



Employment outcomes of former foster youth as young adults: The importance of human, personal, and social capital

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ABSTRACT

In spite of a prevailing policy focus, little is known about the employment outcomes of former foster youth during early adulthood and the factors associated with those outcomes. We explore how former foster youth who aged out of care in Illinois, Wisconsin, and Iowa are faring in the labor market at age 24 and what explains variability in employment and wages for these youth. We utilize multilevel models to analyze youth's employment using four waves of the Midwest Study. Our findings point to a critical need to better understand and address barriers to education, causes of substantial racial disparities, and characteristics of family foster homes that facilitate youths' employment. We find that youth who remain in care past age 18 attain higher educational credentials which translate into better employment outcomes. This research also highlights the need for policies directed at current and former foster youth who become early parents.

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1. Introduction

Since at least the late 1980s, when federal policy first began to focus on preparing foster youth for independent living, the importance of preparation for employment has been paramount. The Independent Living Initiative of 1986 and Foster Care Independence Act of 1999 both provided funds to states for services intended to prepare youth for employment, and the Fostering Connections to Success and Increasing Adoptions Act of 2008 (Fostering Connections Act) includes employment as one of the activities that young people must engage in to be eligible to remain in foster care past age 18. In addition, workforce policy directed towards vulnerable youth focuses specifically on foster youth. For example, the Youth Services and Job Corp programs funded through the Workforce Investment Act both include foster youth as a target population.

While youth making the transition to adulthood from foster care are certainly not the only population of youth whose adult employment outcomes are likely to be negatively influenced by their vulnerability during adolescence and early adulthood (Osgood, Foster, & Courtney, 2010), the focus of US social policy on foster youth, including young adults, is understandable. Given the priority in child welfare policy on achieving legal permanency for children in foster care through reunification with family, adoption or guardianship, foster youth who approach the age of majority while in care are evidence of the failure of the system to achieve one of its primary goals. The development of policy targeting foster youth at risk of aging

out of care is to a large extent a reflection of policymaker's acknowledgment of the moral imperative of not abandoning children who the state has arguably failed. Moreover, unlike other vulnerable youth in transition, including many who are significantly involved with public systems (e.g., youth served by the juvenile justice system and those served by the disabilities services systems), foster youth are literally the children of the state. The evolution of child welfare policy towards an explicit role of the state in parenting foster youth into adulthood makes sense in the context of demographic trends and evolving social norms that have made it commonplace for young people to remain at home with their parents and to rely on support from their families well into their twenties (Courtney, 2009).

In spite of the policy focus on supporting foster youth making the transition to adulthood, and on improving their employment outcomes in particular, foster youth who age out of care are less likely to be employed and earn lower wages than other youth (Courtney, Dworsky, Lee, & Raap, 2010; Goerge et al., 2002; Macomber et al., 2008). Although the vast majority of youth work at some point in the years after discharge from care, unemployment and underemployment are common. Unfortunately, little is known about the factors associated with these labor market outcomes for former foster youth, leaving policymakers and program managers with little evidence to inform their efforts to improve employment outcomes for foster youth making the transition to adulthood.

In this study, we explore how former foster youth in Illinois, Wisconsin, and Iowa are faring in the labor market and what explains variability in employment outcomes for these youth. First, we describe trends in former foster youths' employment from age 17 to 24. Then, we consider how former foster youths' characteristics and experiences are associated with their employment and wages. We use

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data from the Midwest Evaluation of the Adult Functioning of Former Foster Youth (henceforth the Midwest Study), a longitudinal study that has been following a sample of 732 young people from Iowa ($n = 63$), Wisconsin ($n = 195$) and Illinois ($n = 474$) as they age out of foster care and transition to adulthood (Courtney, Dworsky et al., 2010). This study goes beyond prior research by providing a longitudinal view of the employment outcomes of foster youth during the transition to adulthood using a rich and timely source of data on the characteristics of foster youth. Before turning to a description of our study methods and findings we review prior research on employment outcomes for former foster youth and provide theoretical justification for our analytic approach.

2. Employment outcomes of former foster youth in early adulthood

Little research has been conducted on employment outcomes for foster youth making the transition to adulthood since U.S. policy began to focus on this population in the late 1980s but the few available studies provide a consistent picture of generally poor outcomes. Most studies have relied on administrative records, particularly the linking of Unemployment Insurance (UI) wage records to foster care placement records. Overall, these studies find that the majority of youth have some experience with employment, but less than half are employed in the quarter of discharge or in subsequent quarters within a few years of discharge, most go at least one quarter without employment, and earnings are generally low and below the poverty line for single individuals (Dworsky, 2005, $n = 8511$ in Wisconsin; Goerge et al., 2002, $n = 4213$ in California, Illinois, and South Carolina; Singer, 2006, $n = 926$ in Utah; Macomber et al., 2008, $n = 3301$ in California, Minnesota, and North Carolina; McMillen & Tucker, 1999, $n = 252$ in Missouri). Furthermore, former foster youth are less likely to be employed and earned substantially less than the general population of youth and youth from low-income families. Macomber et al. (2008) examined the labor market outcomes through age 24 of young people who aged out of foster care in three states, comparing their outcomes to those of youth from low-income families and a nationally representative sample from the National Longitudinal Survey of Youth. The former foster youth had low rates of employment and low earnings well into their mid-twenties; mean monthly earnings for those former foster youth who were working at age 24 ranged from a low of \$450 in North Carolina to a high of \$690 in California.

Other studies have relied on self-report on employment outcomes for foster youth making the transition to adulthood. Courtney, Piliavin, Grogan-Kaylor, and Nesmith (2001) studied 141 youth who had been in foster care in Wisconsin for at least 18 months, contacting 113 (80%) of these young people 12 to 18 months after their discharge from care. At the time of that second interview, 61% of the young people were currently employed, 81% had been employed at some point after discharge, and mean weekly earnings among those employed were \$185. The Midwest Study (Courtney et al., 2005, 2007; Courtney, Dworsky et al., 2010; Courtney, Terao, & Bost, 2004), has been following young people aging out of foster care and transitioning to adulthood in Iowa, Wisconsin, and Illinois. The percentage of Midwest Study participants who were currently employed increased over time from 35% at age 17–18, to 41% at age 19, to 52% at age 21, and then declined to 48% at age 23–24. Comparisons of the foster youth sample to a nationally representative sample of same-aged peers who participated in the National Longitudinal Study of Adolescent Health (Add Health) have consistently shown the current and former foster youth to be much less likely to be employed than their peers, to earn significantly less than their peers, and to have median earnings below the federal poverty level.

