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Happy 18th Birthday, Now Leave: Estimating the Causal Effects of Extended Foster Care

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Abstract

Over 20,000 youth age out of foster care each year in the United States and face various hardships. Exploiting plausibly exogenous policy variation, I find that exposure to extended foster care reduces homelessness and incarceration by 29 and 38 percent, respectively. Outcomes from the National Youth in Transition Database, a longitudinal survey that collects information from foster youth at ages 17, 19, and 21, are linked to the Adoption and Foster Care Analysis and Reporting System, administrative data containing information about individuals' foster care history. Back-of-the-envelope calculations suggest that extended foster care yields a 4:1 return on investment.

JEL Codes: I38, J13

Keywords: foster youth, extended foster care, transition to adulthood

Data Disclaimer: The data used in this paper, [AFCARS and NYTD], were obtained from the National Data Archive on Child Abuse and Neglect (NDACAN) and have been used in accordance with its Terms of Use Agreement license. The Administration on Children, Youth and Families, the Children's Bureau, the original dataset collection personnel or funding source, NDACAN, Cornell University and their agents or employees bear no responsibility for the analyses or interpretations presented here.

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"Eighteen is too young for many youth and young adults to be without financial, social, and emotional support. [Many youth are not] suddenly expected to be fully independent and entirely self-reliant the day [they] turn eighteen."

– Isabel Soto (Former foster youth and Confidential Assistant in the Office of Career, Technical, and Adult Education at the U.S. Department of Education)[1]

1. Introduction

Transitioning to adulthood can be daunting, especially for foster youth who lose access to housing, social, and financial support rather abruptly (Collins, 2001; Osgood et al., 2010). Over 20,000 youth age out of foster care in the United States each year and face various hardships as they transition to adulthood. By the age of 21, 23 percent will have experienced homelessness, 26 percent will have been incarcerated, and only 66 percent will have received a high school diploma or GED (AECF, 2019). Moreover, less than 8 percent will receive a college degree, and 50 percent will still be unemployed by the age of 24 (National Foster Youth Institute, 2017). Among young women, 26 percent will have had a child by age 19 (AECF, 2019). On one hand, these hardships might stem from the accumulation of adverse childhood experiences, such as neglect and abuse (Gypen et al., 2017). Alternatively, these hardships might stem from losing access to resources at a developmentally young age (Rosenberg & Abbot, 2019). This paper focuses on the latter and evaluates the impact of prolonged access to resources on the transition to adulthood for foster youth.

Recognizing the challenges foster youth face while transitioning to adulthood and the subsequent costs to society,[2] the federal Fostering Connections Act of 2008 (FCA) incentivized states to extend foster care support and services beyond 18

[1] https://sites.ed.gov/octae/2016/02/04/21-23-or-26-rethinking-eligibility-for-youth-who-have-aged-out-of-foster-care/ was archived in 2022 and can be found using https://web.archive.org/.

[2] The Annie E. Casey Foundation estimates that approximately 4.1 billion dollars could be saved if foster youth graduated high school and experienced homelessness, incarceration, and early parenthood at similar rates to their non-foster youth peers (AECF, 2019).

years old. As a result, between January 2012 and January 2018, 26 states implemented extended foster care (i.e. prolonged access to housing, social, and financial support), potentially impacting over 31,500 youth each year.[3]

I exploit the staggered roll-out of extended foster care to estimate the causal effects of this program on the transition to adulthood for foster youth across the country. In particular, I examine the effect of extended foster care on young adult outcomes, such as homelessness, incarceration, parenthood, and disconnectedness.[4] I also examine heterogeneity by funding source,[5] policy aspects, placement settings, and youth characteristics to determine what makes the policy effective and who benefits the most. To do this, I link novel individual-level survey data to rich case-level administrative data for two cohorts of foster youth across the country. The survey data come from the National Youth in Transition Database (NYTD), which contains demographic information and outcome measures for foster youth between the ages of 17 and 21. Cohort 1 was surveyed biennially from 2011 to 2015 and cohort 2 was surveyed biennially from 2014 to 2018. The administrative data come from the Adoption and Foster Care Analysis and Reporting System (AFCARS), which contains detailed information about a youth's foster care history. I also construct a state-level panel of economic conditions, safety net generosity, and extended foster care policy changes. Combining these data, I compare outcomes of youth across cohorts within the same state under different extended foster care policies, controlling for individual, cohort, and state characteristics. To establish causality, I argue that the timing of these policy changes is exogenous with respect to individual outcomes after controlling for cohort and state trends.

[3] Author's calculation based on the number of 17-year-old foster youth (from AFCARS 2011 & 2014) in the 26 states that implemented extended foster care and the 19 states that had extended foster care prior to 2012.

[4] Some people may refer to this as "idle" or "NEET" (neither in employment nor education or training), but throughout the paper I use "disconnected." "Disconnected" is commonly used in public policy.

[5] Some states finance extended foster care with federal reimbursements and others use state funding.

I find evidence that full exposure to extended foster care from age 18 to 21 reduces homelessness by 29 percent and incarceration by 38 percent. I find suggestive evidence that exposure to extended foster care reduces parenthood, but I do not find conclusive evidence that exposure to extended foster care impacts disconnectedness. Funding source matters; federally-funded extended foster care has stronger effects than state-funded extended foster care, but other policy aspects, like automatic placement, reentry, and direct payments to youth, are less important. Finally, extended foster care primarily helps youth that lived with a foster family prior to turning 18 (as opposed to living in a group home or other placements) but appears to have similar impacts regardless of other characteristics and experiences. Understanding how the current program impacts foster youth differentially based on funding, placement setting, and youth characteristics enables better targeting of future resources.

