THE IMPACT OF INDEPENDENT LIVING SERVICES ON EDUCATION AND EMPLOYMENT FOR YOUTH AGING-OUT OF FOSTER CARE

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By

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THE IMPACT OF INDEPENDENT LIVING SERVICES ON EDUCATION AND EMPLOYMENT FOR YOUTH AGING-OUT OF FOSTER CARE

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ABSTRACT

For youth aging-out of foster care, independent living services may serve as a useful tool in preparing them for future social, physical, and economic success. The current study aims to understand which independent living services provided to youth in foster care are associated with their educational and employment outcomes at age 19. Using the National Youth in Transition Database (NYTD), this study will attempt to understand how both the specific type of service, as well as the number of services youths receive, act as predictors of educational attainment and employment. This information would be helpful in identifying how independent living services are impacting the future success of foster youth in regard to academics and employment.
For my sister, Laney, whose educational journey has shown me what it means to be brave.
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Introduction

On average, one in seven children experience neglect, physical abuse, emotional abuse, or sexual abuse every year (Finkelho et al., 2015). And every year, approximately 250,000 children are removed from their homes and enter the foster care system (U.S. Department of Health and Human Services, 2016). Although placed in the custody of the state, these children often face a tumultuous time within the system. The average number of placements in homes is 7-13, such that the children move at a rate of two times per year. As well, one-third of foster youth change schools more than five times, and approximately half of those ages 15-17 repeat a grade (Jones, 2014; Stott, 2013; Tweedle, 2007).

Outcomes for this population in the realm of education and employment are very troubling. Only 50% of foster youth graduate from high school, whereas the nationwide graduation rate stands at 84% (National Center for Education Statistics, 2017). Youth in foster care are also three times as likely to drop out of high school than their low-income counterparts and over 40% live in poverty after they have aged out of the system. The unemployment rate for former foster care alumni is 47%, as these young adults struggle to find work once they have aged-out of the system (Courtney, et. al, 2004; Edelstein, et al 2015). These statistics are striking because education and employment offer pivotal tools for future financial, economic, and social success. The federal government reporting system on youth in foster care released a brief detailing the importance of education, stating "a high school diploma or GED can be considered minimal requirement for self-sufficiency and can help develop solid foundation that will prepare youth for further educational pursuits" (NYTD Brief #6, 2017).
In an effort to improve outcomes for this vulnerable population, the federal government, through the John H. Chafee Foster Care Independence Program (1999), provides funding to states for independent living services designed to prepare youth for life after foster care. The breadth, intensity, and implementation of the services are at the discretion of each state, but examples include career preparation and exploration, mentoring, academic support, and training in daily living skills (Fernandes-Alcantara, 2017). Law requires that states must track the services they administer as well as collect the outcomes of youth at age 17, 19, and 21—the conglomeration of this is known as the National Youth in Transition Database (NYTD).

Using the NYTD, I will investigate which independent living services youth receive are most strongly linked with their educational and employment and whether the frequency of service receipt is related to these outcomes. This paper will contribute to the existing literature by informing policy related to services for youth in foster care and may offer insight as to how better prepare these young adults for independent life.

Background

Foster Youth Aging-Out

In the late 1980s, the federal government showed growing concern for young adults “aging-out” of the foster care system and transitioning to life on their own. “Aging-out” refers to the time during which a youth in foster care has reached the age of majority and is no longer under legal guardianship of the state. These young adults have also not found permanency with an adoptive family nor been reunified with their birth parents (Howard & Berzin, 2011; p. 11). The age at which a child ages out can vary from state to state, but typically it is 18, with
some states extending services to age 21. As of 2015, there were 427,910 children in foster care, with 23,000 of those children aging-out per requirement of the state (U.S. Department of Health and Human Services, 2015).

**Independent Living Services Legislation**

In order to aid this population of emerging adults, Congress passed the Independent Living Initiatives in 1986 which provided each state a portion of $45 million to be used for programs and activities to help children aged 16 and over make the transition from foster care to independent living. In 1999, this legislation was replaced by The Foster Care Independence Act and the John H. Chafee Foster Care Independence Program (CFCIP), increasing state funding to $140 million. The law required states provide independent living services such as financial, housing, and counseling services, but allowed states the autonomy to design their own programs and choose other services to provide. Since its enactment, many states have added skills training in areas such as budgeting and employment, as well as services related to academic support and mentoring (Krebs & Pitcoff, 2004, 2006). Most recently, the Fostering Connections to Success and Increasing Adoptions Act of 2008 was passed, allowing children 16 and older who had been adopted to continue to receive independent living services as well as financial assistance, and young adults ages 18-21 to be eligible for support for post-secondary education and training (Stott, 2013).

