

Overall, the findings of this study indicate that youth with disabilities are overrepresented in the population of youth aging out of foster care, and that there are measurable and significant differences between young adults with disabilities and their non-disabled peers. Youth with disabilities made up the majority (60%) of the youth in the sample and were significantly different demographically from their non-disabled peers: they were more likely to be male, American Indian, or Asian. As well, youth

with disabilities were less likely to receive independent living training and support through child welfare, and had different permanency plans. Youth with disabilities were also more apt to spend time in juvenile corrections and residential treatment during high school. Interestingly, they also had better school attendance. Finally, youth with disabilities' transition outcomes were different. They were less likely to graduate, more likely to drop out, and more likely to remain enrolled in school (but not graduate) after they turned 19. They were less likely to receive Education and Training Vouchers for postsecondary education and training and more likely to appear in Minnesota's adult corrections system.

The research questions examined in this study were:

1. What are the disability diagnoses, disability-specific service experiences, and prevalence of youth with disabilities who are aging out of foster care?
2. How do youth with disabilities who are aging out of foster care differ from youth without disabilities who are aging out of foster care, in relation to their demographic characteristics, and child welfare, educational, and independent living experiences?
3. How does having a disability diagnosis impact transition incomes in the areas of education and correctional involvement for youth who have aged out of foster care?

Table 5-1 provides a synopsis of each of the major findings of the study, linking each with the relevant research question.

Table 5-1: Research Questions and Findings

Research Question 1: What are the disability diagnoses, disability-specific service experiences, and prevalence of youth with disabilities who are aging out of foster care?
There is a high prevalence of youth with disabilities in child welfare. Whereas learning disabilities are the most common disability among youth with disabilities in the general population, the most common disability diagnosis for youth in the sample is emotional/behavioral disorder.
Youth with disabilities in child welfare access disability-specific services through special education and, in some cases, developmental disability services. Youth with disabilities in foster care may be more likely than youth with disabilities in the general population to experience isolation within school due to restrictive special education placements.
Research Question 2: How do youth with disabilities who are aging out of foster care differ from youth without disabilities who are aging out of foster care, in relation to their demographic characteristics, and child welfare, educational, and independent living experiences
Youth with disabilities in child welfare are more likely to be male, American Indian, or Asian than both youth with disabilities in the general population and children without disabilities in the child welfare system.
All of the youth in the sample experienced high levels of placement instability.
Youth with disabilities in child welfare experience different permanency planning than youth without disabilities
Youth with disabilities in child welfare are less likely to access child welfare independent living programming than youth without disabilities
All youth in the sample experienced high rates of educational mobility and school disruption.
Research Question 3: How does having a disability diagnosis impact transition incomes in the areas of education and correctional involvement for youth who have aged out of foster care
All youth in the sample had high rates of school attendance, especially the youth with disabilities.
All youth in the sample had poor school completion rates. Many of the youth neither graduated nor dropped out, but seemed to “age out” of the educational system.
All youth in the sample had low rates of postsecondary education access; youth with disabilities had an even lower rate.
Youth with disabilities were incarcerated as adults more frequently than youth without disabilities.
Many outcomes for youth aging out of foster care are simply unknown, due to missing and inaccurate data, a lack of data sharing among systems, and poor service integration.

Research Question One: Disability diagnoses, services, and prevalence.

High prevalence of youth with disabilities.

Simply gaining a better understanding of the prevalence, disability diagnosis, and access to disability-specific services of youth with disabilities in foster care is

important for improving child welfare and educational service delivery. Without a clear sense of the prevalence of children with disabilities in the child welfare system and the characteristics of these children, it is exceedingly difficult to provide appropriate services and supports for them and their families (Bruhn, 2003; Horner-Johnson & Drum, 2006). The findings from this study indicate that youth with disabilities who are aging out of foster care are different both from youth with disabilities in the general population who are in transition, and from their non-disabled peers in foster care.

The findings of this study indicate that youth with disabilities make up a large percentage of the population of youth aging out of foster care. This finding supports the existing literature, both on foster care transition and disability (Anctil et al., 2007a; 2007b), as well as on child welfare in general (Crosse et al., 1993; Lightfoot et al., in press; Sullivan & Knutsen, 2000). Thus, it underlines other researchers' calls to increase training of workers on disability and disability supports (LaLiberte, 2005, Lightfoot & LaLiberte, 2006), for researchers to redouble their efforts to improve services for this population (Rosenberg & Robinson, 2004), and for collaboration and cooperation among disability-related services and child welfare (Altshuler, 2003; Geenen & Powers, 2007; Hill, 2009; Palladino, 2006).

The dispersion of disability diagnosis in the sample was markedly different from what is found in the general population. As previously discussed, the NLTS-2 is a national study of the experiences of youth with disabilities as they transition into adulthood. In the NLTS-2, the most common disability diagnosis is learning disability, followed by ID and emotional disturbances (Wagner et al., 2003). In this study, however, the most common disability diagnosis was emotional disturbance, followed by

learning disabilities, other health impairments, and ID. In both cases the identification of the disability was drawn from school records, indicating that the difference in prevalence of diagnoses cannot be attributed solely to systems differences. Some research suggests (Sobesey, 2002; Weaver et al., 2005) that youth with disabilities in the child welfare system experience certain disabilities at a higher rate due to abuse and neglect; in other words, that their disabilities are a result of the abuse and neglect they endured. This may be the case in this sample; for example, the high rate of emotional and behavioral disorders may be linked with the experiences of the youth, whether due to their long-term foster placement or the physical abuse and neglect that led to them being placed out-of-home. However, other researchers point to the higher likelihood of discovery of abuse for children with disabilities, due to their contact with multiple service providers (Westcott & Jones, 1999), or the fact that abuse or neglect may be disability-specific or reactive—for example, deaf children being punished for “not listening” (Emerson & Lovitt, 2003; Verdugo & Bermejo, 1995). Finally, the behaviors of foster children in the classroom (e.g., aggressive or attention-seeking behaviors, social withdrawal or anxiety) may lead to increased likelihood of referrals to special education services (Zetlin, 2006). Thus, although this study does not answer the question of why youth with disabilities in foster care are different from youth with disabilities in the general population, it does support the calls for more research on the topic, in order to better serve these young people (Lightfoot & LaLiberte, 2005; Rosenberg & Robinson, 2004; Sullivan & Knutsen, 2000; Zetlin, 2006).

Disability services.

Previous research has indicated that, given the categorical nature of services, social workers and service providers who work with youth with disabilities who are also in child welfare may be entirely unaware of what other services they are receiving or, at best, unaware of the particulars of those services (Altshuler, 2003; Geenen & Powers, 2007; Palladino, 2006; Zetlin et al., 2006). The categorical nature of public services in general only reinforces this disconnect. This is particularly troubling for youth with disabilities, as they are likely to be eligible for services and supports from multiple service systems but may not be equipped to negotiate the complex demands, eligibility requirements, and competing plans that multiple service involvement may entail. For youth with disabilities who have involved and supportive families, parents traditionally take on this role; for youth with disabilities in foster care, it is less clear whose responsibility this is.