Prior studies also suggest beneficial impacts of extended foster care, however they face a few limitations that I address. The earliest research finds that extended foster care is associated with increased college enrollment and employment and decreased pregnancy and homelessness at age 19; however, these benefits fade by age 21 (Courtney et al., 2007; Dworsky & Courtney, 2010a; Dworsky & Courtney, 2010b; Dworsky & Courtney, 2010c; Hook & Courtney, 2010). They reach these conclusions by comparing outcomes of foster youth across a handful of states without controlling for individual or state characteristics.[6] A more recent, national-level analysis finds that extended foster care is associated with better access to services that aid in the transition to adulthood and improve adult outcomes, like

[6] The data come from the Midwest Survey, a longitudinal survey that followed youth from 17/18 years old to 26 years old in Iowa, Wisconsin, and Illinois in the early 2000s. Outcomes of youth in Illinois are compared to those in Wisconsin and Iowa because Illinois provided extended foster care services and assistance to emancipated youth, whereas Wisconsin and Iowa did not. These cross-sectional analyses do not control for state-level time-varying characteristics, so they potentially suffer from omitted variable bias and may be misattributing beneficial outcomes to extended foster care.

employment and educational attainment (Rosenberg & Abbott, 2019).[7] Finally, a study using California administrative and survey data from 2006 to 2015 finds that extended foster care reduced homelessness by 28 percent for young adults, increased college enrollment by 10 to 11 percent, and extended employment by one and one half months for each additional year in extended foster care (Courtney et al., 2018). These beneficial impacts persisted through age 23, two years after youth exited care (Courtney et al., 2021).[8]

This study enriches the existing evidence of the effectiveness of extended foster care in multiple ways. First, I provide some of the earliest nationwide causal estimates on the intent-to-treat effect of the program. Second, I show that differentiating between federal and state-funded extended foster care matters, provide some evidence on the effectiveness of different policy aspects, and estimate heterogeneous effects by placement setting and youth characteristics. Despite these strengths, this study has some important limitations as well. First, the decision behind the funding source is unclear. While understanding why some states chose to fund extended foster care via federal reimbursements and others choose to use state funds is especially policy relevant, I show that this unknown does not invalidate the research design. Second, outcomes come from survey data, which has response rates ranging from 24 to 87 percent at age 21. Moreover, Prettyman (2021, 2024) finds evidence that NYTD respondents are positively selected. To

[7] This study compares youth in extended foster care to youth not in extended foster care, so this analysis may suffer from selection bias since youth in states with extended foster care can choose whether or not to participate. Depending on the reasons youth choose to participate in extended foster care, these results may either overestimate or underestimate the true effect of extended foster care. In addition, to be eligible to participate in extended foster care, youth either have to be employed or enrolled in school, so by construction, youth in extended foster care will have higher rates of employment and enrollment.

[8] The researchers exploit county-level variation in the uptake of extended foster care. They instrument participation with county of residence and argue that county of residence is a good instrument because participation in extended foster care varies across counties and is unrelated to youths' characteristics that may be associated with selection into extended care. The key concern of this study is the extent in which the results are generalizable to the rest of the country.

alleviate any concerns that differential attrition might be biasing estimates, I use inverse propensity score reweighting to force the respondents to look like the non-respondents. Third, these data do not allow for formal testing of pre-trends because the survey started in 2011, after some states already implemented extended foster care. Instead, I provide evidence of plausibly exogenous policy timing conditional on youth characteristics. Lastly, these data are not suitable for estimating the effect of participating in extended foster care, so I estimate exposure to extended foster care, which is the more policy-relevant margin.

More broadly, this study makes an important contribution to the transition to adulthood literature. While there is abundant research demonstrating that the transition to adulthood has become increasingly difficult over the past several decades (Danziger & Rouse, 2008; Settersten & Ray, 2010; Sironi & Furstenberg, 2012; Benson, 2014) and more so for vulnerable populations (Rapheal, 2008; Osgood et al., 2010), there is less focus on policy intervention and evaluation (Bloom, 2010; Lee & Morgan, 2017; Morton et al., 2020). I demonstrate that extended foster care provides resources and incentives that beneficially alter a youth's transition to adulthood, potentially creating long-run gains. Back-of-the-envelope calculations suggest that for every one dollar spent on extended foster care, there is at least a four-dollar return, and the marginal value of public funds is infinite. This study provides enriched evidence on the efficacy of a federal program that impacts some of the nation's most vulnerable youth and their transition to adulthood.

2. Causal Effects of Foster Care

There is abundant research that shows a negative association between foster care placement and subsequent outcomes,[9] but it is unclear how much adverse

[9] See Gypen et al. (2017) for a summary of 32 studies from 2004 to 2015.

childhood experiences contribute to foster care placement and poor outcomes. Estimating the causal effects of foster care faces many statistical challenges due to the non-random assignment of youth to foster care and lack of an appropriate control group. To deal with these challenges, the economic literature on foster care often exploits the quasi-random assignment of caseworkers (Doyle, 2007; Doyle, 2008; Aizer & Doyle, 2015; Gross & Baron, 2022; Bald et al., 2022a).[10] The main assumption underlying this approach is that youth in these situations experience the same hardships, and the only difference is foster care placement, which is quasi-randomly determined via caseworker assignment.

Using caseworker assignment, the causal evidence on the effectiveness of foster care is mixed. Doyle (2007) finds that foster care in Illinois had adverse effects on child development, as measured by teen pregnancy, delinquency, and adult labor market outcomes. In contrast, Gross and Baron (2022) find improved attendance and math test scores for children removed from allegedly abusive homes in Michigan. Bald et al. (2022a) find differential effects for young boys and girls in Rhode Island; young girls benefitted, but there was no effect for young boys. This approach identifies the local average treatment effect in cases where children are on the margin of being admitted to state custody. A key distinction between those studies and this paper is that I estimate the causal effect of foster care for older youth on the margin of exit.

3. Background on Extended Foster Care and Hypothesized Effects

A primary goal of foster care is to safely reunify children with their biological parents. When reunification is not possible, the next best option is adoption. Adoption subsidies targeted to families help children achieve permanency (Hansen & Hansen, 2006; Argys & Duncan, 2013; Buckles, 2013; Brehm, 2021), but

[10] See Bald et al. (2022b) for more information about this approach and the status of the literature.

subsidies targeted to states for older youth are less effective (Brehm, 2018). In these cases, youth remain in care until emancipation.

Over 20,000 youth age out of foster care each year and are abruptly forced to become self-sufficient overnight. They have to learn many skills quickly and on their own, such as how to apply to college, take out loans, set up bank accounts and manage finances, write resumes and apply to jobs, and obtain health insurance. Alternatively, the average young adult can acquire these skills over various years and receive assistance from their parents (Swartz et al., 2011). In fact, 34 percent of youth aged 18 to 34 still lived at home with their parents in 2015 (Vespa, 2017), and during this time, they received approximately 48,000 dollars[11] in financial support. Recognizing the challenges foster youth face while transitioning to adulthood, state and federal agencies have implemented various programs to assist this process.