The CFCIP explains that states must ensure that independent living programs “serve children of various ages and stages of achieving independence” and utilize objective criteria to determine eligibility for services. The criteria include: 1) youth who are likely to age out of
foster care without reunifying with their parents or being adopted, 2) youth who aged out between 18 and 21 years old, and 3) youth older than 16 who left foster care for adoption or kinship care (Fernandes-Alcantara, 2017). There are several ways that states implement their independent living programs: some, such as Maine, are overseen by a state independent living office while others, like California, are run by each county or jurisdiction in the state. Many other states, including Florida, use contracted service providers to administer the programs—it is common for jurisdictions to partner with private organizations that help fund and/or manage the ILPs (Fernandes-Alcantara, 2017).

Importantly, the Foster Care Independence Act also required that the Administration for Children and Families develop a data collection system to track ILP services and measure the outcomes of the youth at age 17, 19, and 21 (Thompson, 2018). The CFCIP requires that in consultation with HHS, states “develop outcome measures (such as educational attainment, homelessness, incarceration, etc.) that can be used to assess the performance of states in operating independent living programs” (Fernandes-Alcantara, 2017). States must regularly report on each youth receiving services, and on demographic and outcome information—the conglomeration of these two components forms the National Youth in Transition Database (NYTD).

**Variation in Independent Living Services Across States**

Although the services arranged by states may be addressing the skills necessary for foster youth to transition to life on their own, substantial differences exist in the proportion of eligible foster youth who are served across states (Courtney, 2011; Yelick, 2017). A report by
the Government Accountability Office stated that approximately one-third of states provided independent living services to less than half of their eligible population, while the other half provided services to three-fourths or more. The report notes that reasons for this variation include limited state capacity, difficulty providing services to rural areas, struggle getting youth to participate, and reluctance from foster parents or inability to transport youth to the meeting location (GAO, 2004).

Research has highlighted that along with wide variation in the number of youth who are served, there is discrepancy as to as to how, when, and which type of independent living information is provided—impacting the preparedness of foster youth for self-sufficiency (Courtney, 2011; Yelick, 2017; Thompson, 2018). For example, in 2015 the state of Washington reported serving 1,940 transition age-youth, with the most common services being career preparation (51%), academic support (45%), and housing education (45%) (Child Trends, 2015). In the same year, New Mexico provided independent living services to 298 youth, with the most common services being health education and risk prevention (63%), budgeting (59%), and career preparation (58%). One of the least common services received by youth in Washington was education financial assistance, whereas mentoring was the least common service provided to those in New Mexico (Child Trends, 2015). Since the CFCIP allows states autonomy in choosing how to administer independent living services, there is considerable variation across the country in service receipt, and this may impact how youth in foster care are prepared for the transition to independence (Okpych, 2015).
Literature Review

It has been well established in the literature that youth transitioning out of foster care face lower educational attainment and employment outcomes than the general population (Courtney, et al. 2001; Stott, 2013). However, the scope and effectiveness of independent living services is less understood. Some studies have found independent living services to have a positive effect on foster youths’ outcomes while others note that the services may not adequately be preparing youth for independent life. In fact, a report by the Urban Institute in 2014 stated, “we still know little about which independent living programs are effective….and which program components are essential” (OPRE Report No. 2014-71). This may be due to the fact that there is very little quantitative research evaluating ILPs—most studies have focused on interviews with foster youth, routinely characterized by small sample size and geographic isolation. In order to contribute to the existing literature, I will be conducting a quantitative analysis of youth at a national level and aim to identify which specific services have the greatest impact on education and employment at age 19.

Independent Living Services Evaluations

A number of studies note the positive impact of independent living services on educational attainment and employment for youth exiting foster care but are limited in their methodology and geographic range. Heavily qualitative, interviews with youth find that independent living programs are associated with greater likelihood of completing high school, having an employment history, being employed at discharge, and being able to support oneself after exiting foster care (Georgiades, 2005; Lemon, et al. 2005; Scannapieco, et al. 1995). Other
studies have highlighted that compared to their counterparts not receiving services, foster youth receiving ILPs are more likely to perform well in areas of budgeting, education, and employment if they are trained in these areas (Westat, 1991). However, most evaluations of ILPs are conducted with a small number of observations and with a limited geographic focus. Of the studies mentioned, one was from a single county in Baltimore, Maryland with less than 50 participants (Scannapieco, et al, 1995), one was conducted in Florida, also with less than 50 participants (Georgiades, 2005), and one was comprised of nine counties in California, with less than 90 youth involved in ILPs (Lemon, 2005). While these studies underscore the importance of programs dedicated to teaching life skills, they may lack external validity and may not be generalizable to the foster care population, or generalizable across states.