The findings from this study indicate that the majority of youth with a disability diagnosis do access special education services and, through them, the transition planning that is legally mandated. As well, it seems that receiving special education may have some positive impact on youth's transition outcomes—youth enrolled in special education were 3.3 times more likely to receive an ETV and were 3.5 times more likely to remain enrolled in high school. Taken in combination with youth with disabilities' higher school attendance rate, it would seem that special education participation may somehow enhance youths' connection to school; perhaps due to smaller class sizes, more attention from teachers and aides, or because school is the conduit for many services these youth need. Previous research has found that child-

welfare-based and education-based independent living preparation may operate at cross purposes or without acknowledgement of each other (Altshuler, 2003; Geenen & Powers, 2007; Zetlin et al., 2006). However, given the strong connection that youth in this study seem to have school, it would make sense for interventions for youth with disabilities in transition from foster care to build on that connection and for the coordination of special education and child welfare services to be strengthened.

The findings from this study also raise questions about the integration of youth with disabilities in foster care into the general school environment and the larger school community. In Minnesota in 2004, 60% of children with disabilities were educated in the general education classroom at least 80% of the school day, meaning that they were integrated into the general education curriculum and environment in their school (Westat, 2006). In this study, only 28% of the youth who were receiving special education services were educated primarily in general education settings; 40% were educated primarily in special education classrooms, 16% were in separate schools (both public and private), 8% were in residential settings, and 3% were homebound. These findings indicate that youth in the child welfare system who have disabilities are often segregated from their peers in school settings. This is consistent with the literature on the educational experiences of foster youth in both special and general education—they are often isolated in highly restrictive environments (Zetlin, 2006) and do not have access to extracurricular activities, educational facilities, and meaningful opportunities to interact and bond with peers (Emerson & Lovitt, 2003; Zetlin, 2006). School personnel should take steps to ensure that all youth in special education, including foster

youth, be given every opportunity to participate in the life of their school community, make friends, and take advantage of every resource that the school has available.

Despite their high rates of special education involvement, there was little evidence of youth with disabilities in the sample being connected with public developmental disability services. About 12% of the disability sub-sample did receive developmental disability services, but the rest did not. Given that the majority of youth in the sample had an EBD or learning disability diagnosis, it is unlikely that they would qualify for these supports. In fact, many of them may not qualify for any disability-specific public adult supports. Therefore, it is critical that child welfare case workers who work with transition-aged youth identify private and nonprofit supports (e.g., Centers for Independent Living), as well as work with youth on self-advocacy strategies so that they are able to advocate for the accommodations that they need in order to be productive members of the adult workforce.

Research Question 2: Differences between older youth with and without disabilities in foster care.

Demographics and Disability.

Youth with disabilities in the sample were significantly more likely to be male, Native American, or Asian, and less likely to be Caucasian. This finding differs from those of both the NLTS-2, where members of the data set are majority Caucasian (Wagner et al., 2003), and OSEP's analysis of the racial breakdown of youth with disabilities in the U.S. in 2004, which found that youth with disabilities were most likely to be Native American, African American, or Hispanic (Westat, 2006). While the increased racial and ethnic diversity of the youth in the sample for this study is

reflective of the foster care population in general (Hill, 2006; McRoy, 2005), it is notable that the high representation of youth of color in the disability group in the sample is even more pronounced than for youth without disabilities. Previous research on disability and race has found different outcomes in this area—for example, Crosse et al. (1992) found that children with disabilities who had experienced maltreatment were more likely to be white, while Johnson-Reid et al. (2004) found that non-white children in child welfare had an increased likelihood of special education entry. There are many possible reasons for these discrepancies in findings, ranging from regional differences to variations in practice behaviors. Regardless, it is clear that future studies of racial and ethnic disparities in the child welfare system should be inclusive of youth with disabilities, and that any efforts to improve the cultural competency of child welfare practice should also be inclusive of disability knowledge.

The outcomes for youth of color in the sample were mixed. For example, the African American youth in the sample had poorer school completion outcomes, but were also more likely to receive an ETV and less likely to appear in the adult corrections system. This partially contradicts the commonly held belief that African American youth are less likely to attend college and more likely to end up in jail. The poor outcomes for Asian youth were both notable and surprising; in other research on both child welfare and special education Asian youth tend to be among the smallest numbers of youth at-risk (Minnesota Department of Human Services, 2010; Westat, 2006). However, in this study, they had a higher dropout rate than some of the other racial groups, and Asian youth with disabilities were 81% less likely to receive an ETV than their Caucasian peers. Perhaps the high proportion of Asian children and families

in the state who are recent refugee and immigrants from Southeast Asia, such as the Hmong, or people from Vietnam, Cambodia, or Laos (CASCW, 2007), skews the data somehow, or impacts the child welfare and educational experience of the Asian children in the sample. Racial disparities were not the focus of this study, but a young person's race and ethnicity is related to their adult outcomes, and must be considered as interventions are being considered, designed, and implemented. Future research on youth with disabilities in foster care and on older youth in out-of-home placement should further explore these questions, with a special emphasis on the experience of Asian youth in Minnesota in the child welfare system.

Child Welfare: Placements.

The findings from this study indicate that older youth in out-of-home placement experience higher rates of placement instability and longer stays in placement. This placement instability also was clearly linked with poor transition outcomes—higher rates of dropout and higher rates of adult correctional involvement. This is consistent with the literature that indicates that youth who experience placement instability are at higher risk for emotional, educational, mental health, and behavioral problems, as well as poorer adult outcomes (D'Andrade, 2005; Pecora, 2010). Thus, it is clear that child welfare workers and policy need to examine how to stabilize the child welfare experience for older youth, so that they are able to live in long-term placements, with caring adults and minimal disruptions.

All of the youth in the sample experienced a high rate of placement instability and long duration of placements, averaging five placements between turning 14 and aging out of child welfare, with the average placement being 23.5 months long.

However, youth with disabilities in the sample seemed to experience longer placements as well as a higher number of placements; they move more frequently, but stay in out-of-home care longer than youth without disabilities. Perhaps this can be attributed to the types of placements that they are in; the National Council on Disability (2008) found that youth with disabilities are more likely to be placed in group homes rather than with traditional foster homes. Other reasons may be the difficulties some foster parents report in caring for youth with disabilities, a lack of available supports for the youth and both their foster and biological families, and larger systems issues in providing care (Brown & Rodgers, 2009; D'Andrade, 2005; Rosenberg & Robinson, 2004). Clearly, this is an area for further research and thoughtful intervention.

Child Welfare: Permanency Planning.

The 1997 Adoption and Safe Families Act requires that caseworkers concurrently plan for youths' reunification with family as well as for their adoption (ASFA, 1997). However, only 60% of the youth in the sample had evidence of a concurrent plan in their child welfare records, despite this federal legal requirement. Of those youth who did have plans, there were significant differences between the plans for youth with disabilities and the plans for youth without a disability diagnosis. Youth with disabilities were more likely to have long-term foster care or adoption listed as their primary plan, while their non-disabled peers were more likely to have family reunification or living with other family members listed as their primary plan.

Taken together, these findings raise questions about the interaction of a young person's disability with their placement plans as well as their placement realities. Is there something about the family situations of youth with disabilities that precludes

reunification, such as a need for greater supports and services than families can provide on their own? Or perhaps the shortened timelines under AFSA prevent caseworkers from providing the needed supports to families of children with disabilities, precluding reunification (Humphrey et al., 2006). Or are the issues that these young people face seen as too complicated or difficult for their families to handle, in comparison to the issues faced by their non-disabled peers? Avery (2000) found that caseworkers' perceptions of the adoptability of children influenced their efforts at recruitment on behalf of that child. Could it be that caseworkers' perceptions of the challenges associated with rearing a specific child impact all areas of permanency planning? While the reality of the majority of youth in the sample is that they will age out of foster care, it is possible that further examination of their permanency plans would provide a window into their placement experiences, as well as their relationships with family and caseworkers, and help to identify areas for effective intervention.