The Fostering Connections Act of 2008 (FCA) incentivized states to implement extended foster care by providing federal funds for eligible youth.[12] Extended foster care is additional time as a non-minor dependent that helps foster youth between the ages 18 and 21 maintain a safety net of support while experiencing independence in a supervised environment. In 2010, nine states implemented extended foster care under the FCA, in 2011, another four states were approved, and as of January 2018, 26 states operate under this federal policy. Additionally, from 2012 to 2018, 13 states enacted their own state-funded extended foster care programs. While the decision to extend foster care using state or federal funds is unclear,[13] in Section 6.2.1, I rule out some macroeconomic factors that may also be

[11] This is the inflation adjusted value (2015 USD) for the original estimate of 38,000 dollars from Schoeni & Ross (2004).

[12] Other programs predating the FCA that assist youth aging out of care include Independent Living Programs (ILPs) and the John H. Chafee Foster Care Independence Program (CFCIP).

[13] Brewsaugh et al. (2021) find that the most common reason for not extending support to older youth under the FCA is lack of funding, and the second most common reason is confusion about the extension.

correlated with youth outcomes. Figure 1 shows the geographic and timing variation of extended foster care in the United States from 2012 to 2018. Youth from different cohorts in these states live under different policies. I exploit this within state, cross cohort variation to estimate the effect of extended foster care on the transition to adulthood for foster youth.[14]

Youth in extended foster care may be living with foster families or in group homes, institutions, or supervised independent living settings, such as dorms, shared housing, and apartments. Regardless of their placement, youth in extended foster care meet with a caseworker monthly and receive specialized case management appropriate for their developmental needs. In some states, foster care maintenance payments are paid directly to the youth.[15] In short, extended foster care provides youth with additional housing, social, and financial resources that should shift their budget constraint outward and incentivize behaviors to ease the transition to adulthood, and youth exposed to extended foster care longer have more time to utilize these resources.

3.1. Hypothesis 1 – extended foster care smooths the transition to adulthood

Indeed, research shows that extended foster care is associated with delayed homelessness and pregnancy and increased college enrollment and employment in Illinois (Dworsky & Courtney, 2010a; Dworsky & Courtney, 2010b; Dworsky & Courtney, 2010c; Hook & Courtney, 2010). Additionally, in California additional time in extended foster care reduced homelessness, arrests, and parenthood, increased college enrollment, and extended employment (Courtney et al., 2018).

[14] Appendix A discusses the data collection process, details for policy changes, and a table of the effective policy dates and characteristics for states within each treatment group.

[15] Foster care maintenance payments cover the cost of food, clothing, shelter, daily supervision, school supplies, etc. and average 1,600 dollars per month across the country. As of February 2014, 12 states allowed for direct payment to the youth. (JCYOI, 2014, pg.23).

The housing resources should directly reduce homelessness and may indirectly alter other outcomes. Children who experience homelessness complete less school, are more likely to experience incarceration, and are less likely to be employed (Cobb-Clark & Zhu, 2017; Kim & Rosenberg, 2017). In addition, to receive housing support, youth must meet specific eligibility requirements. These requirements increase the marginal benefit of school and work; therefore, extended foster care incentivizes behaviors that aid in the transition to adulthood. However, altering one's preferences over school and work may not be enough to induce these behaviors for those who are and persistently have been resource constrained (Hardy & Marcotte, 2020). Foster youth often list "unable to pay for school" as the main reason for not going to college (Courtney et al., 2011).

In addition to housing support, extended foster care provides educational aid, mentoring, career preparation, and employment skills training. Educational aid and employment skills training are correlated with connectedness (Rosenberg et al., 2020) and receiving educational aid is the strongest predictor of post-secondary education (Hunter, 2013). A national-level analysis finds that extended foster care is associated with better access to services (Rosenberg & Abbott, 2019). The net effect of extended foster care on college enrollment[16] and employment should be positive (i.e. the effect on disconnectedness should be negative), unless these resources are inadequate. Whether extended foster care has a larger impact on college enrollment or employment depends on which supports are more beneficial. For example, if extended foster care provides financial stability for youth in college, then there may be a tradeoff between college enrollment and employment.

[16] I use the term "college enrollment" to refer to any post-secondary enrollment, so this term includes enrollment in community college, 4-year universities/colleges, and technical colleges.

Lastly, extended foster care should decrease the incidence of parenthood and incarceration.[17] Young parenthood results from hardships, like poverty, inequality, and incarceration, that reduce opportunities (Kearney & Levine, 2014; Shpiegel et al., 2016); therefore, additional resources and opportunities provided by extended foster care should increase the opportunity cost of having a child and delay parenthood. Similarly, incarceration is a result of inadequate resources or a low opportunity cost of going to jail. As foster youth age out of care, they may be at an increased risk of committing crime. For example, one-in-five foster youth aging out of care rely on illegal ways of making money (Vaughn et al., 2008). Once arrested, lacking financial resources needed to make bail or afford an attorney may increase the likelihood of incarceration. Extended foster care offers financial resources and social support that may reduce criminal behavior and incarceration. Additionally, as youth acquire more human capital, they make better decisions and have a higher opportunity cost of going to jail, so they are less likely to commit street crimes (Lochner, 2004). Similarly, employed youth have a higher opportunity cost of going to jail, so they should also be deterred from committing crime. Regardless of the youth's decision to continue in school or work, the incidence of incarceration should decrease.

Graphing the raw trends in outcomes by age and treatment status (Appendix Figure 1) indicates hardships increase with age, but exposure to the federal policy appears to reduce these hardships while the state policy is less clear. Moreover, length of exposure (e.g. partial versus full treatment) seems to matter for some outcomes.

[17] Putnam-Hornstein et al. (2016) explain how extended foster care provides an opportunity for pregnancy prevention and parenting support.

3.2. Hypothesis 2 – extended foster care differs by funding source and implementation

The extent to which exposure to extended foster care alters a youth's transition to adulthood is the empirical question of interest. The transition to adulthood is a function of both past experiences and current resources (Benson, 2014). Once youth turn 18, past experiences are fixed, although they can differ across youth. Alternatively, governments can influence current resources through programs like extended foster care, so resources are a function of where youth live. At age 17, assume all foster youth have housing, social capital (i.e. case worker and/or foster parents), and financial assistance (via foster care payments). At age 18, there are three general scenarios. One, youth living in states without extended foster care lose access to these resources.[18] Two, youth living in states with federally-funded extended foster care have continued access to all three resources until age 21, at least. And three, youth living in states with state-funded extended foster care may have access to all or some of these resources, but there is less accountability and scope. If extended foster care is implemented when a youth turns 20 as opposed to 17, they have less time to utilize resources and may already be disconnected from the foster care system, so length of exposure also matters.