In contrast, several findings indicate that independent living services are not preparing youth for independent life as they exit the foster care system (Florida Department of Children and Families, 2009; Geenan & Powers 2007; Yelick, 2015). A qualitative study looking at youth from Iowa, Illinois, and Wisconsin found that roughly 35% of former foster youth had at least one unmet independent living need related to finances, housing, health, education, employment, or life skills (Katz & Courtney, 2015). As well, youth consistently report that the current level of services is not sufficient to meet their needs or aid in their education and employment endeavors, and there is a substantial need to practice what they are learning in real-world situations (Courtney et al., 2004, Jones, 2014; Geenan & Powers, 2007; Scannapieco, et al., 2007). While these studies are informative, they too utilize predominantly small samples relying on self-report with a small geographic focus.
It is apparent throughout the literature that while independent living services may provide some skills training necessary for youth exiting foster care, there are considerable differences across samples as to which services are provided, how much information is given, and how it will affect future outcomes (Courtney, et al., 2007; Florida Department of Children and Families, 2009; Naccarato & DeLorenzo, 2008). Due to the fact that there is no standardized process for ILPs, states may implement the services as they see fit, causing wide variation across the country. This is the main concern as to why some studies show positive effects of independent living services on foster youth and others note their negativities—to date, there has been no study of independent living of a national sample (Thompson, et al., 2018).

**Identifying Specific Services**

Along with conflicting evidence regarding the effectiveness of independent living services, there is limited data as to which services are most impactful in the realm of education and employment. Most studies look broadly at independent living programs and the frequency or duration of the services foster youth receive, but fewer identify a correlation between the service and its corresponding outcome. As well, the NYTD dataset has appeared in very few publications since being launched in 2010.

The first national-scale study looking at which eligible foster youth receive independent living services analyzed the first two years of data in the NYTD system (Okpych, 2015). Results found that about half the youth in the sample received at least one type of service, but there was wide variation as to who received each of the 13 specific services. Females were more
likely than males to receive services and African Americans and youth with disabilities were less likely to receive most of the services. One of the only studies looking at the impact of specific services on education utilized a subsample of the NYTD (N=1,266) as well as administrative data collected by a child welfare agency in one southern state in the U.S. The findings showed that placement with a relative, postsecondary support, academic support, budgeting services, and special education services were significant predictors of youth’s higher educational attainment (Hunter, 2014).

While there is scant data on the impact of specific foster care independent living services on education and employment, as well as limited analyses of the NYTD, there is greater information regarding services for other at-risk populations. Studies focused on incarcerated youth have found that intensive literacy programs, tutoring, and other academic interventions have a positive impact on academic skills and the creation of personal goals (Drakeford, 2002). For youth at risk for school failure, academic support and career exploration have been found to have a positive impact on future academic success and employment (Roth et al, 1998; Edwards et al., 2007; Putzu, 2015).

In order to bridge the gap in the literature, I will be using the NYTD and following a cohort of individuals in foster care receiving independent living services between 2011 and 2014. I will be looking at the frequency of the services they receive, as well as identifying specific services that have the greatest impact on their educational attainment and employment at age 19.
**Conceptual Framework and Hypotheses**

The framework I am proposing for the current study stems from a body of research looking at the impact of academic support and other services on at-risk populations such as minority youth, incarcerated youth, or those at risk for school failure. Several studies have found that academic support—such as tutoring, discussing academic goals, and attendance check-ins—as well as career preparation—like setting goals for employment or exploring places of employment—have a positive impact on future academic success, which I have depicted in the figure below (Platt, et al., 1977; Roth et al, 1998; Edwards et al., 2007; Putzu, 2015). In the realm of child welfare, these data are much sparser. Of the few studies looking at the effect of tutoring or educational-related supports on the outcomes of a foster care population, the results have shown an improvement in academic skills (Flynn, et al. 2012).

![Academic supports](#) + [Career preparation](#) ➔ [Academic Achievement](#)

**Figure 1.** Underlying Framework for the Current Study

The correlation between support services for at-risk youth and academic achievement serves as the basis for my conceptual framework, depicted in Figure 2 below. I will be looking at the independent living services provided to youth in foster care and how both the duration of the services they receive, as well as the specific type of service, act as predictors to educational attainment and employment outcomes. Demographics of age, race, gender, and state of
residence shown in the gray boxes, will be controlled for, while unobservable traits such as motivation and ability will be captured by the error term.

Figure 2. Conceptual Framework

The two hypotheses based on existing literature and the conceptual framework are as follows:

1. Independent living services associated with academics and employment (i.e. academic support, educational aid, career preparation, and employment programs or vocational training) will be most strongly related to educational attainment and employment outcomes at age 19.