Child Welfare: Independent Living Preparation.

The final child welfare indicator examined in this study was access to the state's independent living program, SELF. Only about 42% of the total sample participated in SELF. However, of the youth who did participate, youth with disabilities were only 80% as likely to participate as their non-disabled peers. While ILPs are not a "magic bullet," research has found that youth who participate in them have positive experiences and better outcomes (Anctil et al, 2007a; Lemon et al., 2004) than youth who do not participate. This raises the question, why are youth with disabilities, who face multiple challenges to a successful transition, not accessing this program? Some research has indicated that some caseworkers believe that youth with disabilities will receive

transition services from other sources, usually special education (Geenen & Powers, 2006; Hill et al., 2010). However, given the poor adult outcomes of youth with disabilities in the general population (Wagner et al., 2003), it would seem that additional support for these particularly at risk youth would be appropriate. An alternate explanation may be a persistent belief that youth with disabilities do not need transition services because they will not ever live independently, and will instead be supported through public programs. If this is the case, then it identifies a critical need to educate workers, foster parents, and other stakeholders about young people with disabilities' right to experience independent living, self-determination, and a productive and engaged adult life.

Educational Mobility and School Disruption.

It is well documented that youth who are aging out of foster care face many challenges to their educational success (Geenen & Powers, 2007; Goerge et al., 1992; Zetlin, 2006), including higher educational mobility and more disruption to their academic careers, high rates of truancy and poor academic progress (Christian, n.d.), and less connection with extracurricular activities and educational support programs (Emerson & Lovitt, 2003; Zetlin, 2006). The findings of this study support these general findings; for example, 17% of the youth in foster care were in residential treatment at some point in before leaving school, 10% were in juvenile corrections, and 17% experienced educational mobility. One of the most unexpected findings of this study was the high rate of attendance at school of all of the youth in the sample. Given the poor school completion outcomes, as well as the high rates of placement instability and educational mobility, it seems surprising that youth (both with and without disabilities)

are generally attending school. This may be attributed to any number of things, ranging from a strong sense of connection with school on the part of the youth, institutional placements requiring and ensuring school attendance, or faculty attendance-taking at a given school. If, young people who are aging out of care are actually attending school, this provides policymakers and practitioners a unique opportunity to reach these youth, to provide them with comprehensive services, and to locate supportive, caring adults within the schools who can work with them throughout high school to prepare them for adult life.

In a less positive finding, youth with disabilities were 1.4 times more likely to be in juvenile corrections while they were in school than their non-disabled peers. This fits with NLTS-2 findings that youth with EBD (which make up over 50% of the disability sample in this study) are overrepresented in the correctional system. Indeed, both youth aging out of foster care in general and youth with disabilities in the general population (Courtney & Dworsky, 2005; Reilly, 2003; Quinn et al., 2001) are overrepresented in corrections; thus it is sadly not surprising that youth with disabilities who are aging out of care are overrepresented in this area.

Research Question 3: Transition outcomes.

Poor outcomes for all youth aging out of care in Minnesota.

Although the focus of this study was on youth with disabilities and their transition from foster care, it is important to note that outcomes for all of the youth in the study sample were poor. Only 28.9% of the total sample graduated from high school, while 12.7% dropped out. The remaining 58.4% of the youth in the sample neither graduated nor dropped out, they simply continued to be enrolled in school, often

well past the age of 19. Youth in the sample were only slightly more likely to receive an ETV than they were to enter into adult corrections. The youth in the sample experienced high mobility during adolescence, both in their out-of-home placements and in their educational experiences. They were also placed in juvenile corrections (10.7%) and residential treatment (17.4%) in very high numbers. These outcomes are consistent with the findings of other studies of transition-aged youth (e.g., Courtney & Dworskey, 2005; Reilly, 2003), and further underscore the importance of identifying successful, effective interventions that provide youth who are in long-term out-of-home placements the best opportunities to develop the skills, resiliencies, and resources needed in order to live successful adult lives.

Education: Poor School Completion Rates.

As noted above, the school completion rates for all of the youth in the sample were poor. Over half the sample seems to “age out” of school, neither graduating nor dropping out. While continued enrollment in school is positive, it is questionable if enrollment until aging out without a diploma is also positive. Thus, further research into this phenomenon is needed. What does it mean to youth to remain enrolled in school until they age out of it? How does continued involvement in the school system help them prepare for adult life? Is it possible that schools are deciding to maintain these young people’s enrollment in school due to the lack of other services for them? Perhaps youth are kept in school in order to facilitate their social and educational development and maintain connections to school-based services. Does the constant educational disruption faced by youth in out-of-home placement (Altshuler, 2003;

Zetlin, 2006) slow their educational progress to such a degree that they simply “age out” of school before they are able to graduate?

As discussed above, youth who participated in the SELF program had lower rates of graduation, for both the disability sub-group as well as for the full sample. This raises questions about the purpose and efficacy of SELF. While it is not school-based, it is undisputed that successful school completion is a key transition outcome (Altshuler, 2003; Courtney & Dworskey, 2005; Zetlin, 2006) and clearly would be a goal for any SELF participant. Perhaps the youth who participate in SELF are at higher risk to begin with; thus their dropout rates, for example, would be even higher if they did not participate in the program. This theory is supported by Anctil and colleagues (2007a) hypothesis that only participants with the most significant impairments and barriers to success are referred to independent living services. However, given that youth with disabilities, who are clearly at high risk for poor outcomes, are less likely to access SELF, this is not a complete explanation, if it is one at all. The efficacy and impact of SELF need to be evaluated, so that it can best serve the youth it is intended to reach.

The school completion findings also indicate that while all of the service areas contribute to a youth’s educational trajectory, the variables related to child welfare (length and number of placements, SELF participation) had a larger impact than the education variables on the youth’s school completion. This was the case for both the youth with the disabilities and the entire sample. Perhaps, as is also suggested by some previous research (Humphrey et al., 2006; Pecora, 2010; Vacca, 2008), focusing on

providing young people in out-of-home placement with more stable and secure placements could have a positive impact on educational outcomes.

For youth with disabilities, the disability service variables were also found to have a larger effect size than either of the other two service blocks. This may be due to the young people's diagnosis (e.g., Wagner and colleagues [2005] found that youth with emotional/behavioral diagnoses had markedly different dropout and graduation rates than their peers with developmental disabilities), or because of the impact of the additional supports available through special education and developmental disability services, or some other reason, as yet undiscovered. Regardless, it clearly points to areas for future research, including further investigation of the impact of disability and disability services on school completion, why educational variables played a less significant role, and how child welfare interventions can be tailored to improve educational outcomes.

Education: Low Rates of Postsecondary Education.