Since the size of the effect of extended foster care relies on where youth live, there are potentially heterogeneous effects by funding source. I hypothesize that extended foster care is more effective in states with federally-funded extended foster care than states with state-funded programs for three reasons. First, states with federally-funded extended foster care may have increased quality and quantity of resources compared to states with state-funded programs. Indeed, Rosenberg &

[18] In some cases, youth can remain in their current placement setting until they graduate high school, so they might not lose access to these resources as abruptly. It is also possible that foster parents may let youth remain in care beyond 18 and maintain a relationship, but the foster care payments end at this age.

Abbott (2019) show that youth in federally-funded extended foster care have access to more services, and I find suggestive evidence that an additional year exposed to federally-funded extended foster care, but not state-funded care, is correlated with increased service use at age 21.[19] Second, states with federally-funded extended foster care can plausibly support more youth (even if the youth do not meet eligibility requirements) than states with state-funded extended foster care (GAO, 2019).[20] For example, eligible youth can be funded with Title IV-E funds, which are reimbursed by the federal government, and non-eligible youth can be funded with state funds, which are not reimbursed. Third, states that choose to implement federally-funded extended foster care might also support their youth in more ways, unrelated to extended foster care, than states with state-funded programs (i.e. selection). In Section 6.2.1, I try to rule out this explanation, as it is the biggest threat to the validity of estimating causal effects.

In addition to funding source, states vary implementation in other ways. Some states automatically enroll all eligible foster youth into extended foster care, whereas in others the youth must seek out resources to voluntarily participate. Automatic enrollment makes foster care seem continuous and could benefit youth more than voluntary participation, whereas voluntary participation might ensure that the youth likely to benefit the most self-select into extended foster care. Some states allow for reentry into care while others do not. Finally, some states pay their foster care payments directly to the youth, whereas other states pay the organization or family caring for the youth. A priori, it is not clear which policies are best for the youth.

[19] See Appendix Table 1.

[20] As an example, Maryland started allowing re-entry for non-eligible youth after the FCA (GAO, 2019, p. 27).

3.3. Hypothesis 3 – extended foster care effects may differ by placement setting and youth characteristics

Finally, there may be heterogeneous effects by placement setting and youth characteristics. Despite the general consensus that foster home placements provide higher quality care and better connections to supportive adults than group homes (Dozier et al., 2014; Lo et al., 2015), it is unclear whether youth who lived in foster homes prior to aging out will benefit more or less from extended foster care than youth who lived in group homes. Youth transitioning from a foster home to independence in states without extended foster care might lose access to supportive adults and quality care relative to youth transitioning from a group home to independence in these states. Alternatively, a foster family might maintain a relationship and continue caring for the youth aging out, in which case these youth would lose less than their peers transitioning from a group home. Extended foster care impacts may also differ by gender, race, and disability status as these traits may shape foster care experiences, responses to hardships, and utilization of resources.

4. Data

Data for this analysis come from three main sources; the National Youth in Transition Database (NYTD), the Adoption and Foster Care Analysis and Reporting System (AFCARS), and the University of Kentucky Center for Poverty Research (UKCPR) Poverty and Inequality National Welfare Dataset. NYTD is a national survey that collects demographic information and outcome measures for the universe of foster youth aging out of care, AFCARS is a national dataset that contains rich descriptive information about children in foster care, and the UKCPR Welfare Dataset contains state-level information about the economy and safety net programs in a given year. I link individuals from two NYTD cohorts to their AFCARS data and control for time-varying state characteristics with the welfare

dataset. The first cohort was 17 in fiscal year (FY) 2011 and the second cohort was 17 in FY 2014.

NYTD is the first national survey to collect outcome measures for foster youth aging out of care.[21] States identify and survey all youth in foster care at age 17 and then follow up with these same youth at ages 19 and 21, regardless of their foster care status. Youth answer questions about their educational attainment, employment status, and incidence of homelessness, incarceration, and parenthood, among other outcomes.[22] NYTD also collects i) demographic information, such as date-of-birth, race, gender, and state, ii) report details, such as date-of-report and survey participation (or reason for not participating),[23] and iii) service use, such as foster care status, academic support, career preparation, budgeting, mentoring, health education, and financial assistance. In FY2011 and 2014 nationwide, there were approximately 31,000 and 26,000 youth in foster care at age 17, respectively (ACF, 2012; ACF, 2015). Approximately 32,000 of these youth were eligible[24] to participate in the NYTD surveys.

4.1. Analytical Sample

I restrict the analysis sample to youth who participated in the survey at age 21, had foster care history information from AFCARS, and have at least one outcome

[21] National accountability of foster youth outcomes began in 2011 as a result of the 2008 accountability mandate proposed by the Administration for Children and Families. States are required to collect and report reliable responses every 6 months and are fined for noncompliance. For more specific details about NYTD data collection and reporting requirements, visit https://www.childwelfare.gov/cb/research-data-technology/reporting-systems/nytd/faq/.

[22] Post-secondary education can be derived from the current enrollment and educational attainment questions. Youth that have graduated from high school and are enrolled in school are assumed to be enrolled in post-secondary education (Geiger & Okpych, 2021; Okpych, 2022). Post-secondary education includes 2 and 4-year colleges/universities and trade schools. I use the term "college enrollment" when referring to post-secondary education.

[23] Reasons for not participating include declined, incarceration, incapacitation, death, not in sample, and missing or unable to locate.

[24] Survey eligibility is based on age, foster care status, and survey completion. Eligible youth must turn 17 during the fiscal year, be in foster care on the day of the survey, complete the survey within 45 days of their 17th birthday, and answer at least one survey question.

measure,[25] resulting in 13,891 observations (or 43 percent of the eligible NYTD participants). Table 1 provides summary statistics for the sample of NYTD respondents.[26] Cohort 1 makes up 48 percent and cohort 2 makes up the remaining 52 percent of the analytical sample, 46 percent of the sample is young men, 54 percent is young women, and 43 percent of the sample is Non-Hispanic White, 30 percent is Non-Hispanic Black, and 19 percent is Hispanic. Representative of the foster care population, Black youth are disproportionately represented. More than half of the sample (57%) have been diagnosed with a disability at some point in their life. Of these youth that have been diagnosed with a disability, 80 percent were diagnosed with an emotional disorder such as ADHD, ADD, anxiety, an eating disorder, or a mood or personality disorder.