Prior research has shed little light on the factors associated with employment and earnings of foster youth making the transition to adulthood. To some extent this reflects the fact that most research has relied exclusively on administrative data, thereby limiting the range of predictor variables to demographic factors and elements of the foster care placement experience available in administrative databases. McMillen and Tucker (1999) found that placement instability while in foster care and failure to complete high school were associated with a reduced likelihood of employment. Goerge et al. (2002) did not find any consistent relationship between demographic characteristics and employment, except that African Americans earned significantly less than their White counterparts. They also found that employment prior to age 18 was associated with an increased likelihood of employment post-discharge. Dworsky (2005) found that African Americans and Latinos experienced less favorable labor market outcomes than Whites and that exiting foster care at a later age was associated with more favorable labor market outcomes. Macomber et al. (2008) did not find any consistent relationships between placement experiences (e.g., type of placement; number of placements; number of episodes in care) or demographic characteristics and employment outcomes across the three states in that study. However, longer stays in care were associated with more stable employment and employment prior to age 18 was associated with more favorable adult employment outcomes. Naccarato, Brophy, and Courtney (2010) used data from the Midwest Study to examine predictors of earnings from employment in the year prior to interviews conducted at age 21, focusing on demographic characteristics, educational attainment, mental health and substance abuse problems, receipt of independent living services, and informal mentoring relationships. They found that Blacks earned less than Whites, educational attainment was positively associated with earnings, certain mental health disorders were associated with decreased earnings, and substance abuse disorders were associated with increased earnings.

Although exiting from care in different policy and labor market contexts, youth aging out of care in the United Kingdom, Australia, and Canada also experience poor employment outcomes in the years following discharge (Cashmore & Paxman, 2007, $n = 41$ in New South Wales; Dixon, 2007, $n = 101$ in England; Rutman, Hubberstey, Feduniw, & Brown, 2007, $n = 21$ in British Columbia). Examining bivariate associations between poor employment outcomes and youths' characteristics, Dixon (2007) finds that at 12 to 15 months after exiting care youth in England ($n = 101$) experienced poorer employment outcomes if they were criminally involved, misusing substances, exiting from group care, had educational difficulties, experienced instability while in care, or left care prior to age 18.

3. Theoretical framework

Following Caspi, Entner Wright, Moffitt, and Silva (1998), we orient our study around how capital – or the resources individuals bring to the labor market – influence an individual's capacity to work and employers' perceptions of individuals as suitable employees. As an organizing framework we distinguish between three types of capital – human, personal, and social. We use human capital to refer to an individual's education and skill set; personal capital to refer to behavioral characteristics or personal styles; and social capital to refer to youth's personal relationships or connections to social networks (Caspi et al., 1998). Although we examine established predictors of employment outcomes, such as education, we are primarily concerned with understanding how the unique experiences of foster youth influence their success in the labor market. Knowledge of how foster care experiences are predictive of adult employment outcomes should be useful in targeting interventions aimed at improving labor market outcomes.

One of the most consistent predictors of employment and wages is an individual's human capital as measured by educational attainment. High school completion, college attendance, and a college degree are all associated with the likelihood of employment and higher wages (Murnane, Willett, & Boudett, 1995; Surrette, 1997). Employment prospects are particularly dim for youth who do not attain a high school diploma or equivalency degree (Bloom, 2010; Danziger & Ratner, 2010), particularly since the recent collapse in the youth labor market (Sum & McLaughlin, 2009).

Former foster youth, however, are less likely to have educational credentials than other youth. For example, by age 23–24, approximately one-quarter of youth in the Midwest Study were without a high school diploma or equivalency degree, compared to 7.3% of young people in that age range in the general population (Courtney, Dworsky et al., 2010). Educational attainment is hindered by both individual characteristics, such as histories of abuse and neglect, and characteristics of the foster and educational systems, such as increased school changes and concentration in poor-performing schools (Smithgall, Gladden, Howard, Goerge, & Courtney, 2004).

Foster youth, on average, are also disadvantaged in personal capital. Incarceration and delinquency are particularly relevant for young men aging out of care. By age 23–24, approximately 60% of young men and 30% of young women in the Midwest Study had experienced a criminal conviction; 7% were incarcerated at the time of interview (Courtney, Dworsky et al., 2010). Not only are incarcerated youth out of the labor force, but men with histories of adolescent delinquency and men with a felony conviction are less likely to be employed (Caspi et al., 1998; Raphael, 2007). Research suggests that employment penalties are particularly steep for African American men. Pager (2003) found that African American men with a felony drug conviction were two-thirds less likely than similar African American men to receive a call back after applying for an entry-level job, whereas white men with a conviction were half as likely as similar white men.

Although young women aging out of care are not as mired as men in the criminal justice system (Courtney, Dworsky et al., 2010), young women's labor market attainment is hindered by early parenting. By age 23–24, 67% of young women and 44% of young men making the transition to adulthood from foster care have children; 92% of mothers and 41% of fathers are living with their children (Courtney, Dworsky et al., 2010). Motherhood may prevent women from seeking employment or from being able to accept employment because of a lack of affordable or reliable childcare. Evidence also suggests that mothers are less likely to be hired, and if hired they are offered lower wages than comparable non-mothers or fathers (Correll, Benard, & Paik, 2007). The labor market can be especially difficult for low-skilled, urban, African American mothers, who are often perceived by employers as single mothers and problematic employees (Browne & Kennelly, 1999).

Differential employer perceptions of African American men with felony convictions compared to white men and African American mothers compared to white mothers highlights a more general association between race and employment. Non-Hispanic white youth aging out of foster care show greater employment stability and earnings than African Americans (Macomber et al., 2008). Differences emerge even prior to leaving school. During high school, African American youth in Baltimore began work later, had lower rates of employment, and less-stable employment than white youth, even when controlling for socioeconomic status and school performance. Although African American youth put greater effort into finding a job, they were less likely to be hired. This contributed to a deficit of experience in early adulthood compared to white youth (Entwisle, Alexander, & Steffel Olson, 2000).

In addition to deficits in education and disproportionate involvement with the criminal justice system and parenting, former foster youth may experience additional barriers to employment. A young

person's history of abuse or neglect may be related to their motivation or capacity to work. The one study we identified examining the effect of type of maltreatment on employment did not find support for a linkage (Macomber et al., 2008), but due to the paucity of research the relationship warrants further testing.

Youth's experience in care may also influence youths' social capital. Access to an adult who could provide assistance getting a job or access to a social network that could provide information about employment opportunities are important forms of social capital (Caspi et al., 1998). Ties to adults that can aid youth in finding employment may be weaker for youth who exited from group care or a residential treatment center, were emancipated early, or who experienced many moves while in care. Youth exiting from group homes are less likely to be employed and earn lower wages in California (Macomber et al., 2008).