Receipt of an ETV was used in this study as a proxy measure for youth accessing some kind of postsecondary education. Findings indicate that a very, very low number of youth in this study received this scholarship, and even fewer youth with disabilities did. Youth who received an ETV were less likely to have a disability, more likely to be African American, and more likely to experience longer out-of-home placements. Youth with disabilities who received an ETV were less likely to be Asian and more likely to be enrolled in special education. The findings could suggest that youth with disabilities who are in special education may be more connected with school or with school-based supports that might steer them towards postsecondary educational

opportunities, such as the ETV. This is supported by the fact that the regression model containing the disability services “block” had the largest effect size for the disability subgroup. The low rate of usage of the ETV overall indicates that youth who are aging out of foster care are not accessing postsecondary education and training, or at least the public supports for it, and that this is particularly true for youth with disabilities. This is congruent with previous research on both populations (Courtney & Dworskey, 2005; Wagner et al., 2005), and points to an area that is much in need of improvement.

High Rates of Incarceration.

Unfortunately, participation in the correctional and justice system is one of the most common outcomes for youth aging out of foster care (Courtney & Dworskey, 2005; GAO, 2004; Massinga & Pecora, 2004), as well as for youth with disabilities (Quinn et al., 2001; Wagner et al., 2005). The findings from this study support other research, even given the limitation that the adult corrections data used in this study was not inclusive of data from surrounding states. Youth who were in adult corrections were more likely to have a disability and less likely to be African American. They had experienced shorter placements, perhaps indicating that they had more disruption in their living situations. Youth with disabilities who were in adult corrections had very similar predictors. Johnson-Reid & Barth (2000) found that youth who had experienced multiple placements were at a higher risk for incarceration during adolescence. Given the high number of placements experienced by all of the youth in this sample and especially those with disabilities, the high rates of incarceration are sadly to be expected. The effect size analysis indicated that all of the service blocks have a strong

impact on youth involvement in adult corrections, meaning that policy interventions in this area should take a collaborative, multi-system approach.

Unknown outcomes.

A striking finding from this research is the fact that outcomes for so many of the youth in the sample are simply unknown. Employment outcome data were not formally included in this study; however, informal analysis of employment data from the Minnesota Department of Employment and Economic Development (DEED) indicated that youth in the sample who have aged out of foster care experience low rates of employment and low earnings. Of all the youth over age 18 in the sample, 11% (239) were employed full-time (twenty hours a week or more), and 18% (391) were employed part-time, or less than twenty hours a week, after turning 18. This is consistent with existing research on youth aging out of care (Collins, 2001; Courtney & Dworskey, 2005; Massinga & Pecora, 2004; Reilly, 2003) which indicates that youth leaving foster care are often unemployed or underemployed. Thus, 71% of the youth were unemployed during the study period; since only 6% of the sample were in either corrections or postsecondary education, this leaves 65% unaccounted for. Undoubtedly, many of the youth with unknown outcomes in this sample are enrolled in postsecondary education or training and not using ETVs or are incarcerated in another state; however, many of them are probably unemployed as well as not enrolled in any kind of education or training. Thus, the question remains, what happens to youth who are aging out of foster care in Minnesota? Where do they go? What other services are they accessing? How are they supporting themselves?

The fact that so many of the youth in the sample seem to “disappear” points to several structural data system problems highlighted by this study, including missing data in administrative data systems, lack of data sharing among stakeholder systems, and data integration. As previously discussed, missing data is a problem in most secondary data sources (Rubin & Babbie, 2008; Smith, 2008), and is a specific problem in this research. The lack of a single identifying number or code for each youth further complicates tracking of youth across data systems, as do existing privacy laws (Altshuler, 2003; Van Wingerdon, Emerson, & Ichigawa, 2002; Zetlin et al., 2004). Currently, there is not a unified way to track youth between systems, either within the state or nationally. Thus, if a youth is missing from a given system, there is no reliable way to determine if they are not included because they do not qualify for those services, if they are receiving them in another location or state, or if either random or systematic error is masking their involvement or lack of involvement. Until administrative systems can reliably be utilized for the kind of cross-systems research necessary to determine child outcomes and improve services (Courtney, 2000), it will remain difficult to truly understand how systems and systems collaboration impact these children’s lives.

Key Findings and Summary

Most of the findings of this research were supported by the previous literature, including the overall poor outcomes for youth aging out of care, the high number of youth with disabilities in juvenile corrections and residential treatment, and the levels of placement instability and educational mobility and their negative effect on the youth in the sample. However, several findings were unexpected and call for further investigation. First among these were the especially poor outcomes for Asian youth in

the sample, particularly Asian youth with disabilities. It is unclear from this analysis how to understand this finding—it could be due to the specific experiences of Asian youth in Minnesota, or to peculiarities of the sample, or to some kind of statistical or random error, or perhaps it is indeed reflective of the experience of Asian youth in out-of-home placement in the state. Clearly, it needs to be further investigated.

Another striking finding of this research was the very high prevalence of youth with disabilities in the sample and, among those youth, the high prevalence of youth with EBD. This finding was not unexpected, as previous research has identified the high prevalence of disability and of certain types of disabilities among youth in foster care (Altshuler, 2003; Anctil et al., 2007a, 2007b; Sullivan & Knutsen, 2000).

However, the high numbers were unexpected.

Third, the negative relationship between SELF participation and adult outcomes is an area for future investigation. Previous research has indicated that participation in ILPs is generally positive for youth (Lemon et al., 2004; Sherr, 2007); however, that did not appear to be the case in this study.

Fourth, the ongoing connection to schools, as evidenced by the long enrollments past the age of 19, as well as the high attendance rates was unexpected.

Finally, the school completion data was inconclusive. It is clear that youth in out-of-home placement are dropping out of school in large numbers and graduating at comparatively low numbers; however, teasing out the nuances of school completion and the relative impact of disability, demographic characteristics, and service involvement remains difficult.

Limitations

Limitations to the findings of this research must be kept in mind in interpreting and generalizing the findings. Limitations more broadly related to the use of secondary data—including missing data, the reliability and validity of secondary data in general, and the ethics of using secondary data—are discussed in greater detail in the Methods chapter above. This section will focus on limitations specific to this study in the areas of research design, data preparation, sample selection, and analysis and interpretation.

Research Design/Secondary Data.

Using secondary administrative data for research brings with it some very specific challenges to the generalizability of the findings. Administrative data are collected for program accountability, tracking service usage, or monitoring equatliy of access; they are not collected for research purposes. Thus, using administrative data for research purposes brings with it some specific challenges. Specific to this data set, these include the variability in the data reporting methods of multiple sources, the “missing” data on youth as they age out of systems, the lack of information about pertinent systems of care, and a lack of detailed information about interventions. Prior studies that have used Minn-LInK have pointed to the high rates of variability in data reporting in administrative data (see, for example, Larson 2006; Larson & Jefferys, 2006); Minn-LInK data varies county to county, school to school, worker to worker. In this particular study using data across five separate systems, each with slightly different ways of collecting, reporting, and organizing data, magnifies this variability. This variability forced the researcher to do a lot of data cleaning and also to create new variables by combining, collapsing, computing, and deleting from among the available

data. Needless to say, this greatly raises the risk of error in the findings.

A second limitation of the findings of this study is the fact that so much information is simply missing from the administrative data. Key among these missing data are information about what happens to youth after they leave public child welfare; for example, if they do not appear in the adult corrections system in Minnesota, this does not mean they would not appear in adult corrections in some other part of the country. Their absence from the available data does not necessarily mean that they are absent from the outcome. They may be experiencing the outcome (e.g., adult corrections, postsecondary education) in another state or through a private system that is not part of the data used in this study.