NYTD respondents have different experiences with the foster care system than the average foster youth.[27] On average, they entered care at 12 years old and have been in care for a cumulative total of about 4.4 years, averaging 1.6 placements per year. [28] The most common removal reasons are neglect, child-related issues, and abuse. Most youth were first placed in a foster home, group home, or kinship care. The typical foster child enters care between seven and eight years old, is in care for a median of 13 months (ACF, 2008; ACF, 2010; ACF, 2012; ACF, 2015), and 34 to 37 percent experience multiple placements.[29] The typical foster child is removed for neglect and parental substance abuse and is placed with a foster family; only 10 percent are placed in group homes (Bald et al., 2022b). While foster care is often a temporary solution, this appears less true for the NYTD respondents.

[25] Sample sizes vary by outcome due to question non-response.
[26] Refer to Appendix Table 2 for summary statistics by treatment. Differences by treatment status motivate including youth and state-level controls, discussed in Section 5.
[27] In addition, Prettyman (2024) shows that respondents differ from non-respondents. Youth who responded at age 21 appear to be better off than youth who did not respond at age 21.
[28] Placements per year comes from dividing the average number of placements (7) by the average length of stay (4.4).
[29] Estimate comes from the Kids Count Data Center provided by the Annie E. Casey Foundation.

By 17 years old, 18 percent of NYTD respondents had experienced homelessness, 28 percent had been incarcerated, 23 percent had been referred for substance abuse, 5 percent had had a child, and 16 percent were employed. In contrast, the average adolescent has a 3 percent chance of experiencing homelessness (Bassuk et al., 2014) and a 0.15 percent chance of incarceration.[30] By 21 years old, 72 percent had graduated from high school or received their GED, 21 percent were enrolled in college, and 55 percent were employed. Forty-two percent have experienced homelessness, 34 percent have been incarcerated, and 33 percent have had a child by age 21.

5. Empirical Strategy

I estimate the intent-to-treat effect of extended foster care and leave the treatment-on-treated effect for future research for two reasons. First, participation in extended foster care is a function of youth eligibility and selection. Second, obtaining an accurate measure of participation is a data limitation.[31] These two complications aside, the intent-to-treat effect is more policy relevant.

[30] Estimate comes from the Kids Count Data Center provided by the Annie E. Casey Foundation.

[31] Per the NYTD codebook, youth are reported as being in foster care if they are under the responsibility of a qualified agency in accordance with the federal definition of foster care. See 45 CFR 1355.20 for the federal definition of foster care. In practice, foster care status should only be reported "yes" for eligible, participating youth in states with federally-funded extended foster care. However, according to personal correspondence with the Administration for Children and Families, some states misunderstood this question, giving insight into their state policy. For example, Georgia and Kentucky reported that 20 to 30 percent of youth from the FY2011 and FY2014 NYTD cohorts were in foster care beyond 18 years old, despite not having federally-funded extended foster care at this time. Moreover, in the majority of states with federally-funded extended foster care, less than 50 percent of the youth in care are eligible for federal reimbursement (GAO, 2019). In other words, foster care status in NYTD should have been reported "no" for the majority of participants. This practice limits the ability to observe participation for ineligible youth and across all states.

To determine the intent-to-treat effect of extended foster care on the transition to adulthood, I exploit exposure to extended foster care by estimating the following linear probability model:[32]

$$Prob(y_{isrc} = 1) = \beta_0 + \beta_1 FedEFC_{isrc} + \beta_2 StEFC_{isrc} + \boldsymbol{X_{isrc}\beta} + \boldsymbol{S_{sc}\beta} + \gamma_s + \gamma_c + \gamma_r \, x \, \gamma_c \quad (1)$$

Where *y* is the outcome for individual *I* in state *s* and census region *r* from cohort *c*. *FedEFC* and *StEFC* are discrete variables, taking values between zero and three, that measure exposure to federal and state funded extended foster, respectively. These two variables are mutually exclusive, and they are derived using the effective date of the policy, the youth's birthday, and the state's age-out age. **X** is a vector of youth demographic characteristics and other individual-level controls, such as race, gender, disability diagnosis, age at the time of the survey, experiences prior to 17 years old, reason for entry into foster care, length of stay as a child, number of placements in foster care as a child, and first placement setting, that are plausibly correlated with a foster youth's transition to adulthood, but uncorrelated with the treatment. **S** is a vector of observable state-level time-varying controls such as the unemployment rate, poverty rate, and measures of safety net program generosity. I calculate the 3-year average when the youth is 18 years old for each of these controls to summarize the economic conditions for cohort *c* in state *s* as they may be correlated with implementation of extended foster care and a youth's transition to adulthood. State fixed effects are included to control for unobservable state time-invariant characteristics that may be correlated with youth outcomes. The cohort fixed effect is similar to a year fixed effect since I am using cross-sectional data for two distinct cohorts. Finally, a region by cohort fixed effect, $\gamma_r \, x \, \gamma_c$, is included to

[32] I also consider alternative specifications by using probit and logit models. These models assume different functional forms for the explanatory variables and error term, but usually yield similar results to a linear probability model (Angrist & Pischke, 2009; Hellevik, 2009; Wooldridge, 2010). As expected, the results from these models are comparable to the linear probability model and available in Appendix Table 3.

control for unobservable differences across regions over time that may be correlated with extended foster care.

Similar to Hoynes et al. (2016) and Kose et al. (2021), the coefficients of interest, β_1 and β_2, estimate the conditional marginal intent-to-treat effect of being exposed to an additional year of extended foster care between the ages of 18 and 21 for youth within a state. β_1 estimates the impact of an additional year exposed to the federal policy, and β_2 estimates the impact of an additional year exposed to a state policy. The difference between β_1 and β_2 estimates the impact of changing from a state to federal policy, which happens in eight states.[33]

6. Results

I estimate equation (1) for outcomes at ages 19 and 21 to determine the impact of extended foster care on the transition to adulthood for foster youth across the country. Then, I discuss the validity of the empirical strategy to establish causality. Finally, I test if there are certain policy aspects that are more effective than others and investigate heterogeneity by placement setting and youth characteristics. In all analyses, standard errors are clustered at the state level (Cameron & Miller, 2015).

6.1. Extended foster care smooths the transition to adulthood

Table 2 reports results from the intent-to-treat analysis and shows that extended foster care reduces some hardships, like homelessness, incarceration, and parenthood, but there is no evidence of a statistically significant impact on disconnectedness. The precent changes are larger at age 19 but more precisely estimated at age 21. The effects are often larger and more precisely estimated for the federal policy relative to the state policies, confirming the notion that the federal

[33] Appendix Figure 2 shows the sample sizes by state.

policy is more effective.[34] For this reason, I focus most of the discussion on the federal policy here on out.