Conversely children who remain in care past the age of 18 may benefit from continued attachment to adults. There is evidence that remaining in care increases employment stability, but not necessarily wages, in Minnesota and North Carolina (Macomber et al., 2008). Illinois courts allow wards to remain under the supervision of the child welfare agency through their twenty-first birthday, whereas courts in Iowa and Wisconsin generally discharge youth from care on their eighteenth and almost never later than their nineteenth birthday. Unlike stipulations in the Fostering Connections Act, youth are not required to be in education or employment to remain in care in Illinois. In predicting which youth remain in care, Peters, Clausen Bell, Zinn, Goerge, and Courtney (2008) found considerable variation across Illinois in retention. Rather than being a function of youths' characteristics, court advocacy played a key role in keeping youth in care. We utilize this variation to examine the impact of extending care on employment outcomes.

We examine how youths' human, personal, and social capital are associated with their employment outcomes in early adulthood, focusing on both employment and wages. Although former foster youth, on average, fare worse than other youth, we expect some youth to do relatively well, and that established predictors of employment outcomes in young adulthood will perform similarly for former foster youth. If true, this would suggest that efforts to improve foster youths' human, personal, and social capital *prior to the transition to adulthood* could improve their adult employment outcomes. We also expect, however, that the unique experiences of foster youth in out-of-home care will influence their success in the labor market.

4. Method

4.1. Data

We conduct secondary data analysis using four waves of a longitudinal panel study that tracks a cohort of youth exiting the public child welfare systems of three Midwestern states: Illinois, Iowa, and Wisconsin (Courtney et al., 2004, 2005, 2007; Courtney, Dworsky et al., 2010). To date, this is the largest known prospective study of youth leaving care. The population consists of adolescents who, at baseline, (1) are in out-of-home care supervised by the public child welfare agencies of the three states, (2) are 17 years or older at time of recruitment, and (3) were in out-of-home care for at least one year prior to recruitment. These conditions make it likely that the youth will be emancipated from the child welfare system to independence on or after their eighteenth birthdays. Youth were excluded at baseline if they were incarcerated or in an inpatient psychiatric institution during the field period or had a developmental disability. Thus, the findings reflect youth who are aging out of the child welfare system and bound for independent living.

A representative sample was obtained using a systematic sampling procedure (Henry, 1990). During the period from April 2002 to June 2002, the public child welfare agencies in the three states identified all

active cases that met the inclusion criteria. The sampling frame included all eligible youth in two of the states (Iowa, Wisconsin), as well as a random selection of 67% of eligible youth in the third state (Illinois), which is the most populous of the three states. Of 770 eligible youth, interviews were conducted with 732 or 96% (63 from Iowa, 474 from Illinois, and 195 from Wisconsin) between May 2002 and March 2003. Among the reasons eligible youth were not interviewed were the care provider's refusal to participate, the youth's refusal to participate, or inability to make contact with the youth. All of the youth were 17 or 18 years old when they were interviewed (see Courtney et al., 2004).

Three additional waves of data have been collected. Eighty-two percent ($n=603$) of youth in the baseline sample were re-interviewed between March and December 2004 when most of the youth were 19 years old (Courtney et al., 2005), 81% ($n=590$) were re-interviewed between March 2006 and January 2007 when nearly all of the youth were age 21 (Courtney et al., 2007), and 82% ($n=602$) were re-interviewed between July 2008 and April 2009 when the youth were 23 or 24 years old (Courtney, Dworsky et al., 2010).

At baseline the sample is evenly divided among males (48.5%) and females (51.5%). The mean age at the baseline interview was 17.4 years ($SD=.50$). Most respondents were 17 years of age (59.0%), and the rest were 18 years old (41.0%). The mean age at which respondents entered the child welfare system was 10.8 years ($SD=4.0$). A majority of the sample is African American (57.3%), followed by Caucasian (31.0%), mixed race (9.8%), American Indian or Native Alaskan (1.4%), and Asian or Pacific Islander (0.5%). Of those identifying Hispanic ethnicity (8.6%), most were of mixed race (50.8%); 23.8% were Caucasian, and 19% were African American. At the time of the baseline interview, 30.5% were in kinship foster homes (i.e., with relatives), 35.8% were in foster homes with nonrelatives, 18.1% were in group care or residential treatment facilities, 8.6% were in an independent living arrangement, 0.7% were in an adoptive home (prefinalization), and 6.3% were in some other setting.

4.2. Measures

4.2.1. Dependent variables

We use a dichotomous measure indicating that a youth was employed 20 h or more. This is created from youths' reports of how many hours a week they usually work at their main job; this question is asked of youth who indicate that they worked at least 10 h a week. We choose 20 h because we are primarily interested in employment activity that is greater than marginal part-time work. We also use self-reported hourly wage among the employed. The vast majority of respondents reported their hourly wage. Some, however, reported their daily, weekly, bi-weekly, bi-monthly, or monthly earnings. We calculated hourly wages by using youths' reports of their usual weekly working hours and assumed a five day workweek. Descriptive statistics by wave appear in Appendix Table 1 and are weighted by state to account for the 67% sample of youth drawn in Illinois and by sex to account for greater sample attrition by men.

4.2.2. Human capital

From the baseline interview we include respondents' reading ability. We use the Wide Range Achievement Test (WRAT), developed as an addition to the Wechsler-Bellevue Scales intelligence test. Researchers used the word recognition portion of the WRAT (1993 edition) to perform a brief assessment of the youths' reading ability. With an average score of 39.5, youth in the sample exhibit reading skills that correspond with a seventh-grade reading level. We create three dichotomous measures indicating a reading level of 6th to 8th grade, high-school, and post-high school (less than 6th grade is the reference category).

From contemporaneous interviews we include respondents' educational attainment. We categorize education into three categories: less than high school, high school (including a regular diploma, GED, other equivalency, or certificate of completion), and one year of college or more. Very few youth, approximately 6%, have attained an Associate's degree or higher by their interview at age 23 or 24.

4.2.3. Personal capital

The study used items from the National Longitudinal Study of Adolescent Health (Add Health) (Bearman, Jones, & Udry, 1997) to assess the frequency of delinquent behaviors in the past 12 months. We use contemporaneous dichotomous measures to indicate the presence of at least one violent act of delinquency (of seven possible including serious fights, using a weapon, and shooting or stabbing someone) or at least one act of property-involved delinquency (of four possible including damaging property, stealing, and breaking and entering). The study also asked youth to self-report involvement with the justice system, including a history of criminal conviction. We use a dichotomous measure to indicate whether the youth has ever been convicted.

We include a contemporaneous dichotomous measure of whether respondents have living children. We do not distinguish between resident and non-resident children. Too few young fathers are co-resident and too few mothers are non-resident at the first two interviews to include separate measures. For example, at Wave 2 only seven of 33 fathers were co-resident and only seven of 113 mothers were non-resident. We include an interaction term between gender and parental status to account for the divergent associations between parenthood and labor supply.