Finally, the data used in this study do not reflect detailed knowledge about many aspects of the young people's lives. Rather, they reflect the bare bones of what is required and provided by public agencies—important interventions may only be partially reflected, or absent entirely. For example, research indicates that connection to a caring adult is a key component to a successful transition for any youth (Packard et al., 2008), but the presence or absence of such a relationship is in no way reflected in this data set. Other missing areas might include other sources of social support, resources in local communities, and other resources which might help these youth thrive under the most challenging of circumstances.

Data set preparation.

In order to prepare the data set for analysis, a lengthy “data cleaning” process had to be undertaken, as the multiple sources of data were matched, variables were collapsed, and new variables were completed. This process, while necessary in order to

prepare the data for analysis, did impact the reliability of the data set, as it increased the risk of error through data entry, miscalculation, or other human mistakes. As well, the validity of the findings may have been impacted, as the researcher was forced to create variables to measure certain key indicators out of data that were not collected to measure that specific indicator (e.g., using the education “status end code” of juvenile corrections in order to measure all juvenile corrections involvement). While the created variables are certainly a reasonable proxy measure, it is important to keep in mind that they were created in order to complete this analysis from data that was not collected for research purposes.

Sample.

The sample for this study is comprised of youth identified in Minnesota’s SSIS data system as: having turned age 17 while in foster care; being in out-of-home placement at any time during 2006, 2007, or 2008; and being in care for 32 days or more. One issue with this method of creation of the sample was that one-third of the youth were only 18 or 19 years old at the end of the available data. This group was included in the final analysis, because to omit them would cut the sample size by almost one-third. However, it certainly impacted the adult-outcomes-related findings of the sample; it is simply not reasonable to expect 18-year-olds to be at the same point in their employment trajectories as the older youth who were also in the sample. Thus, the presence of this younger group may have negatively skewed the sample towards higher rates of unemployment or underemployment and higher rates of continued school enrollment.

A second limitation of the sample used in this study is that it consists of youth from a single state. There may be geographic or regional influences that influence the findings, such as specific regional demographic trends, state and local policy initiatives, or local norms of service provision. Thus, the findings must be interpreted with caution.

Conclusions

The findings from this study indicate that all youth aging out of foster care in Minnesota experience disrupted child welfare and educational experiences, frequently interact with other systems of care and intervention, and are at high risk for poor adult outcomes. Youth with disabilities who are aging out of foster care experience all of these disruptions and interactions at even higher rates and experience even poorer adult outcomes. Thus, it is imperative that practitioners and policymakers take a proactive approach in intervening in these systems, so that all youth may have a fair opportunity to lead healthy, stable, and productive adult lives.

Chapter 6: Implications

As an exploratory study, this research raises many questions, as well as beginning to provide explanations and hypotheses. It is clear that the experience and outcomes of youth with disabilities in the child welfare system in general and in foster care and foster care transition in particular is a highly under-studied area. However, implications for practice and policy can be identified, as well as areas for further study and analysis.

The findings of this study lend support to the conclusion that the breadth and complexity of issues facing all youth as they age out of foster care, but especially youth with disabilities, can be very challenging. There is competition for scarce resources and funding, competing and complex demands on workers in all agencies, and an ever-changing service environment (Altshuler, 2003; Palladino, 2006; Zetlin et al., 2006). The findings of this study in no way are meant to imply that public workers are not working hard or doing their best. Instead, they are meant to underline the steep challenges and multiple barriers faced by these workers, the youth with whom they work, and their families.

Having acknowledged the challenges faced by the many stakeholders in youth transition, it is also important to face up to the reality that the outcomes for youth aging out of out-of-home care in Minnesota are simply unacceptable. We have a moral responsibility to do better by our children; if the state must step in to ensure that children have their physical, emotional, social, and educational needs met, then it must ensure that the actual interventions provided to meet those needs are successful. No one

takes intervention into family lightly; however, it is clear that serious examination of the services provided must be undertaken. Youth with disabilities are overrepresented in out-of-home placement, and have worse outcomes than their non-disabled peers, who also have very poor outcomes. The time has come for improvement and change.

Practice Implications.

The implications for social work practice from this study are broad and touch practice at multiple levels, including front-line work, management, and education and training.

First, it is clear that youth with disabilities comprise the majority of youth aging out of care. Vacca (2008) calls on child welfare agencies to make education a priority, while Kennedy & Morton (1999) argue that educators need to make foster youth and at-risk students more of a priority. Given their high prevalence among youth in the child welfare system, it is reasonable to recommend that case workers, independent living coordinators, and others who work with youth in the child welfare system increase their knowledge of disability services, supports, and policies. Conversely, teachers and school personnel should receive training about child welfare, foster care, and the unique challenges faced by young people in out-of-home placement. Emerson and Lovitt (2003) suggest that many teachers may discount or ignore foster youth, thinking that they are a “lost cause”; clearly, this notion must be challenged and changed.

Second, the negative relationship between transition outcomes and high placement instability and duration clearly indicates that placement stability is ripe for intervention. How can the child welfare system and individual agencies and workers provide greater stability for older youth in care, especially youth with disabilities? What

trainings and supports can be put into place to support foster and biological parents of older youth in foster care, especially those with disabilities? Providing these supports may lead to more stable placements and to more home-based placements, rather than those that take place in institutional settings, which some research has suggested is detrimental to a youth's preparation for emancipation (Barth 2002; Zetlin et al., 2006). Foster parents and caregivers for older youth need both formal and informal supports, including mentoring and training, financial supports, respite care, and informal links with others in similar kinds of families. Child welfare workers and supervisors should make enhancing placement stability a high priority.

Third, despite high education mobility and poor educational outcomes, the youth in the study had relatively high rates of school attendance, and many continued to attend school beyond the compulsory age. Thus, it appears that there is a connection made between these youth and school, whether it is with their classmates, their teachers, or the services that they receive through their school. This connection provides an opportunity for all practitioners with a stake in the youth's outcomes; it is a place to build upon, to provide more services and to link to ongoing supports. Child welfare workers and managers should make every effort to work through the education system in order to improve the outcomes of the youth in their care. Education-specific supports (e.g., tutoring), emotional supports (e.g., mentoring) and broader support systems could all be school-based (Altshuler, 2003).

However, youths' strong attachment with school must be considered in light of their poor school completion outcomes. Why, if they are attending school regularly, are they not graduating at higher rates? Are they victims of low expectations, poor

planning, lack of access, or some other barriers to educational achievement (Zetlin et al., 2006)? Does the lack of collaboration between child welfare and educational providers (Altshuler, 2003; Palladino, 2006) simply become too great a barrier to overcome for most youth? Part of building stronger school-based services and supports for youth in the child welfare system must be a central commitment to accountability and evaluation, so that interventions can be consistently improved and youth are doing more than just “showing up”, but are instead being effectively prepared for adult life.

Fourth, the apparent link between the SELF program and poor school outcomes calls for further examination and intervention. It is unclear if this connection can be attributed to the sample of youth who are recruited to the SELF program or to the program itself; however, it is critical that individuals who work with transition-aged youth are focused on providing services that lead to successful adult outcomes. Thus, the SELF program should be carefully evaluated, so that the elements that are most successful can be replicated and those that are not can be eliminated or improved.