All else equal, an additional year exposed to federally-funded extended foster care reduces homelessness between the ages of 17 and 21 by 4.8 percentage points (or 10 percent compared to no exposure). Similarly, an additional year exposed to federally-funded extended foster care reduces incarceration between the ages of 17 and 21 by 4.5 percentage points (or 13 percent), all else equal. Each additional year exposed to federally-funded extended foster care suggests a reduction in parenthood between the ages of 17 and 21 by 3.3 percentage points (or 10 percent).

In most states, federally-funded extended foster care prolongs access to social, housing, and financial support for three years, from age 18 to 21, so it is more policy-relevant to discuss the impact of full exposure, as opposed to marginal effects. In addition, youth exposed to extended foster care for one year, versus three years, experienced a discontinuation of care and consequently might be less connected to the system. Figure 2 provides evidence that the effect sizes on federally-funded extended foster care for homelessness, incarceration, and parenthood increase with increased exposure. That is, being exposed to extended foster care for three years versus one year has larger impacts. Scaling the marginal effect by three, full exposure to federally-funded extended foster care reduces homelessness by 29 percent, incarceration by 38 percent, and parenthood by 30 percent.

The impact on disconnectedness is imprecisely estimated and the effect size differs by years of exposure. For example, one year of exposure suggests a reduction in disconnectedness, but two and three years of exposure suggest

[34] In addition, omitting the state policy or combining the policies usually diminishes the effect size, providing evidence of the importance of controlling for the state policy. Results are in Appendix Table 4.

increases in disconnectedness. Consistent with this increase in disconnectedness, extended foster care appears to reduce college enrollment and employment.

An additional year exposed to federally-funded extended foster care reduces employment by 3.9 percentage points (or 7 precent). Interestingly, at age 19 however, extended foster care increases employment by 7.6 percentage points (or 20 percent). Employment is the only outcome where the effect direction differs by age, providing suggestive evidence that financial stability at age 19 may create a tradeoff between college enrollment and employment at age 21.

6.2. Validity of the Empirical Strategy

The validity of equation (1) relies on the following assumptions: (i) the timing of the policy changes is exogenous to unobservable time-varying cohort characteristics, (ii) the treatment effect does not vary over time (Callaway & Sant'Anna, 2020; de Chaisemartin & 'Haultfoeuille, 2020; Goodman-Bacon, 2021), and (iii) the policy is uncorrelated with survey participation. I explain how each of these assumptions are satisfied one by one.

6.2.1. Exogenous Timing of Policy

There is no single initiative to reduce homelessness or juvenile incarceration for foster youth, but states have a combination of laws and programs, such as extended foster care with these aims (Amon, 2021; Fernandes-Alcantara & McCarty, 2021). Extended foster care legislation appears to take anywhere from two months to two years to pass, so the effective date of implementation in which equation (1) is identified is arguably random relative to cohort characteristics. Correspondence with social work experts suggests states might choose to extend foster care in response to lawsuits. While lawsuits suggest poor environments and a downward trend in outcomes for foster youth, the timing of them is arguably random.

In addition, following Kose et al. (2021), I create a state panel over the years 2008 to 2017 to test whether federally-funded extended foster care was preceded by a change in economic conditions or the foster care environment. I estimate the following modified event-study model:

$$Y_{st} = \alpha_0 + \alpha_1 yrsrel_{st} + \sum_{j=1}^{10} \beta_j (yrsrel_{st} = j) + \gamma_s + \gamma_r \, x \, \gamma_t + \varepsilon_{st} \quad (2)$$

Where Y_{st} is a state characteristic in state *s* during year *t*, $yrsrel_{st}$ is a linear trend in years since federally-funded extended foster care, and $\sum_{j=1}^{10} \beta_j (yrsrel_{st} = j)$ are indicators for each year after federally-funded extended foster care. The coefficient of interest, α_1, indicates pre-trends because indicators for each year after extended foster care are included. As in equation (1), state and region by year fixed effects are included.

All 26 states that implemented federally-funded extended foster care between 2010 and 2018 are analyzed over a 10-year period starting in 2008. Table 3 provides the estimates of α_1. Out of 24 outcomes analyzed, only three are significant at the 5 percent level: the unemployment rate, number of SNAP recipients, and Medicaid beneficiaries. This analysis suggests the bias might overstate the effect of extended foster care because a decline in the unemployment rate, welfare recipients, and beneficiaries is likely a function of improved economic conditions. Conversely, measures of the foster care environment do not seem to predict extended foster care. If the results are driven by other confounders, like individual or cohort characteristics, then including them will diminish the estimated effect size and excluding them will overstate the estimated effect size. Results from analyses that drop different combinations of potential confounders are reported in Appendix Table 5. Excluding all controls and demographic controls (column 2 and 3) doubles the effect size for some outcomes, but not in a statistically significant way. Alternatively, even though foster care history, experiences at age 17, and state economic conditions are likely correlated with outcomes at age 21, excluding these

controls (columns 4, 5, and 6) yield similar results. Excluding state fixed effects (column 7) implies that states are similar along unobservable time-invariant traits, such as foster care environment. This analysis yields statistically insignificant results for most outcomes, suggesting that states have considerably different foster care climates and other unobservable time-invariant characteristics that need to be accounted for when trying to identify the impact of exposure to extended foster care. This exercise demonstrates that the estimated effects can be attributed to the policy and are not confounded by one's experiences in foster care, earlier in life, nor a state's economic conditions.

Finally, I conduct two placebo tests to rule out potential confounding policies with extended foster care. This first placebo test uses experiences at age 17, which should not differ by exposure to extended foster care because all 17 year old foster youth across the country have access to care, regardless of the state's extended foster care policy. If these policies are correlated with pre-treatment experiences, then there would be concern of other confounding policies. Panel A of Appendix Table 6 shows that extended foster care is uncorrelated with various experiences at 17 years old. The second placebo test, reported in Panel B of Appendix Table 6, estimates outcomes at age 19 among youth living in states that implemented extended foster care after they aged out, thus they were not treated until later and should not have been impacted at age 19. There appear to be some pre-trends, and the direction might provide some explanation of statistically insignificant findings for disconnectedness. However, these potential pre-trends would bias the estimates on the first year of exposure, in which case we would expect to see a large effect in year one, that dissipates in later years, but Figure 2 contradicts this notion and provides evidence of larger effects with additional years of exposure.