To measure youths' history of abuse and neglect we use youths' baseline report from the Lifetime Experiences Questionnaire (Rose, Abramson, & Kaupie, 2000), which assesses one's history of physical, emotional, and sexual maltreatment committed by peers and adults. The LEQ was developed as a modification of Cicchetti's Child Maltreatment Interview (1989), and assesses a broad range of specific events. The questions used here primarily focus on ways in which caregivers may have mistreated youth. We aggregate reported maltreatment experience into categories of neglect and abuse, and use dichotomous measures to indicate a history. In compliance with IRB Procedures concerning questions of a sensitive nature, researchers did not ask youth about sexual abuse during the baseline interview.

4.2.4. Social capital

Questions regarding service factors (i.e. number of placements, type of placements) were developed for a prior study of foster youth aging out of care in Wisconsin (see Courtney et al., 2001 for a description of the questions). At the baseline survey, youth were asked what type of home they were currently living in and the number of foster care placements (including group home, residential treatment centers, or child caring institutions) they had been in since entering the foster care system. We create three dichotomous measures indicating that youth lived in 1) a foster home with relatives, 2) a group home or treatment center, or 3) independent living, emancipated or other (foster home without relatives is the reference category). Total placement is top-coded at 25 because only 1.4% reported more than 25 placements.

We include respondents' time in care past age 18 (calculated from the interview date and official discharge date). Although Illinois is the only state of the three that allows youth to remain in care until 21, there is considerable variation within each state. The median time in care after age 18 is 1096 days in Illinois, 15 days in Iowa, and 20 days in Wisconsin. The 10th to 90th percentiles range from 95 to 1096 days in Illinois, -9 to 392 days in Iowa, and -217 to 338 days in Wisconsin.

4.2.5. Demographic and controls

From the baseline interview we include respondents' sex, race, and state of residence. To measure race we include dichotomous variables

indicating that the youth is African-American or “other race” reflecting youth who are not African-American or white (white is the reference category). We are unable to use a more refined measure because we are constrained by the size and demographic composition of the sample. We also include dichotomous variables indicating that the youth was in foster care in Wisconsin or Iowa (reference category is Illinois).

From contemporaneous interviews we include respondents' *age*, *enrolled in school*, and *urbanicity of current residence*. Enrolled in school is a dichotomous measure based on self-report. Urbanicity is measured by the percent of residents in the respondent's county classified as urban by the 2000 census. An area is urban if the census block group has a population density of 1000 people per square mile and the surrounding census blocks have an overall density of at least 500 people per square mile. We obtain this data from the Missouri Census Data Center (MABLE/Geocorr2K).

In models predicting wage we also control for *weekly work hours* and *tenure with current employer*. Youth were asked how many hours per week they usually work at their main job. Tenure was calculated by subtracting the date youth reported beginning work with their current employer from the interview date. Both are measured continuously.

We explored several other measures, but because they did not contribute to model fit we omitted them from final models for parsimony. We included dichotomous measures from the baseline interviews for respondents' history of grade retention, intention of attending college, and closeness to a parent or caregiver, and contemporaneous measures of recent symptoms of depression, post-traumatic stress syndrome, alcohol abuse or dependence, and drug dependence. We also tested youths' age at entry, and a contemporaneous measure of a lifetime count of employment-related independent living services (ILS). We tested the count of ILS on various subjects (highest and lowest need youth), but found no association. A count of any employment ILS may not be refined enough to detect relationships.

4.3. Analysis

We use multilevel models to analyze youth's employment at all four waves of the Midwest Study, predicting employment with stable characteristics observed at the first interview and characteristics that may vary each time a youth is interviewed. We include young men and women in the same models; we tested the use of common models and found that they are preferred as long as we include an interaction term between gender and parenthood.

We use logistic regression to predict employment of 20 or more hours per week.¹ We remove youth not in the labor force because of disability or incarceration from the models. This omits 34 youth at Wave 2, 64 at Wave 3, and 56 at Wave 4. We then use ordinary least squares regression to predict log wages among those employed. We use the natural logarithm of wages because the distribution is highly skewed. We choose to present separate models of employment and wages because we are interested in how youth are selected into the labor market (employment) and the wage outcomes of youth in the

labor market (wages). We do not weight analyses because both state and sex are covariates.

We use multiple imputation to address missing data. We used multivariate normal regression which uses an iterative Markov chain Monte Carlo (MCMC) method to impute missing values, imputing at least one of 15 variables in 438 cases (18.5% of 2371 observations). No more than 5.4% of cases were missing data on any single variable. We had full information on employment status, so we imputed the data separately for those who were not employed and those who were employed. This allowed us to impute hours, wage, and job tenure among the employed. The estimates we present are the average estimates from 50 imputed datasets.

We choose to model some covariates contemporaneously because there was little reason to believe that lagged measures (two years prior) should be associated with current employment (e.g. youths' educational attainment and school enrollment two years ago is of less interest than youths' attainment and enrollment contemporaneously). Thus, our results for contemporaneous covariates indicate an association, not a causal relationship (i.e., school enrollment may depress employment, but employment may depress school enrollment). In early models we tested a lagged covariate for previous employment. It was not statistically significant and we do not include it in final models.

We began by examining the presence of unique trajectories for youth by comparing a series of models. First, we fit unconditional means models, including only a random intercept for each youth. Next, we added time (exact age centered at 17) as a covariate. Third, we fit unconditional growth models, adding a random slope for time (Singer & Willett, 2003). Our results for employment and wages differ substantially. The addition of time mattered little for employment. The Bayesian Information Criterion (BIC) reduced by 4.06% comparing the unconditional means model to the model with time as a covariate (3071.17 versus 2946.35). The BIC reduced by only an additional 0.17% adding a random slope for time (2946.35 versus 2941.45). In contrast, the BIC for wages reduced by 45.53% comparing the unconditional means model to the model with time as a covariate (770.74 versus 419.79), and another 7.85% adding a random slope for time.

There is little evidence of unique employment trajectories for youth. Our inability to distinguish employment trajectories for youth does not indicate that trajectories do not exist. We are limited to only four dichotomous data points (and only 401 youth have data for all four waves). If we had additional waves or more complete information on employment histories, we may be able to establish trajectories for youth. Among the employed, however, not only do wages grow over time, but there is evidence that employed youth have unique growth trajectories. We include a random slope for time only in the wage model. We do not, however, attempt to explain variation in trajectories (e.g. include interaction terms between covariates and time) because the overwhelming portion of variance is a shared trajectory of increasing wages over time. We leave work on wage trajectories for future research with additional employment data.