Fifth, and perhaps most importantly, services for at-risk youth should move from a categorical to a more integrated and collaborative approach. Youth in foster care are also youth with disabilities and youth of color and youth interfacing with corrections, treatment, and many other services. Simply focusing on a single facet of their needs will not lead to the improvements in outcomes that these youth deserve. Practitioners at all levels of practice should be trained, encouraged, and supported in working collaboratively, sharing resources, knowledge, and ideas in order to help youth achieve better adult outcomes. This could be accomplished in a number of ways, ranging from cross-training to co-locating service agencies, improving record and data

sharing, identifying a transition or educational liaison (Zetlin et al., 2004), creating specialized child welfare/special education teams (Rosenberg & Robinson, 2006), and creating stable mechanisms for resource-sharing, such as multi-agency case conferences. Clearly, none of these changes will come easily; however, the poor outcomes of youth with disabilities as they age out of foster care demands them. A collaborative approach might help to address this issue, as it would sharpen the focus on the needs of youth, rather than on the needs of systems.

Sixth, this study highlights many of the challenges to collaborative work faced by youth workers and youth-serving systems. The lack of shared information, shared data systems, and consistent data entry; multiple definitions (for example, of disability); multiple points of entry; and competition for scarce resources all contribute to an situation that makes successful collaboration almost impossible (Altshuler, 2003; Geenen & Powers, 2006; Palladino, 2006). However, the findings from this study also underline the fact that many youth at risk for poor adult outcomes are eligible for and may, in fact, be receiving services from multiple systems of care. Until workers, managers, and administrators can communicate clearly and easily across systems with all of the stakeholders in a young person's life, it is unlikely that youth's outcomes will be transformed by service involvement. One way to facilitate inter-agency collaboration could be the creation of a point person or team to coordinate the transition of youth with disabilities in foster care (Rosenkoetter, Hains, & Dogaru, 2007; Zetlin et al, 2006). This position should be funded and have the authority to call meetings and coordinate the care needed in order to ensure the best possible outcomes for the young person. This person or team would monitor the sharing of records and information;

organize meetings of all concerned stakeholders; coordinate the flow of information to the school, child welfare agency, and other supports; and work with the youth in order to determine the best possible path to their desired adult outcomes.

Policy Implications.

There are multiple federal policies that address the transition needs of youth in foster care and the transition needs of youth with disabilities (Fernandes, 2008; Hill, 2009). However, the categorical nature of these programs often leads to multiple, conflicting streams of services and perpetuates the lack of service collaboration. There is not a need for new policies per se; instead, existing policy could be adapted to mandate collaboration among youth-serving public systems. This collaboration could be supported by laws which eased data-sharing and tracking of youth among systems, so that special educators, child welfare workers, and other youth-service providers could easily share information and resources with each other, rather than being unable to ascertain what is being provided for each young person across systems.

Next, the education literature consistently cites record sharing and data privacy as one of the key barriers to effectively serving youth with disabilities in foster care (Altshuler, 2003; Van Wingerdon, Emerson, & Ichigawa, 2002; Zetlin et al., 2004). When schools and child welfare agencies are not able to share information about youth, their service needs, and their history in an efficient and timely manner, the young person is negatively impacted, as it becomes increasingly difficult for them to receive the education and services they need. Thus, policymakers should actively work to improve data tracking and sharing between the systems that work with these young people. School records need to travel smoothly and efficiently, data needs to be shared

among systems, and youth need to be able to be connected to appropriate and needed services in a timely fashion (Foster et al., 2005). The use of a single identifier across systems would be a useful tool in achieving this goal of seamless data sharing. The purpose of privacy laws is to protect children, but if they are preventing appropriate care then they are not helping children at all (Altshuler, 2003). As they stand now, the responsibility for data sharing lies on the child, rather than on the system, as the child is the only individual who is able to access all of the information. Clearly, this is not an effective or efficient approach.

Third, policymakers would be well served by reemphasizing the accountability and evaluation measures for transition programs. Both IDEA 2004 and the Chafee Program call for formal evaluation of transition services and tracking of outcomes for youth who receive those services; however, the implementation of these national evaluations has been slow-moving at best, particularly for child welfare programs. Quality evaluation data will help to lead to critical program and service improvements (Zetlin et al., 2006). On a related note, policymakers should recognize the efficacy of administrative data for policy research. While it has limitations, it also is available, convenient, and reflective of what is actually being done in agencies (Hotz et al., 1998; Smith, 2008). Thus, as expectations are outlined for policy research and evaluation, it would be advisable to build using secondary data into these.

Fourth, policymakers must begin to see youth with disabilities who are aging out of foster care as a priority. The high numbers of youth with disabilities aging out of foster care in this sample also indicate a greater need for child welfare case workers to receive mandatory training in disability, disability services, and disability policies.

Similarly, special educators and school personnel need to have a greater understanding of the child welfare system and the challenges faced by youth in that system. As well, public policy at all levels (agency, local, state, federal) needs to support service collaboration through a greater recognition of multiple service eligibilities, enhanced accountability measures, and greater opportunities for stakeholder and other systems involvement (Foster et al., 2005). Finally, evaluations of program serving youth aging out of foster care can not, in good conscience, exclude youth with disabilities from the sample or the services, as they make up such a large number of the total population.

Areas for Further Research.

The findings of this study raise many areas for future research and evaluation. These range from evaluation of the efficacy existing programs and interventions, to the development of new models of intervention, to research to address many of the gaps in the existing knowledge. These areas include program evaluation as well as quantitative and qualitative research. For example, further evaluation of the interventions and programs targeted at youth transition is needed. It is clear that there is much to be learned about how programs and services for youth with disabilities in transition from foster care are implemented. For example, why is youth participation in the SELF program linked with worse school outcomes? This may be due to the population of the youth who are targeted by the program or to weaknesses in the program structure, or to some unintended consequence of program participation. Regardless, it is clear that a better understanding of the relationship between SELF and school completion is in order. Similarly, further evaluation of the impact of specific interventions that may

enhance permanency or ease transition among systems would contribute to our understanding of the logistics of youth transition.

Next, what are the non-public services and supports utilized by youth with disabilities as they age out of foster care? There is a web of services and supports available to youth with disabilities that are not publically administered, such as Centers for Independent Living, Goodwill Industries, or the ARC. Are youth with disabilities who are aging out of foster care accessing these agencies? Why or why not? How can public child welfare and education organizations work collaboratively with private and nonprofit organizations in order to make the best use of the scarce resources available? Similarly, there are many other public service systems that are not included in this study which likely directly impact the lives of youth with disabilities as they age out of foster care, including the public cash and food assistance programs, housing supports, homeless shelters, and health care providers. Inclusion of data from these systems would greatly enhance our understanding of the experience of youth with disabilities as they age out of foster care. Finally, other outcome areas also should be included in future research, including employment, such as wage data, types of employment, and analysis of full- and part-time work and access to benefits; corrections, including data from surrounding states; and postsecondary education and training, including a more complete study access to these.

Third, a small number of youth who are aging out of foster care succeed—they go to college, find full-time employment, and become productive and engaged citizens. What can be learned from their experiences? How can existing programs replicate the

factors that have contributed to their resiliency? An analysis of their strengths and resources may make important contributions to both practice and policy interventions.