2. As the number of services a youth receives increases, the greater the likelihood of earning a high school degree or being employed at age 19.
Data and Methods

Data

Data come from the National Youth in Transition Database (NYTD), a subset of the National Database on Child Abuse and Neglect. Run by the U.S. Department of Health and Human Services Children’s Bureau, NYTD collects data on youth in foster care from all 50 states. The services file contains cross-sectional data on independent living services provided to youth, which is submitted by the states every six months. The outcomes file contains the results of surveys given to the youth on several well-being, financial, and educational outcomes. Starting with FY 2011, a new cohort is added every three years (2014, 2017, 2020, etc.) and results from the survey for a cohort is provided every other year. There are three phases of outcome collection for a cohort including baseline at age 17 years old and follow ups at age 19 and 21. NYTD contains information from all 50 states, the District of Columbia, and Puerto Rico.

The current study utilizes the FY 2014 cohort of youth, with information on their status at age 17 in 2014 and age 19 in 2016. This cohort was chosen because it is the most recent data available, and due to the fact that very little research has looked at this cohort. As well, compared to the 50% response rate of the FY 2011 cohort of youth, the FY 2014 cohort had a higher response rate of 73%.

The services file is longitudinal and contains information on the services received by 325,251 youth starting with FY 2011. Each youth in the services file has a unique *stfcid* (concatenation of state and record number) but is inserted as a new line every time they are assessed, so the same *stfcids* may appear multiple times even though it is only one individual.
Because of this, the services were collapsed by stfcid so there was only one observation for each youth in the dataset.

The outcomes file contained information on 23,781 youth followed over a period of two years. For the purpose of this study, only those in wave two of the outcomes file, age 19, were kept. Since this study attempts to look at longer-range education and employment outcomes, and due to the fact that less than 4% of youth had achieved a high school degree by age 17, the study restricted the outcomes cohort to those aged 19.

The collapsed service file was then merged with the age 19 only-outcomes file by stfcid such that only those individuals who were in both the services and the outcomes files were kept, resulting in a sample size of 10,853. Among the matched sample, 2,272 youth were dropped because they did not respond to at least one survey question. Reasons for non-response included: unable to locate (1,627), declined to participate (356), incarcerated (165), incapacitated (42), runaway missing (44), death (24), and parent declined (4). As well, some states have the option of surveying a random sample of youth for the 2 and 4-year follow ups. Fifteen states chose to use sampling for the FY2014 cohort for the follow up at age 19. These included: Colorado, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Massachusetts, Missouri, Ohio, Pennsylvania, Tennessee, Texas, and Washington. Youth who were identified as being in a sample state (sample state==1) but were not in the sample of youth being surveyed (in sample==0) were dropped. This created a final sample size of 6,764. It is important to note that by using these data management techniques, I am able to follow the small percentage of youth who appear in both the services and outcomes file, which is novel compared to prior studies.
Measures

Independent Living Services. There were 15 independent living services recorded and submitted by the states: independent living skills needs assessment, academic support, post-secondary academic support, career preparation, employment programs or vocational training, housing education and home management training, budget and financial management assistance, health education and risk management, family support and healthy marriage education, special education services, mentoring, supervised independent living, room and board financial assistance, education financial assistance, and other financial assistance. These variables were coded such that 0= “no” service was received and 1= “yes” the service was received. A variable was created that summed the number of times each service was received by the youth. For example, the academic support variable (sum) ranged from 1—the service was received once—to 12—the service was received 12 times.

Educational Attainment. This outcome, or independent variable, denoted the highest educational attainment achieved by the youth. It was coded high school or GED, vocational certificate, vocational license, associate degree, bachelor degree, higher degree, or none of the above. Since less than 4% of youth had above a high school degree or GED, a new variable was created such that 1= “high school degree or higher” and 0= “no high school degree”.

Employment. The other outcome variable was an indication of whether the youth was currently working part-time (0= “no” or 1= “yes”) or full-time (0= “no” or 1= “yes”). A new
binary variable was generated called “working” such that 1=“yes” to part-time or full-time work and 0=“no” to part-time or full-time work.

Youth characteristics. This includes race, ethnicity, sex, age of receipt of service, and state of residence. Race and ethnicity were combined so that the variables were coded White non-Hispanic, African-American non-Hispanic, Hispanic, or other non-Hispanic. 61 observations of race were missing and no observations of sex were missing. Data on the youth also included minimum age at the mid-point of the six-month recording period which ranged from 13-19 years old and maximum age at the midpoint which ranged from 13-21 years old. The age of receipt of service was controlled for, not the chronological age, since chronological age for all children in the outcomes file was limited to 19 years old. Lastly, characteristics also included the state where the youth was from, which were coded and ordered alphabetically.