5. Results

5.1. Descriptive results

By age 24, just under half of former foster youth participating in the Midwest Study are employed, and most are working full time, as shown in Table 1. We observe increases in employment from ages 17 to 19 and 19 to 21 for both men and women, but there is little change from age 21 to 24. Women, in fact, show a small decrease in employment from age 21 to age 24. Although their participation in full-time employment holds steady, their part-time employment rates slip from 18 to 13%. Men's rates hold stable, breaking the pattern of

¹ In preliminary analyses we used multinomial logistic regression to explore using other categorizations of employment. In the end, multinomial regression was difficult to implement while incorporating both multiple imputation and multilevel models. In addition, the vast majority of predictors have similar effects across different levels of employment. In our final models, we found little difference testing alternate cut points. Overall, 43.9% of youth are employed at least 10 h, 39.6% are employed at least 20 h, and 29.6% are employed at least 30 h. Using 10 h as the cut point for the logistic regression instead of 20, we find stronger negative associations with engagement in property crime and conviction. Using 30 h instead of 20, we find that only living in a group home remains statistically different from traditional foster homes and enrollment is negatively related to employment.

Table 1
Employment status by age and sex.

	Men				Women			
	Age 17	Age 19	Age 21	Age 24	Age 17	Age 19	Age 21	Age 24
Employed								
35+ h	5.4	24.6	34.2	33.8	5.1	19.4	31.7	32.2
20 to 34 h	15.3	12.7	12.0	10.8	22.1	14.8	17.6	12.8
1 to 19 h	11.3	3.6	2.2	1.8	10.4	5.5	4.5	3.8
Total	32.0	40.9	48.4	46.4	37.5	39.7	53.8	48.8
Not employed								
Looking for work	–	30.1	27.6	27.7	–	34.8	24.7	33.1
Disabled	–	1.1	4.4	1.1	–	0.9	3.2	2.5
Incarcerated	–	9.4	13.5	16.2	–	0.3	1.0	–
Other	68.0	18.5	6.2	8.6	62.5	24.3	17.3	15.6
Total	68.0	59.1	51.6	53.6	62.5	60.3	46.2	51.3
N	353	276	275	278	376	325	412	320

Note: We are unable to distinguish reasons youth are not employed at age 17–18. No youth in the sample were incarcerated at this time.

increasing employment. It is notable that men's rates held steady during a difficult economic period. Unemployment rates for 20- to 24-year-old white youth were 6.7% when data were collected in 2006–2007, but had risen to 10.3% when data were collected in 2008–2009. Rates for African American youth increased from 15.8 to 20.0%.² Because women are disproportionately in part-time employment, young women's employment may be more affected by layoffs during this recession than young men's. Another possibility is that young women are increasingly raising children. By age 24, 59% of former foster youth are parents.

The majority of youth who are not employed are actively searching for work, as shown in Table 1. Almost 30% of men and over 30% of women are looking for work at age 24. There is some evidence that the decline in women's employment may be related to the recession. The percentage of women looking for work increased from 25% at age 21 to 33% at 24. Although the majority of men who are not employed are looking for work, a sizable group is not employed because they are incarcerated, 16% at age 24. By age 24, very few men are unemployed and not looking for or unable to work, only 9% compared to 16% of women. Former foster youth are clearly vulnerable in the labor market, especially in the current economic climate.

If we further refine employment rates by race-ethnicity, we see a large gap between African Americans and other youth, as shown in Table 2. Only 36% of African American men and 42% of African American women are working, compared to nearly 60% of non-African American youth. Furthermore, 39% of African American men and 43% of African American women have looked for work in the past 4 weeks, compared to only 16% of other men and 20% of other women. African American men are also more likely to be out of the labor force because of incarceration at 19% than are other men at 13%. Very few African American men are not working, not looking for work, disabled, or incarcerated—only 5%. In contrast, 13% of other men, 12% of African American women, and 20% of other women are in this category.

Focusing on the half of youth that are employed, their wages, hours, and job tenure increased over time, as shown in Table 3. Hourly wages (adjusted to 2008 dollars) increased from an average of \$7.47 an hour at age 17 to \$10.59 at age 24 for men, and from \$7.41 to \$9.09 for women. At age 17, men and women earned about the same average wage, but by age 24, men were earning \$1.50 more per hour. At age 24 men working full-time, full-year at this wage would earn about \$22,000 a year, and women would earn about \$18,900. Fewer than one-third of all youth, however, are working full-time. Average

Table 2
Employment status at age 24 by race and sex.

	Men		Women	
	Non African-American	African-American	Non African-American	African-American
Employed				
35+ h	42.2	25.9	38.4	27.5
20 to 34 h	12.6	9.1	13.0	12.6
1 to 19 h	2.2	1.4	5.8	2.2
Total	57.0	36.4	57.2	42.3
Not employed				
Looking for work	15.6	39.2	20.3	42.9
Disabled	1.5	0.7	2.2	2.7
Incarcerated	13.3	18.9	–	–
Other	12.6	4.9	20.3	12.1
Total	43.0	63.6	42.8	57.7
N	135	143	138	182

hours of work have increased over time to 41 h for men and 35 h for women at age 24. Youth also show a steady increase in job tenure. By age 24 they have spent an average of 16 months at their most recent job.

These earnings from employment are put into perspective by considering how many of these young adults would be considered *poor* according to the U.S. Census Bureau definition. Estimating annual earnings based on current employment and adjusting for family size and partners' income, 56% of young people participating in the Midwest Study at age 23 or 24 would be classified as poor (not including the 9% out of the labor force because they are incarcerated or disabled). Among those employed, 22% would be classified as poor.³

5.2. Multivariate results

We now turn to identifying factors that help us understand if youth are employed, and if so, how much they earn. The first model in Table 4 shows odds ratios indicating how a characteristic affects the odds that a youth will be employed 20 or more hours a week (compared to being not employed or employed less than 20 h). The second model shows how these characteristics affect the wages (on a logged scale) of youth who are employed.

Before discussing coefficients, we discuss the variance components shown at the bottom of the table. The variance components tell us about the amount of variation between youth and within repeated measures from the same youth. In the empty random intercept model for wages the standard deviation of the level-2 intercept (.14) indicates that 95% of youths' intercepts will be plus or minus two standard deviations the constant (plus or minus .28). The standard deviation of the level-1 residual (.32) indicates that 95% of youths' repeated measures will be plus or minus two standard deviations from a youth's own individual mean (plus or minus .64). There is more variation within the repeated measures of individual youth than there is in the intercepts between youth. In other words, there is less stability in youths' own wages and more uniformity in wages across youth. The variability within repeated measures of youths' wages is reflected in the intra-class correlation coefficient (ICC), or proportion of variation explained at level-2, of .16.

There is more stability within youths' employment status, however, as indicated by a higher ICC of .32. We do not decompose level-1

² Rates are calculated from quarterly unemployment rates published by the Bureau of Labor Statistics' Labor Force Statistics from the Current Population Survey, Series Title: Unemployment Rate - 20–24years, Black or African American and White.