6.2.2. Static Treatment Effect

Goodman-Bacon (2021) explains that the average treatment effect from the two-way fixed effects model may be biased by differential treatment effects.[35] Callaway & Sant'Anna (2020) and Sun & Abraham (2021) suggest estimating group specific treatment effects. Using their approach, Appendix Figure 3 shows there are differential treatment effects for some outcomes, but there is no clear pattern. For most groups, there is only one treated state, so this exercise provides insight into how certain states implement extended foster care. In addition, I repeatedly estimate equation (1) omitting one state at a time. Results from this exercise are provided in Appendix Figure 4 and show that no single state is driving the results. Finally, when excluding the "forbidden group"[36] of the always treated states, I find larger effect sizes, although not statistically different, which is in line with the difference-in-differences literature that including this group can attenuate effect sizes through negative weights (de Chaisemartin and D'Haultfoeuille, 2022).

6.2.3. Survey Participation is not Correlated with Treatment

In studies that rely on survey data, a threat to external validity is attrition and the correlation between survey participation and treatment. I find that exposure to extended foster care is correlated with survey participation; however, after controlling for demographic characteristics this correlation weakens.[37] I model outcome non-response and provide weighted estimates.[38] I also estimate effect

[35] I expect the treatment effect to increase with more years exposed to extended foster care, as this implies a continuation of care, and I show this to be true for most outcomes. However, of more concern is that extended foster care may differ across states and over time in ways that state and cohort fixed effects cannot address well.

[36] See Appendix Table 3.

[37] See Appendix Table 7.

[38] I use the inverse propensity score reweighting approach proposed by DiNardo (2002) and outlined in Bailey et al. (2019), where the propensity score is predicted using individual and state-level controls outlined in equation (1) and then weights are calculated based on the proportion of respondents and non-respondents. Appendix Figure 5 includes the common support figures.

sizes keeping the sample the same across all outcomes.[39] Both exercises yield statistically indistinguishable estimates from the main results.

6.3. Which policy aspects are effective?

Next, I investigate whether certain policy aspects are primarily contributing to these estimated effects. To measure the impact of automatic enrollment, reentry, and direct payments, I interact each of these aspects with the number of years exposed to extended foster care and compare the exposure effect with (β_1) and without (β_2) the policy aspect. I estimate the following equation and report results in Table 4:

$$Prob(y_{isc} = 1) = \beta_0 + \beta_1(FedEFC_{isc} * Policy_{sc}) + \beta_2(FedEFC_{isc} * NoPolicy_{sc}) + \alpha_1(StEFC_{isc} * Policy_{sc}) + \alpha_2(StEFC_{isc} * NoPolicy_{sc}) + \boldsymbol{X_{isc}\beta} + \boldsymbol{S_{sc}\beta} + \gamma_s + \gamma_c + \gamma_r \, x \, \gamma_c \quad (3)$$

I do not find evidence that a specific aspect is driving the effect. Generally, the coefficient with the policy aspect is closer to the main result, but the coefficient without the policy aspect is not statistically different. For example, exposure to an additional year of extended foster care with reentry reduces incarceration by 5.4 percentage points and exposure to an additional year of extended foster care without reentry only reduces incarceration by 4.6 percentage points. While economically different, these estimates are statistically indistinguishable.

6.4. Who benefits the most from extended foster care?

To understand who benefits the most from exposure to extended foster care, I interact extended foster care with select demographic characteristics, placement settings, and experiences prior to 17 years old (separately). I estimate the following equation three times:

[39] See Appendix Table 3.

$$Prob(y_{isc} = 1) = \delta_0 + \delta_1 FedEFC_{isc} + \sum_p \delta_{1p}(FedEFC\ x\ p)_{isc} + \delta_2 StEFC_{isc} + \sum_p \delta_{2p}(StEFC\ x\ p)_{isc} + \boldsymbol{X_{isc}\delta} + \boldsymbol{S_{sc}\delta} + \gamma_s + \gamma_c\ +\ \gamma_r\ x\ \gamma_c \quad (4)$$

Where all terms are the same as in equation (1), and the summation terms are shorthand for the interaction effects. *P* indexes the demographic characteristics, last placement settings as a child, or experiences prior to age 17, depending on the regression. δ_{1p} estimates the effect of an additional year exposed to federally-funded extended foster care for characteristic *p*. The three demographic characteristics considered are female, Non-Hispanic Black, and ever diagnosed with a disability. The three placement settings considered are foster homes, group home, and kinship care. The four experiences considered are incarceration, homelessness, substance abuse referral, and parenthood. Results are reported in Table 5.

Overall, exposure to federally-funded extended foster care benefits youth similarly across multiple dimensions and outcomes. Less than 10 percent of the 60 interactions are statistically significant with 95 percent confidence. One notable exception is that exposure to extended foster care reduces disconnectedness for young women and youth living with foster families prior to aging out. Youth exposed to extended foster care that lived with foster families in kinship care prior to aging out are also more likely to be employed or enrolled in school at age 21.

7. Conclusion

I estimate the intent-to-treat effect of extended foster care on the transition to adulthood and enrich the existing research by providing some of the first causal estimates nationwide. The intent-to-treat effect is advantageous over the treatment-on-treated effect because it is more policy relevant and is not biased by selective partication in extended foster care.

I find that exposure to extended foster care drastically reduces homelessness and incarceration. Compared to *access* to Homebase Centers, extended foster care is twice as effective in reducing homelessness (Goodman et al., 2016), and extended foster care is more effective in reducing incarceration among foster youth than each of the top five policy reforms across the country (Schrantz et al., 2018). While reductions in parenthood were only marginally statistically significant, they were large in magnitude. Reductions in disconnectedness were imprecisely estimated for the full sample, but heterogeneous impacts suggest that young women and youth living with foster families prior to aging out were less likely to be disconnected when exposed to an additional year of extended foster care. All of these beneficial effects are driven by the federal program, and less dependent on specific policy aspects, like automatic enrollment, reentry, and direct payments. This finding suggests that the federal program is more effective than the state programs, which may result from greater reach and increased quality and quantity of resources.

It is estimated that 2 percent of national child welfare expenditures (approximately 582 million dollars)[40] are spent on services and assistance for foster youth aged 17 to 21 years old, even though they make up 10 percent of the foster youth population (ACF, 2015; ACF, 2017). These services potentially provide both private and public returns, making this relatively small investment considerably more valuable.