Analytic Strategy

Using a linear probability model (LPM), I analyzed the impact of independent living services on education and employment according to the following equation:

\[(Y_i) = \beta_0 + \beta_1 \chi_{1i} + \beta_2 \chi_{2i} + \beta_3 \chi_{3i} + \beta_4 \chi_{4i} + \beta_5 \chi_{5i} + \beta_6 \chi_{6i} + \beta_7 \chi_{7i} + \beta_8 \chi_{8i} + \beta_9 \chi_{9i} + \beta_{10} \chi_{10i} + \beta_{11} \chi_{11i} + \beta_{12} \chi_{12i} + \beta_{13} \chi_{13i} + \beta_{14} \chi_{14i} + \beta_{15} \chi_{15i} + ... \beta_{20} \chi_{20i} + \epsilon_i\]

One regression was run with high school degree as the outcome variable \((Y_i)\) and another with employment as the outcome variable. \(\beta_0\) signifies the constant, or y-intercept, and \(\beta_1\) through \(\beta_{15}\) are the coefficients for \(\chi_1\) through \(\chi_{15}\) explanatory variables. \(\beta_1\) through \(\beta_{15}\) are the 15 independent living services: independent living skills needs assessment, academic
support, post-secondary academic support, career preparation, employment programs or vocational training, housing education and home management training, budget and financial management assistance, health education and risk management, family support and healthy marriage education, special education services, mentoring, supervised independent living, room and board financial assistance, education financial assistance, and other financial assistance. \( \beta_{16} \) through \( \beta_{20} \) include race, ethnicity, sex, age of receipt of service, and state of residence. The linear regression was run using the robust option.

Two additional LPMs were analyzed in order to understand how the number of services a youth received impacted their educational and employment outcomes. The dependent variables were high school degree and employment \( (Y_i) \) respectively, the independent variable was the total number of the number of services a youth received, and the control variables were youth characteristics. This linear regression was also run using the robust option.

A linear probability model was deemed an appropriate analytical strategy for answering the current research question because the outcome variables of interest were binary, as the observations took a value of 0 or 1. As well, a major advantage of using an LPM is its interpretability—in the current study we are able to identify the impact, and magnitude of the impact, of independent living services on education and employment \(^1\).

**Results**

Table 1 displays the descriptive statistics from the collapsed NYTD data set used for this study. The minimum age of youth in the sample ranged from 13-19 and the maximum age

\(^1\) I also tested this regression as a logit and probit, and results remain consistent.
ranged from 13-21. 41% of the sample was White non-Hispanic, 29% African-American non-
Hispanic, 25% Hispanic, and 5% other non-Hispanic. Of the youth in the sample, approximately
47% were male and 53% were female. A majority of the sample, 29%, resided in California,
while the rest was evenly distributed across the United States. In regard to academics and
employment, 62% of the sample had earned a high school diploma or GED and 41% were
currently working part-time or full-time at the time of the survey. Approximately 32% of youth
received 0-10 independent living services, with just about half of the sample receiving 15
services or less.

Table 1. Participant Characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>3,169</td>
<td>46.85</td>
</tr>
<tr>
<td>Female</td>
<td>3,595</td>
<td>53.15</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White Non-Hispanic</td>
<td>2,771</td>
<td>40.96</td>
</tr>
<tr>
<td>African-American Non-Hispanic</td>
<td>1,981</td>
<td>29.29</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1,688</td>
<td>24.96</td>
</tr>
<tr>
<td>Other Non-Hispanic</td>
<td>324</td>
<td>4.790</td>
</tr>
<tr>
<td>Academics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School Diploma or GED</td>
<td>4,199</td>
<td>62.02</td>
</tr>
<tr>
<td>No High School Diploma or GED</td>
<td>2,565</td>
<td>37.92</td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working Part-Time or Full-Time</td>
<td>2,738</td>
<td>40.48</td>
</tr>
<tr>
<td>Not Working</td>
<td>4,026</td>
<td>59.52</td>
</tr>
</tbody>
</table>

Author’s estimates; Source: National Youth in Transition Database, 2011-2014

2 No issues of multicollinearity were identified between the high school diploma/GED variable and the
employment variable.
Figure 2 outlines the distribution of services received by the youth, with each bar denoting the percentage of youth who received a service one or more times. The graph shows that independent living needs assessment was the service received by the largest portion of youth (74%) followed by academic support (72.3%). Supervised independent living was received by the fewest number of youth—24.5%—followed by room and board financial assistance (25.1%). Figure 1 reflects the wide variation in the provision of Chaffee Independent Living services across the country. Since the CFCIP allows autonomy of state and county child welfare departments to implement ILP policies and procedures, there are irregularities as to how many youth receive services (Dworsky & Havlicek, 2008). Figure 3 and Figure 4 breakdown these distributions further, identifying the exact number of youth who received a service zero times, one time, two times, and so on.
Figure 2. Distribution of Receipt of Service

Figure 3. Services with Highest Reported Utilization
Figure 4. Services with Lowest Reported Utilization

Educational Attainment

Using the 15 independent living services as predictors, I ran a linear probability model to analyze the correlation between each service and the likelihood of earning a high school degree or GED. Results for each of the services are reported in Table 2. Findings indicate that academic support and housing and home management training were associated with a 0.015 unit decrease in high school degree or GED completion (p<0.001) and education financial assistance was associated with a 0.035 unit decrease (p<0.001). Additionally, room and board financial assistance (β=-0.018, p<0.01) and special education services (β=-0.016, p<0.001) showed a negative relationship with high school degree or GED.