³ Estimated annual earnings are calculated by multiplying reported hourly wage by hours worked per week by 52 weeks. Not all youth work year-round, however. If we use youths' reports of annual earnings, 64% of youth would be classified as poor. If youth are married or cohabiting, partners' earnings are added to household income. Household income is compared to the federal poverty line, adjusting for the number of the respondent's biological children living in the household and the presence of a spouse or partner.

Table 3
Wages, hours, and job tenure among youth employed 10 h or more per week by age and sex.

	Men				Women			
	2002–03 Age 17–18	2004 Age 19	2006–07 Age 21	2008–09 Age 23–24	2002–03 Age 17–18	2004 Age 19	2006–07 Age 21	2008–09 Age 23–24
Hourly wage (a)	\$7.47	\$8.80	\$10.20	\$10.59	\$7.41	\$7.79	\$8.61	\$9.09
Hours of work per week	22.5	34.2	37.8	40.8	22.4	30.2	33.2	34.7
Months at current job	8.6	7.7	10.4	16.7	8.0	10.6	11.3	15.6
N	108	111	129	131	137	109	162	148

Note: (a) Hourly wages are adjusted to 2008 using the Bureau of Labor Statistic's Consumer Price Index (CPI), which tracks changes in the price of goods and services consumed by urban households.

and level-2 standard deviations because logistic regression does not produce a standard level-1 variance; it follows directly from the success probability (Snijders & Bosker, 1999). Comparing the ICC from the empty model to the full model, the model for employment reduces the ICC – representing variation between youth – by about

20% (comparing .32 to .26). In contrast, the model for wages does not account for between youth variation, but does account for nearly 30% of within youth variation (comparing .32 to .23), and 20% of between youth variation in the intercept (comparing .14 to .11). The model adds, however, between youth variation in the slope of time.

Table 4
Multivariate analyses of employment and hourly wage.

	ML logistic: employed 20+ h			ML linear: log hourly wage among employed	
	B	SE	OR	B	SE
<i>Demographic and controls</i>					
Age at T (centered 17)	.08	.04*	1.09	.060	.006***
Hours of work per week at T	–	–	–	.003	.001***
Months at current job at T	–	–	–	.002	.001*
Enrolled in school at T	–.24	.14	.79	.000	.022
Wisconsin (ref: Illinois)	.64	.18***	1.89	.025	.028
Iowa (ref: Illinois)	.79	.26**	2.20	.038	.038
Percent urban at T	–.04	.27	.96	.068	.039
African-American (ref: white)	–.71	.19***	.49	.019	.028
Other race (ref: white)	–.29	.21	.75	.010	.031
<i>Human capital</i>					
Reading level (ref: less than 6th grade)					
6th–8th grade	.40	.18*	1.49	–.003	.029
High school	.54	.18**	1.72	.018	.028
Post high school	.33	.21	1.40	.071	.033*
Education at T (ref: less than high school)					
High school degree or equivalency	.71	.14***	2.03	.027	.025
Some college+	1.37	.20***	3.95	.041	.032
<i>Personal capital</i>					
Engaged in violent crime at T	–.05	.14	.95	.034	.022
Engaged in property crime at T	–.29	.14*	.75	–.035	.023
Ever convicted at T	–.22	.15	.80	–.030	.025
Female	.09	.16	1.09	–.081	.025***
Child at T	.55	.22**	1.73	.057	.035
Child at T*Female	–.99	.26***	.37	–.069	.043
Abused	–.14	.15	.87	–.007	.023
Neglected	.34	.15*	1.41	.004	.023
<i>Social capital</i>					
Living arrangement (ref: traditional foster home)					
Relative	–.36	.17*	.70	.011	.026
Group or treatment	–1.00	.21***	.37	–.061	.035
Independent living, emancipated	–.53	.21**	.59	.009	.034
Total placements	–.02	.01	.98	–.007	.002**
Years in care past 18 at T	.08	.07	1.08	.008	.012
Constant	–.88	.36*		1.720	.058***
<i>Variance components</i>					
Level 1: residual SD	–	–	–	.32	.23
Level 2: intercept SD	1.24		1.07	.14	.11
Level 2: random slope SD	–	–	–	–	.03
Proportion var at level 2 intercept (%)	.32		.26	.16	.17
BIC (a)	3068.91		2928.31	770.74	632.05
N (cases)	2371			1071	
N (individuals)	731			512	

Note: ***p ≤ .001, **p ≤ .01, *p ≤ .05. (a) BIC and predicted values are calculated from first MI dataset. Predicted wage among employed = 2.082 (\$8.02), among unemployed = 1.897 (\$6.67).

Table 5
The association between time in care and employment outcomes net of educational attainment.

Time-varying covariates	Model 1			Model 2			Model 3			Model 4		
	All states with education			All states without education			Illinois with education			Illinois without education		
ML logistic: employed 20+ h per week												
	B	SE	OR	B	SE	OR	B	SE	OR	B	SE	OR
Age	.082	.037*	1.086	.167	.035***	1.182	.130	.050**	1.139	.199	.050***	1.221
Years in care past 18	.076	.072	1.079	.220	.070**	1.246	-.022	.085	.978	.169	.082*	1.184
High school degree	.708	.144***	2.029				.826	.180***	2.284			
Some college	1.374	.198***	3.953				1.504	.228***	4.501			
ML linear: log hourly wage among the employed												
	B	SE	B	SE	B	SE	B	SE	B	SE		
Age	.060	.006***	.062	.006***	.045	.009***	.046	.009***	.046	.009***		
Years in care past 18	.008	.012	.013	.011	.022	.014	.027	.014	.027	.013*		
High school degree	.027	.025			.035	.034						
Some college	.041	.032			.039	.041						

Note: *** $p \leq .001$, ** $p \leq .01$, * $p \leq .05$. Models include all covariates listed in Table 4. Full results are available from authors upon request.

Beginning with demographic and control variables, we see that as youth age they are more likely to be employed and earn higher wages. Employment grows by 9% a year and wages grow by about 6% per year. As expected, greater hours of work and months at their current job are both associated with higher hourly wages for employed youth. Youth receive 2.4% higher wages for every year at their current job, and 3% higher hourly wages for every additional 10 h they work per week.

Youth exiting care in Wisconsin and Iowa were more likely to be employed than youth in Illinois. Although there may be multiple explanations for state differences, the unemployment rates in these states differ considerably. The annual unemployment rate among 20 to 24 year olds in 2009 was higher in Illinois at 16.3% than in Wisconsin at 12.7% or Iowa at 10.7%. These rates were considerably higher than figures for 2008, but statewide patterns are consistent: Illinois at 11.6%, Wisconsin at 7.2% and Iowa at 6.8% (Bureau of Labor Statistics, 2010).