Fourth, how does disability diagnosis impact a youth's experience in child welfare, special education, and adult life? For example, are there significant differences among youth with EBD and those with developmental disabilities? How could services and supports be tailored to the specific needs and experiences of youth with specific disability-related needs?

Fifth, what does it mean when youth spend extended amounts of time in school, but do not formally leave the system? The findings from this study indicated that many youth in out-of-home placement experience a lengthy school enrollment but do not formally complete school. Gaining a better understanding of this phenomenon could be very valuable at many levels or practice and policy. Why do youth remain enrolled? Who is making the decision to keep them enrolled? How can their connection to school be capitalized on to enhance adult outcomes?

Sixth, using administrative data sets for policy research has been identified as an effective method of policy research and evaluation (Hotz et al, 1998; Johnson-Reid & Drake, 2008; Smith, 2008). This study both supports this assertion and points out many of the challenges to using administrative data. Although they are powerful tools for assessing collaboration and patterns of service use, use of administrative data sets are complicated by missing or inaccurate data, challenges in matching across data sources, and gaps in the data collected. Thus, future research using administrative data sets, while critical, should be paired with research using other methods, such as surveys,

interviews, and focus groups, in order to fill in gaps and expand understanding beyond the limits of the administrative data sources.

Finally, there is a significant body of literature that indicates that connections with stable, caring adults are a key component of adolescent success (Charles & Nelson, 2000; Furstenberg, et al, 1999; Kessler, 2004; Packard et al., 2008); however, this study does not meaningfully examine or acknowledge the presence or absence of these relationships. Therefore, future research should make every attempt to begin to document both the efforts and outcomes to support youth in making connections with adult role models and mentors as well as with broader communities.

Conclusions

The findings from this study are exploratory and the implications from these findings should be interpreted merely as suggestions and ideas—clearly, there is much still to be learned about how to best support youth with disabilities as they transition to adult living after aging out of foster care. As a society, however, we must become more inclusive of youth with disabilities in all areas. Specifically, a more universal and inclusive approach to services, supports, and policies may help all youth-serving systems better prepare the youth in their care to achieve successful and integrated adult lives.

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**Appendix 1:
Table 3-1: Study Variables**

	Variable	Categories	Coding	Data Source
Demographics	Gender	Male Female	0=Male 1=Female	Child Welfare
	Race	Caucasian African American Indian/Alaskan Native Asian	0=all others 1=Caucasian 0=all others 1=African American 0=all others 1=Native American 0=all others 1=Asian	Child Welfare
	Ethnicity	Non-Hispanic Hispanic	0=Non-Hispanic 1=Hispanic	Child Welfare
	Location	Metropolitan Micropolitan Non-Core	0=all others 1=Metropolitan 0=all others 1=Micropolitan 0=all others 1=Non-core	Child Welfare (county of placement)
Disability	Disability	No Disability Diagnosis Disability Diagnosis	0=No 1=Yes (Disabled)	Education
	Primary disability diagnosis	Autism Developmental Disabilities (mild, moderate, and severe) Emotional Disturbance Learning Disability Misc. (Orthopedic, Sensory, Speech/Language, TBI, 504 plan)	0=all others 1=Autism 0=all others 1=Developmental Disabilities 0=all others 1=Emotional Disturbance 0=all others 1=Learning Disabilities 0=all others 1=Misc.	Education
	Special education-	Is not receiving special	0=No special education	Education

	<u>Variable</u>	<u>Categories</u>	<u>Coding</u>	<u>Data Source</u>
	status	education Is receiving special education	1=Special education	
	Special education-setting	Majority in regular classroom Special education in resource room or separate classroom Special education in separate school (public or private) Special education in residential facility (public or private) Homebound or hospital services	0=all others 1=Majority in regular class 0=all others 1=Majority in separate classroom 0=all others 1=Majority in a separate day school 0=all others 1=Majority in residential facility 0=all others 1=Homebound/hospital	Education
	Developmental Disability services	Did not receive DD services Received DD services	0=Did not receive 1=Did receive	Department of Human Services-DD Division
Child Welfare	Type of alleged child abuse/neglect	Neglect/Medical Neglect Physical Abuse Sexual Abuse Physical Injury	0=all others 1=Neglect/Medical Neglect 0=all others 1=Physical Abuse 0=all others 1=Sexual Abuse 0=all others 1=Physical Injury	Child Welfare
	Number of placements	Continuous Variable	Continuous Variable	Child Welfare
	Length of placement	Continuous Variable (unit=days)	Continuous Variable	Child Welfare
	SELF services	Did not participate in SELF program Did participate in SELF program	0=Did not participate 1=Did participate	Child Welfare
	Permanency plan-	Reunification	0=all others	Child Welfare

	<u>Variable</u>	<u>Categories</u>	<u>Coding</u>	<u>Data Source</u>
	primary plan	<p>Relatives (non adoption)</p> <p>Adoption (relatives and non-relatives)</p> <p>Independent Living</p> <p>Long Term Foster Care</p> <p>No plan identified at this time</p>	<p>1=Reunification</p> <p>0=all others 1=Relatives</p> <p>0=all others 1=Adoption</p> <p>0=all others 1=Independent Living</p> <p>0=all others 1=Long Term Foster Care</p> <p>0=all others 1=No plan identified at this time</p>	
	Evidence of concurrent planning	<p>There was one permanency plan noted for the youth</p> <p>There were two permanency plans noted for the youth</p>	<p>0 =One permanency plan</p> <p>1=Two plans</p>	Child Welfare
Education	Attendance ratio	<p>Continuous variable</p> <p>Calculated from the number of days student attended school and the total number of school days in a given academic year</p>	Continuous variable	Education
	Mobility	<p>The student was coded as experiencing educational mobility</p> <p>The student was not coded as mobile</p>	<p>0=Not mobile</p> <p>1=Mobile</p>	Education
	Juvenile corrections	<p>The child was not coded as enrolled in a school in a juvenile corrections facility</p> <p>The child was coded as enrolled in school in a juvenile corrections</p>	<p>0=No juvenile corrections</p> <p>1=Juvenile corrections</p>	Education

	<u>Variable</u>	<u>Categories</u>	<u>Coding</u>	<u>Data Source</u>
		facility		
	Residential treatment	The child was not coded as leaving school for a residential treatment facility The child was coded as leaving school for a residential treatment facility	0=No residential treatment 1=Residential treatment	Education
Outcomes	Graduated high school	The child did not graduate from high school The child did graduate from high school	0=Did not graduate 1=Did graduate	Education
	Dropped out high school	The child did not drop out of high school The child did drop out of high school	0=Did not drop out 1=Did drop out	Education
	Enrolled over the age 19	The child was still enrolled in high school at age 19 The child was coded as leaving school by age 19 (either graduate or dropout)	0=Did not linger 1=Lingered	Education
	School completion	Dropout Linger Still enrolled, under 19 Graduate	1=Did drop out 2=Lingered 3=Still enrolled 4=Graduated	Education
	Participated in postsecondary education/training	The child did not receive the ETV The child did receive the ETV	0=Did not receive 1=Did receive	Child Welfare
	Adult corrections	The youth is not involved with adult corrections The youth is involved with adult corrections	0=Not involved 1=Is involved	Adult Corrections (Public Record)