In contrast, post-secondary educational support, which includes test preparation for the SAT and counseling about college, was associated with a 0.058 unit increase in educational attainment (p<0.001). Education financial assistance (β= 0.035, p<0.001) and other financial services (β= 0.0091, p<0.05) were also positively correlated with earning a high school degree or GED. Interestingly, as the number of services a youth received
increased, the correlation of earning a high school diploma or GED was -0.02 percentage points, but this was not significant.

Table 2. Impact of Services on Completion of High School Degree or GED

<table>
<thead>
<tr>
<th>Factors</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Support</td>
<td>-0.0147***</td>
</tr>
<tr>
<td>Budget and Financial Management Assistance</td>
<td>-0.0035</td>
</tr>
<tr>
<td>Career Preparation</td>
<td>-0.00056</td>
</tr>
<tr>
<td>Education Financial Assistance</td>
<td>0.0346***</td>
</tr>
<tr>
<td>Employment Program or Vocational Training</td>
<td>-0.00091</td>
</tr>
<tr>
<td>Family Support &amp; Healthy Marriage Education</td>
<td>-0.0053</td>
</tr>
<tr>
<td>Health Education and Risk Management</td>
<td>-0.0002</td>
</tr>
<tr>
<td>Housing Education &amp; Home Management Training</td>
<td>-0.0153***</td>
</tr>
<tr>
<td>Independent Living Needs Assessment</td>
<td>-0.0052</td>
</tr>
<tr>
<td>Mentoring</td>
<td>-0.0054</td>
</tr>
<tr>
<td>Other Financial Services</td>
<td>0.0091*</td>
</tr>
<tr>
<td>Post-Secondary Educational Support</td>
<td>0.0580***</td>
</tr>
<tr>
<td>Room and Board Financial Assistance</td>
<td>-0.0176**</td>
</tr>
<tr>
<td>Supervised Independent Living</td>
<td>-0.0041</td>
</tr>
<tr>
<td>Special Education Services</td>
<td>-0.0156***</td>
</tr>
<tr>
<td>Total number of services received</td>
<td>0.0002</td>
</tr>
</tbody>
</table>

Notes: controls include race, gender, age, and state
Statistical significance: *=p<0.05; **=p<0.01; ***=p<0.001

Employment

The second linear probability model, also with 15 independent living services as predictors, identifies the association between each service and employment. Results of this regression are reported in Table 3. The analysis showed that family support and healthy marriage education was associated with a 0.0013 unit decrease in employment (p<0.01). Health education and risk prevention was linked with a 0.018 unit decrease (p<0.001) and
special education services was related to a 0.025 decrease in part-time and full-time employment (p<0.001).

On the other hand, budget and financial management services (β=0.01, p<0.05), career preparation (β=0.011, p<0.05), and supervised independent living (β=.013, p<0.05) were all positively associated with being employed. Employment training services showed the strongest correlation, accounting for a 0.019 unit increase in employment (p<0.001). Similar to the findings from the regression equation on education, there was no significant link between the number of services received and employment at age 19.

Table 3. Impact of Services on Employment

<table>
<thead>
<tr>
<th>Factors</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Support</td>
<td>0.0005</td>
</tr>
<tr>
<td>Budget and Financial Management Assistance</td>
<td>0.010*</td>
</tr>
<tr>
<td>Career Preparation</td>
<td>0.011*</td>
</tr>
<tr>
<td>Education Financial Assistance</td>
<td>0.002</td>
</tr>
<tr>
<td>Employment Program or Vocational Training</td>
<td>0.019***</td>
</tr>
<tr>
<td>Family Support &amp; Healthy Marriage Education</td>
<td>-0.013**</td>
</tr>
<tr>
<td>Health Education and Risk Management</td>
<td>-0.0178***</td>
</tr>
<tr>
<td>Housing Education &amp; Home Management Training</td>
<td>0.0027</td>
</tr>
<tr>
<td>Independent Living Needs Assessment</td>
<td>-0.0021</td>
</tr>
<tr>
<td>Mentoring</td>
<td>-0.0003</td>
</tr>
<tr>
<td>Other Financial Services</td>
<td>0.0071</td>
</tr>
<tr>
<td>Post-Secondary Educational Support</td>
<td>-0.0014</td>
</tr>
<tr>
<td>Room and Board Financial Assistance</td>
<td>0.0058</td>
</tr>
<tr>
<td>Supervised Independent Living</td>
<td>0.013*</td>
</tr>
<tr>
<td>Special Education Services</td>
<td>-0.0248***</td>
</tr>
<tr>
<td>Total number of services received</td>
<td>0.0007</td>
</tr>
</tbody>
</table>