African-American youth are about half as likely to be employed as white youth. Black youth in the labor market, however, do not appear to receive lower wages. It is important to note, however, that youth in the labor market are a more "select" group than youth out of the labor market. That is, they are more educated and can expect to earn higher wages than youth out of the labor market. In fact, if we estimate the wages that youth who are not employed would earn if they became employed, they would earn only \$6.67 an hour compared to \$8.02 for employed youth—a difference of 17%.

As expected, human capital is strongly associated with employment. Youths' reading recognition score on the Wide Range Achievement Test (WRAT) is associated with odds of employment. Youth scoring above grade 6 were 40 to 70% more likely than youth scoring below grade 6 to be employed at least 20 h per week. Furthermore employed youth scoring at the post high school level at age 17 earned 7% higher wages.

Educational attainment is strongly associated with employment and wages (an example of how youth are positively selected into the labor market). Youth with a high school diploma or GED are twice as likely to be employed as youth who did not complete high school. Youth with some college attendance or an Associate's degree are nearly four times as likely to be employed. At age 24, 20% of youth did not complete high school, 46% had a diploma, GED, or equivalency, 28% had attended some college, and 6% had an Associate's degree.

Turning to personal capital, having a child increases the likelihood of young men's employment, but depresses young women's employment. Fathers are over 70% more likely to be employed than childless

men, and mothers are about 60% less likely to be employed than childless women. Women, whether or not they are mothers, earn 8% less than childless men.

Those engaged in property (but not violent) crime are 25% less likely to be employed. Property crime includes stealing, breaking and entering, and damaging property. One explanation for the divergence between types of crime is that property crime may serve as an alternate source of income for some youth.

Youth who had been neglected by a caretaker were about 40% more likely to be employed than foster youth who had not been neglected. One potential explanation for their greater employment is that neglected youth have fewer social supports outside of the labor market and thus find it more necessary to work than youth who have others they can rely on in times of need. We find that neglected youth are less likely to have someone they can ask for favors, and less likely to be close with their birth mother or any caregiver in the foster care system than youth who were not neglected.

Turning to our measures associated with social capital, youth who were not living in family foster care on the verge of transition were less likely to be employed. Traditional family foster care may connect youth to networks that facilitate employment. Youth exiting from group care or residential treatment were 63% less likely to be employed and may earn lower wages than other youth. These youth may be particularly unlikely to have adults with connections that foster employment. These youth may also have personal characteristics not captured by the measures we used that affected both their initial placement into group care and their employability (e.g., emotional and behavioral problems). Results for the lower likelihood of employment among youth who were living independently may be surprising, but anecdotal evidence suggests that youth in Illinois, where the vast majority of youth in independent living arrangements resided, are often placed in independent living settings not because they are prepared to live independently, but because they have already experienced treatment-oriented settings like group care and have few remaining placement options. Independent living may also be unlikely to facilitate connections that foster employment. Youth living with relatives are also less likely to be employed, about 30% less likely than youth living in a traditional family foster home. One possibility is that youth living with family may be financially supported by family members to a greater extent than youth living in traditional family foster care.

The more placements a youth experienced prior to exit the lower their wages. Each placement is associated with 0.7% lower wages. Similar to our findings regarding group care placement, this result may be an indication that placement instability is a proxy for

emotional and behavioral problems of youth and/or an indication that instability undermines the development of social connections that might assist youth in obtaining higher-paying jobs.

Finally, in Table 4 we observe no effect for years spent in care after 18 on employment or wages. To further investigate the influence of remaining in care on employment outcomes we performed a supplementary analysis comparing results for our full model, including education, and a reduced model, omitting education Table 5. We ran the models together for all three states and separately for Illinois where youth may remain in care until 21. In Illinois 37% of youth exited by their 19th birthday, another 21% exited between their 19th and 20th birthdays, and a final 43% exited between their 20th and 21st birthdays.

Model 1 replicates the analysis displayed in Table 4. Years in care shows no effect on employment outcomes. In the second model, we remove education. For each year in care we observe a 25% greater likelihood of employment. To further test the sensitivity of our results we restrict the sample to Illinois. In the full model including education, years in care shows no effect on employment outcomes. In Model 4, removing education, we observe an 18% greater likelihood of employment for each additional year in care past 18. We also see that wages increase by 2.7% with each additional year in care; this amounts to 8.1% higher wages for youth who remain in care until age 21. Thus, the longer youth remain in care in Illinois, the better their employment outcomes, but this association is explained by the positive association between time in care and youth's human capital.

6. Discussion

Our findings regarding the employment of young people making the transition to adulthood from foster care are sobering. At the age of 24, only half of former foster youth who aged out of the system in Illinois, Wisconsin, and Iowa are employed, a rate that is much lower than that of young people the same age in the general population (Courtney, Dworsky et al., 2010). Another 30% are looking for work. Even among those employed, the findings highlight the extreme vulnerability of this population during periods of economic downturn; we estimate that 22% of employed former foster youth have earnings as young adults that would not lift them out of poverty.

The multivariate models suggest that human, personal, and social capital all play a role in influencing former foster youths' employment outcomes as young adults. Although addressing youths' needs in all of these areas is a complex task, the results suggest that there are many possible points of intervention that could improve youths' outcomes. Below we summarize our findings and point to their policy and practice implications.

Youth who are not working have lower educational attainment than employed youth. About one-third of youth not looking for work and one-quarter of youth actively looking for work do not have a high school diploma or equivalency degree. In contrast, only one-tenth of youth working full-time do not have this credential. Education is clearly important for employment and wages. Youth without a high school degree and with low reading comprehension at age 17 are especially disadvantaged. Other data from the Midwest Study point to the poor educational attainment of foster youth making the transition to adulthood (Dworsky & Courtney, 2010). The educational divide in employment outcomes and poor educational trajectories of former foster youth points to a clear need to understand and address the barriers to education and employment for this population, including making efforts to address educational deficits and engage foster youth in paid employment long before they reach the age of majority.

Among young men, we see an additional barrier to employment for the sizeable number who are currently incarcerated. At age 23 or 24, 16% of young men who aged out of care were incarcerated and nearly three-fifths (58.8%; $n = 157$) had been convicted of a crime since age 18 (Courtney, Dworsky et al., 2010). The employment prospects of these men are dim on average. Forty-seven percent of those incarcerated at

age 23 or 24 have not earned a high school diploma or equivalency. Furthermore, research shows that young men with a felony conviction are less likely to be hired (Pager, 2003). Although the young men participating in the Midwest Study all entered foster care as a result of abuse, neglect, or dependency, not delinquency, many of them nevertheless have been involved with the juvenile and adult criminal justice systems. This finding calls for closer collaboration between child welfare and criminal justice systems in developing coordinated practice models and programs to address the employment needs of foster youth making the transition to adulthood. It also calls attention to the need to enhance interventions targeting behavior problems of adolescents in foster care, particularly young men, in order to prevent their involvement in the criminal justice system.