**Appendix 2:
Table 3-2: Variable Definitions**

	<u>Variable</u>	<u>Definition</u>	<u>Data Source</u>
Demographics	Gender	Coded male or female in SSIS data	Child Welfare
	Race	Race codes in SSIS data	Child Welfare
	Ethnicity	Ethnicity codes in SSIS data	Child Welfare
	Location	<p>“Metropolitan and micropolitan statistical areas (metro and micro areas) are geographic entities defined by the U.S. Office of Management and Budget (OMB) for use by Federal statistical agencies in collecting, tabulating, and publishing Federal statistics....A metro area contains a core urban area of 50,000 or more population, and a micro area contains an urban core of at least 10,000 (but less than 50,000) population. Each metro or micro area consists of one or more counties and includes the counties containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core.”</p> <p>http://www.census.gov/population/www/metroareas/metroarea.html</p>	Child Welfare (county of placement)
Disability	Disability	Special education codes for disability.	Education
	Primary disability diagnosis	Autism Developmental Disabilities (mild, moderate, and severe) Emotional Disturbance Learning Disability Misc. (Orthopedic, Sensory, Speech/Language, TBI, 504 plan)	Education
	Special Education-Status	Is the child receiving special education services through school?	Education
	Special Education-Setting	The categories are provided in the education data system	Education
	Developmental Disability Services	The youth was coded as receiving developmental disability services through the Department of Human Services.	Department of Human Services- DD Division

	<u>Variable</u>	<u>Definition</u>	<u>Data Source</u>
Child Welfare	Type of alleged child abuse/neglect	Type of alleged child abuse/neglect categories provided by SSIS	Child Welfare
	Number of Placements	Counted the number of placements (Placement ID Codes) in SSIS for each youth	Child Welfare
	Length of Placement	Length of each placement was computed using SSIS data	Child Welfare
	SELF Services	Did the youth receive any SELF services? This was coded from SSIS data.	Child Welfare
	Permanency Plan- Primary Plan	What was coded as the primary permanency plan in SSIS?	Child Welfare
	Evidence of Concurrent Planning	At least two permanency plans were listed for the youth in the SSIS data.	Child Welfare
Education	Attendance Ratio	Calculated from the number of days student attended school and the total number of school days in a given academic year in education data.	Education
	Mobility	Students were coded as mobile if they had residential district moves AND status end codes indicating residential moves	Education
	Juvenile Corrections	Was there a “juvenile corrections” status end code included for the youth at any time in their secondary school enrollment?	Education
	Residential Treatment	Was there a “residential treatment” status end code included for the youth at any time in their secondary school enrollment?	Education
Outcomes	Graduated High School	The youth was coded as graduating from high school (either by meeting standard requirements or on an IEP) in MAXIS status end codes.	Education
	Dropped Out High School	The youth was coded as dropping out of high school (there are twelve possible dropout codes in MAXIS).	Education
	Enrolled over age 19	The youth was coded as enrolled in school after turning 19, but was never coded as either dropping out or graduating	Education
	School Completion	Drop Out Linger Still enrolled, under 19 Graduate	Education
	Participated in postsecondary education/training	The youth received an ETV, according to DHS records	Child Welfare
	Adult Corrections	The youth appeared in the Minnesota Department of Corrections public database as incarcerated or paroled or on probation.	Adult Corrections (Public Record)

Appendix 3:
Table 4-10: Multinomial Logistic Regression of School Completion

	Drop Out				Still Enrolled, Over age 19				Still Enrolled, Under age 19			
	<u>All</u>		<u>Disability</u>		<u>All</u>		<u>Disability</u>		<u>All</u>		<u>Disability</u>	
	Odds Ratio	95% CI	Odds Ratio	95% CI	Odds Ratio	95% CI	Odds Ratio	95% CI	Odds Ratio	95% CI	Odds Ratio	95% CI
Demographics												
Gender	0.99	0.7-1.4	.9	0.6-1.3	1.4**	1.1-1.8	1.2	0.8-1.6	1.2	0.9-1.5	1.0	0.7-1.5
Disability	0.7***	0.5-1.0			0.6*	0.5-0.8			0.7*	0.6-0.9		
Micro Location	1.4	0.9-2.2	1.2	0.6-2.1	0.96	0.7-1.4	1.3	0.8-2.0	1.0	0.7-1.4	0.95	0.6-1.5
Non Core	1.5**	1.0-2.3	1.2	0.7-2.1	1.4**	1.0-2.0	1.3	0.9-2.0	1.5**	1.1-2.0	1.3	0.8-1.9
Hispanic	0.6	0.3-1.2	0.6	0.3-1.3	0.8	0.5-1.4	0.9	0.5-1.9	0.8	0.5-1.3	0.9	0.4-1.7
African American	1.9*	1.2-2.8	1.9*	1.1-3.3	1.3	0.9-1.8	1.5	0.97-2.3	1.3	0.9-1.8	1.6**	1.0-2.5
Native American	1.3	0.8-1.9	0.9	0.5-1.7	0.8	0.6-1.2	0.7	0.4-1.2	0.8	0.6-1.2	0.9	0.6-1.5
Asian	2.7**	1.2-6.2	1.1	0.2-6.0	1.1	0.5-2.5	1.1	0.3-3.9	1.3	0.6-2.7	1.5	0.4-5.4

	<u>All</u>		<u>Disability</u>		<u>All</u>		<u>Disability</u>		<u>All</u>		<u>Disability</u>	
	Odds Ratio	95% CI										
Child Welfare												
Months in Placement	.96*	.95-.97	.96*	.95-.98	.99*	.98-.99	.99*	.98-.99	.98*	.97-.99	.98*	.97-.99
Number of Placements	1.0**	1.0-1.0	1.1	1.0-1.1	1.0**	1.0-1.1	1.0***	1.0-1.1	1.0	.98-1.1	1.0	.96-1.1
SELF	1.7*	1.2-2.4	1.9*	1.2-3.0	2.1**	1.6-2.7	2.0*	1.4-2.9	1.5*	1.2-1.9	1.5**	1.1-2.1
Education												
Mobility	0.8	0.6-1.2	0.8	0.5-1.4	0.8	0.5-1.1	0.6*	0.5-0.9	0.7**	0.5-1.0	0.7	0.4-1.1
Attendance	0.1*	0.0-0.2	0.1*	0.0-0.3	0.2*	0.1-0.6	0.2	0.1-1.2	0.7	0.2-1.9	0.6	0.1-2.9
Juvenile Corrections	1.1	0.7-1.4	1.3	0.7-2.4	0.7***	0.5-1.1	0.8	0.5-1.3	1.2	0.8-1.8	1.2	0.7-2.0
Residential Treatment	0.9	0.6-1.4	1.0	0.6-1.7	0.8	0.6-1.1	1.0	0.7-1.4	1.5*	1.1-2.1	1.6**	1.1-2.5
Disability and Disability Services												
Special Education			0.9	0.5-1.7			1.0	0.6-1.6			3.5*	1.8-6.9
DD Services			2.3	0.5-11.4			0.3*	0.1-0.6			0.5***	.2-1.0
Emotional/Behavioral Disability			1.1	0.6-1.9			0.9	0.6-1.4			1.7**	1.1-2.6
Learning Disability			1.1	0.5-2.2			1.1	0.6-2.0			3.2*	1.8-5.8
Developmental Disability			1.4	0.4-4.8			0.6	0.3-1.2			1.4	0.7-2.9

*p<.01, **p<.05, ***p<.07