Notes: controls include race, gender, age, and state
Statistical significance: *=p<0.05; **=p<0.01; ***=p<0.001
Sensitivity Analysis

In order to check the robustness of the findings, I conducted a chi-squared analysis to check for correlation between the services and also performed a sensitivity analysis looking at youth who were working, in high school, or both. Chi-squared analysis showed no significant correlation between the services, signifying that they were independent of one another. As well, there were no significant findings based on whether the youth was in high school, working, or both.

Secondly, I grouped the services into categories and re-ran the original regressions, which yielded consistent results. Services with similar parameters were grouped into four categories: academic-related, employment related, financial related, and living skills-related. The academic category was comprised of academic support, education financial services, mentoring, post-secondary educational support, and special education services. The employment category included budgeting, career services, and employment or vocational training and the financial category included financial services and room and board financial assistance. The living skills category included family support services, housing education, health education, independent living needs assessment and supervised independent living. After re-running the original regression with these four categories in place of the 15 individual services, the results remained consistent. In regard to completion of a high school degree or GED, academic support and life skills were still negative, while financial services and employment-related services continued to have a positive correlation. Employment,

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A primary component analysis (PCA) was deemed an inappropriate analysis for the set of variables I used.
academic and life skills were negatively correlated with the outcome, while employment services and financial services showed a positive correlation, consistent with the original LPM results.

Finally, services were clustered by the number of times they were received, and the regressions were re-run, showing no impact on the results. The clustering of service frequency was as follows: 0-5 services received, 5-10 services received, 10-20 services received, 20-30 services received, 30-40 services received, 40-50 services received, or 50 or more services received. Using this clustering, results indicate that there was no significant correlation between increasing services and either high school degree or GED attainment or employment.

Discussion

The results of this study provide foundational data about the impact of independent living services on the education and employment outcomes for transition-age youth in foster care. Few quantitative studies have evaluated the impact of ILPs—most of the research is qualitative in nature and comprised of a small sample size. As well, very little research has focused on specific services and their impact on education and employment. In order to address this gap in the literature, I utilized a nation-wide sample of nearly 6,800 youth in the National Youth in Transition Database, looking at which specific independent living services impact youths’ education and employment outcomes. The results paint a somewhat complicated picture about the effectiveness of ILPs, which is consistent with findings from qualitative studies on the topic.
Independent Living Services Impact on Education

Results for the education variable produced interesting and perhaps somewhat counterintuitive results. Academic support, housing education, room and board financial assistance, and special education services all had a significant, negative correlation between completion of a high school degree or GED. In contrast, education financial assistance and other financial services had a significant positive correlation with earning a high school degree or GED. My hypothesis that academic-related supports would have a positive effect on high school completion was not completely supported. Academic support, such as tutoring and study skills training, showed a negative correlation with educational attainment, while education financial assistance showed a positive correlation.

One reason for this may be issues with the implementation, frequency or duration of the academic support, and the lack of standardization of academic support services across states. Figure 4 highlights the discrepancy in service receipt across states that may be causing the negative impact on educational attainment. In Connecticut, for example, only 12% of youth received academic support services at least once, while in Arizona upwards of 95% of youth received academic support services at least once. Results indicate that although academic support is the service that is provided most often, nearly 30% of youth in the sample did not receive any form of tutoring, study skills training, preparation for a GED exam, etc. and there is wide variation of service receipt across states, as depicted in Figure 5.

This finding is similar to that of prior studies in which a large portion of foster youth report receiving no educational support prior to leaving foster care (Pecora, 2006; Thompson,
2018). Additionally, findings from this study are supported by qualitative research, as youth have reported the services they receive are not sufficient to meet their educational needs (Georgiades, 2005; Lemon, et al. 2005; Scannapieco, et al. 1995). As noted in the literature review, the Chaffee Foster Care Independence Program requires states to provide services to those aging-out of care, but states may choose to administer these services in a variety of ways, leading to discrepancy in service receipt across the country.