Among young women, motherhood is a barrier to employment and attaining higher wages. The majority of young women aging out of the foster care system are mothers by the age of 24. Sixty-two percent of working women are mothers, whereas 75% of those actively looking for work and 78% of those not working and not looking for work are mothers. Whereas having a child decreases women's likelihood of employment, the opposite is true for men. This is consistent with many mothers' role as primary caregiver and many fathers' perception that fatherhood and financially providing for children are a "package deal" (Townsend, 2002). In addition, many of these young men are noncustodial fathers and may have child support obligations. The fact that so many former foster youth are parents early transition to adulthood, and the extent to which parenting influences employment for former foster youth, calls into question the adequacy of current policy directed at this population. The older youth provisions of the Fostering Connections Act make no mention of parenting and the provisions requiring young people remaining in care beyond age 18 to be employed or in school make no reference to the additional challenges faced by young parents. Our findings raise serious questions about the extent to which Fostering Connections Act provisions may result in the exclusion of young parents from care after age 18. Other research based on data from the Midwest Study identifies struggling young parents as a distinct subgroup of former foster youth in transition (Courtney, Hook, & Lee, 2010). Child welfare services practitioners and program administrators should devote more attention to the particular needs of this population, including developing strategies for collaborating with other institutions that serve young, low-income parents.

African American former foster youth may be particularly affected by a tight labor market. Only two-fifths of African American youth are employed at age 24 compared to three-fifths of white youth, and African American youth are about three times as likely as white youth to be looking for work. However, once employed, there is no evidence that wages are depressed for African American youth. This absence of a wage penalty for African American workers reflects the fact that African American youth in the labor market are a more select group than white youth in the labor market. Overall, estimated wages for those in the labor market are 17% higher than for those out of the labor market. Our findings identify yet another racial disparity in outcomes experienced by young people in the child welfare system and call for efforts to understand both the causes of this disparity and potential strategies for reducing it (Dworsky et al., 2010).

Finally, the characteristics of the foster care system itself are associated with employment outcomes of former foster youth. The living arrangement a youth is in on the verge of transition is associated with employment outcomes. It is not clear from this analysis whether youth in group care are limited by characteristics associated with their placement into group care or whether the experience of being in group care alters a youth's employability, but youth exiting from group care or a treatment facility are especially vulnerable. Anecdotal evidence suggests that at least some group care settings may discourage youth from acquiring work experience. Research should be conducted to assess the extent to which this is

true and to identify strategies for increasing the likelihood that youth in group care will acquire work experience during their time in care. In addition, generally targeting employment supports towards youth in group care makes sense given their relatively poor employment trajectories. Even children in relative placements do not seem to fare as well as children in family foster homes. A potential strategy for improving employment outcomes is to identify characteristics of family foster homes that facilitate youths' employment.

In Illinois, where youth can remain in care until 21, there is further evidence that the characteristics of the foster care system are associated with employment outcomes. The number of years a youth remained in care from age 18 to 21 is positively associated with employment and wages. This association is largely explained by youths' educational attainment. That is, youth remaining in care attain higher educational credentials which translate into better employment outcomes. These findings provide some justification for states to adopt the Fostering Connections Act provisions allowing the extension of foster care past 18 (U.S. Department of Health & Human Services, 2008).

Perhaps the most important implication of the Midwest Study finding regarding the employment trajectories of former foster youth, and the contributors to those trajectories, is the importance of better coordination between the child welfare system and other institutions that serve young adults. A better-coordinated strategy of collaborative parenting of these young people by a wide range of public institutions is

sorely needed (Courtney, 2009). For example, the needs of this population should be taken into account by programs supported through the Workforce Investment Act (U.S. Department of Labor, 1998), and child welfare agencies should redouble their efforts to coordinate their own employment supports with those of these other providers (see Mendes, 2009 for a brief review of employment support programs in North America, the United Kingdom, and Australia). Collaboration between child welfare agencies and the juvenile and adult criminal justice systems could help improve employment outcomes for the many young men involved in both systems. Finally, it is long past time to acknowledge that many young adult former foster youth, and most of the young women, are balancing the often-competing demands of work and parenting. This calls for better collaboration between child welfare authorities and the range of institutions involved in the lives of young low-income parents (e.g., welfare-to-work programs; public health systems; schools).

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Appendix A

Appendix Table 1

Descriptive statistics, weighted ($N = 2374$).

	Wave 1		Wave 2		Wave 3		Wave 4	
	Percent or mean	SD	Percent or mean	SD	Percent or mean	SD	Percent or mean	SD
<i>Dependent</i>								
Employed 20+ hat T	23%		36%		53%		49%	
Log hourly wage at T*	1.82	(.02)	1.98	(.02)	2.15	(.02)	2.28	(.02)
<i>Demographic and controls</i>								
Female	52%		55%		56%		56%	
Age at T (centered 17)	.91	(.01)	2.53	(.01)	4.63	(.01)	6.90	(.01)
Hours of work per week at T*	22.48	(.72)	32.24	(.76)	35.24	(.68)	37.57	(.81)
Months at current job at T*	8.24	(.66)	9.13	(.89)	10.90	(.84)	16.11	(1.05)
Enrolled in school at T	82%		51%		25%		16%	
Wisconsin sample	20%		20%		23%		21%	
Iowa sample	7%		7%		7%		7%	
Percent urban at T	90%		90%		90%		90%	
African American	58%		57%		56%		57%	
Other race	15%		16%		15%		15%	
<i>Human capital</i>								
Reading level: 6th-8th grade	24%		24%		22%		23%	
High school	23%		24%		25%		25%	
Post high school	17%		17%		17%		17%	
Education: HS degree or GED	14%		52%		45%		46%	
Some college+	1%		11%		35%		35%	
<i>Personal capital</i>								
Child at T	15%		24%		45%		59%	
Engaged in violent crime at T	59%		34%		23%		17%	
Engaged in property crime at T	46%		27%		18%		15%	
Ever convicted at T	21%		26%		29%		35%	
Abused	36%		35%		36%		35%	
Neglected	61%		61%		61%		61%	
<i>Social capital</i>								
Living arrangement: Relative	32%		32%		34%		33%	
Group or treatment	19%		17%		15%		17%	
Independent living, Emancipated	15%		14%		14%		14%	
Total placements	5.89	(.20)	5.77	(.23)	5.37	(.22)	5.53	(.22)
Years in care past 18 at T	-.11	(.01)	.99	(.03)	1.65	(.06)	1.66	(.06)
N	732		569		527		546	

Note: *Descriptive statistics for these measures are restricted to the employed.

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