![Figure 5. Receipt of Academic Support](image)

Alternatively, the monetary effect of education financial assistance may play an important role in completion of a high school degree or GED. Allowances to purchase textbooks and other supplies, as well as payment for GED and other educational tests, can help to promote the academic outcomes for youth in care. However, nearly 60% of the youth in this study did not receive education financial assistance of any kind. This is consistent with prior reports, as
researchers have identified insufficient funding for education and training vouchers, leaving many youth without financial resources for education (Fernandes-Alcantara, 2017; Kelly, 2013). I believe these results underscore the discrepancy of ILPs highlighted in prior studies—while some have found independent living programs to be associated with greater likelihood of completing high school, others report that education services are not sufficient in meeting the needs of youth in foster care (Georgiades, 2005; Lemon, et al. 2005; Yelick, 2015). This study, too, has found that certain educational supports like financial assistance appear to be helping, whereas academic support may not be readily or consistently provided, which could explain the negative effect on high school or GED completion.

*Independent Living Services Impact on Employment*

The results of this study indicate that family support and healthy marriage education, health education and risk management, and special education services all had a significant negative correlation with being employed at age 19. In comparison, employment programs, budget and financial management assistance, career preparation, and supervised independent living were all positively correlated with being employed part-time or full-time. This is consistent with several qualitative studies that have found ILPs to have a positive effect on employment and income outcomes (Georgiades, 2005; Pecora, 2006). It appears, at least within this sample, there is a positive relationship between employment-related services and working part-time or full time at age 19.

However, we do know from past research that many youth in foster care receiving ILPs have unmet needs, especially in regards to jobs, budgeting, and finance (Geenan & Powers
Similarly, in this sample, nearly 67% of youth did not receive employment training and 43% did not receive career preparation services. Although employment-related programs appear to have a positive impact on work opportunities, many youth in this sample never actually received a service of this kind. One explanation for this is the lack of standardization of ILPs across the country, creating wide-variability in service receipt. The variation in employment training services is highlighted in Figure 6. This discrepancy in service receipt across states underscores the findings of past literature, as studies note considerable differences between states as to how, when, and if employment-related services are provided (Courtney, 2011; Yelick, 2017; Thompson, 2018).

Figure 6. Receipt of Employment Training Services
Study Limitations and Future Research

Lack of generalizability and small effect sizes are two limitations of this study. Utilizing the cohort of youth from 2014, I am not able to generalize to youth across all years, nor to the entire population of youth aging out of foster care. The results of this study apply only to the specific sample of youth that was identified for analysis. As well, the effect sizes noted in this study are relatively small—in the future, this could be addressed with a larger sample size.

In addition to larger sample sizes, future research should utilize both quantitative and qualitative methods to identify the mechanisms behind independent living services, and their impact on education and employment. For example, understanding how academic support is implemented, how connected the youth feel to their tutors, and to what degree the youth are engaged, could help researchers and practitioners improve the academic support services provided to those in foster care. As well, identifying why educational financial services play such a promising role may also serve to inform ILPs. Finally, future research should better identify the unmet needs of those in foster care, addressing why so few youth receive supports in the realm of employment training and career preparation. Ultimately, the field needs to understand how and why ILPs are preparing, or failing to prepare, youth to enter the workforce or earn a high school diploma or GED.

Policy Implications

Being one of the few large-scale quantitative studies on independent living services and their impact on education and employment, this study has several important policy implications for youth aging out of foster care. Based on the results, policy makers should consider 1) conducting more rigorous evaluations of independent living services at a national level, 2)
increasing funding for education financial assistance to youth in care, and 3) ensuring that more youth receive employment-related programs prior to aging out.

As a first action item, more thorough evaluations of ILPs at a national level could help to identify gaps and best practices in currently existing programs. To date, the largest evaluation has consisted of only three states and may not accurately represent the needs of foster youth across the country (Thompson, et al., 2018). Utilizing a national sample could more accurately identify specific states that are providing services effectively or are in need of program reform. Secondly, expanding funding for education financial assistance could help to increase the number of foster youth earning a high school diploma or GED by age 19. As the current study highlights, education financial assistance has a positive impact on educational attainment, and this may be an important area to target for policy.

Lastly, ensuring that more youth receive career preparation, vocational training, and the like, could help to maximize their employment opportunities. The findings of this study note the positive effects of employment-related ILPs on working part-time or full-time, and increasing the accessibility and capacity of this service in particular may improve work outcomes for those aging out of care.

Conclusion

The scope and effectiveness of independent living services continues to not be well understood. Prior research has found mixed effects of independent living services on youth outcomes, and this study underscores those findings. Looking at a sample of approximately 6,800 youth from the National Youth in Transition Database, I analyzed which of 15
independent living services have the greatest impact on education and employment outcomes for youth at age 19. Mixed results suggest that further research is necessary to understand how and why particular services aid youth aging out of care, while others are inadequately preparing youth for life after the system. This study identifies areas for policy reform, specifically evaluating ILPs at a national level, increasing funding for educational assistance, and promoting employment-related services to youth aging out of care.
References


Child Trends. (2015). Transition-Age Youth in Foster Care in Washington


National Youth in Transition Database (NYTD). (2017). *Data Brief #6*