I find that a dollar spent on extended foster care maintenance payments yielded a return of just over four dollars for the NYTD participants in the FY2011 and FY2014 cohorts.[41] According to Hendren and Sprung-Keyser (2020) who provide

[40] Child Trends estimated that in FY2014, 2 percent of the 29.1 billion dollars national child welfare expenditures was spent on services and support for older youth currently or previously in foster care. For more information, see https://www.childtrends.org/wp-content/uploads/2017/09/Transition-Age-Youth_United-States.pdf and Rosinsky & Connelly (2016).

[41] Appendix B describes this calculation in detail. For comparison, cost-benefit analyses in California and Washington suggest that a dollar spent on extended foster care yields a return of two

a framework for calculating the marginal value of public funds (MVPF), when the government program pays for itself, like extended foster care, and the willingness-to-pay (WTP) is positive, MVPF is infinite and spending on the policy is Pareto improving. Even an estimated lower bound of 1.52 exceeds the MVPF for housing vouchers and other programs targeted to young adults aged 18 to 21 (Hendren and Sprung-Keyser, 2020). The benefits may be even larger than presented because I do not include the long-term benefits of reducing homelessness and incarceration at a young age (Hodgson et al., 2013; McLaughlin et al., 2016; Barnert et al., 2017; U.S. Department of Health and Human Services, 2017), nor account for nonpecuniary returns. Implementing federally-funded extended foster care is a tangible way for states to assist foster youth through their transition to adulthood and a worthy investment.

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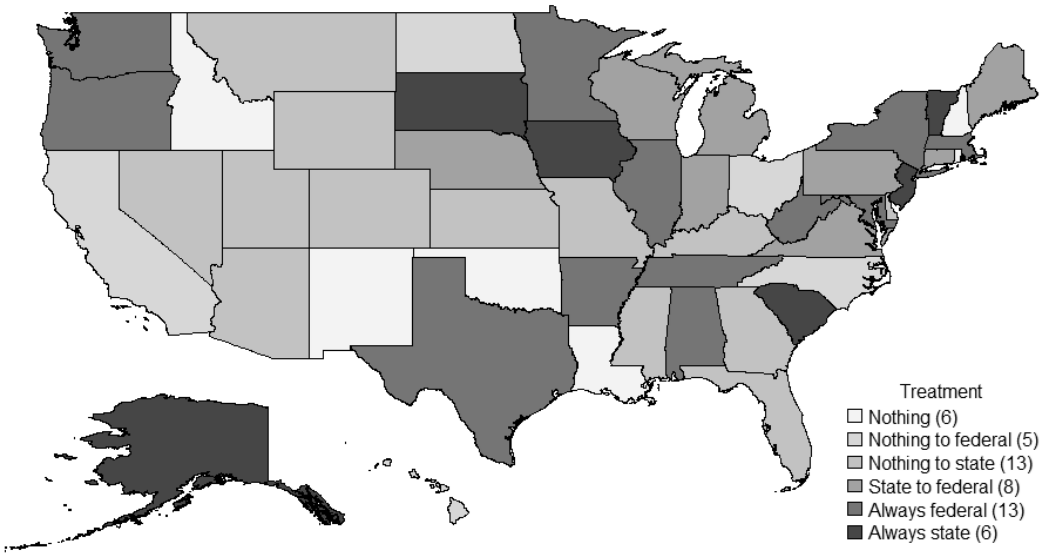
Tables and Figures

Figure 1 – States that extended foster care between 2012 and 2018



Notes: Figure 1 shows the geographic and timing variation of extended foster care in the United States from 2012 to 2018. In this figure, there are six different shades of gray used to identify the treatment and control states. No shading identifies states that had not implemented extended foster care as of 2018 (never treated), light shading identifies states that changed their policy between 2012 and 2018 (treatment), and dark shading identifies states that adopted policies prior to 2012 (always treated). There is variation within the shading level to indicate the difference between federally-funded and state-funded extended foster care. There are 26 states that changed their extended foster care polices between the years 2012 and 2018. Five states (California, Hawaii, North Carolina, North Dakota, and Ohio) implemented federally-funded extended foster care. Eight states (Connecticut, Indiana, Maine, Michigan, Nebraska, Pennsylvania, Virginia, and Wisconsin) switched from a state to federal policy. The remaining 13 states (Arizona, Colorado, Delaware, Florida, Georgia, Kansas, Kentucky, Missouri, Mississippi, Montana, Nevada, Utah, and Wyoming) implemented state-funded extended foster care. Youth from different cohorts in these states live under different policies. Appendix A discusses the data collection process, details for policy changes, a table of the effective policy dates, and a summary table of characteristics for states within each treatment.

Table 1 – Summary statistics for NYTD respondents at age 21

	Variable	N	Mean	Std. Dev.
Extended Foster Care Policy	Num. of years with federal EFC	13,891	1.67	1.43
	Num. of years with state EFC	13,891	0.77	1.19
NYTD Cohort	Cohort 1 (21 in FY2015)	13,891	0.48	
	Cohort 2 (21 in FY2018)	13,891	0.52	0.50
Demographic Characteristics	Female	13,891	0.54	0.50
	Non-Hispanic White	13,891	0.43	0.50
	Non-Hispanic Black	13,891	0.30	0.46
	Non-Hispanic Other	13,891	0.08	0.27
	Hispanic	13,891	0.19	0.39
	Ever diagnosed with a disability	13,891	0.57	0.50
	Age at time of survey	13,891	21.02	0.31
	Finished high school/GED	13,891	0.72	0.45
	In Foster Care	13,891	0.20	0.40
Experiences at 17	Ever homeless	13,891	0.18	0.38
	Employed	13,891	0.16	0.36
	Ever incarcerated	13,891	0.28	0.45
	Ever referred for substance abuse	13,891	0.23	0.42
	Parenthood	13,891	0.05	0.23
Foster Care History	Total removals from home as a child	13,891	1.40	0.67
	Total placements as a child	13,891	7.18	7.05
	Cumulative length of stay in foster care as a child (in years)	13,891	4.40	3.64
	Age at first removal	13,891	11.77	4.75
	Age at last removal	13,891	17.28	1.93
First Placement	Kinship Care	13,891	0.16	0.36
	Foster Home	13,891	0.49	0.50
	Group Home	13,891	0.30	0.46
	Other	13,891	0.06	0.24
Ever removed for… These do not add up to 100% because a child may be removed for multiple reasons.	Abuse	13,891	0.27	0.44
	Neglect	13,891	0.55	0.50
	Parental Incarceration	13,891	0.06	0.24
	Parental Substance Abuse	13,891	0.19	0.39
	Inadequate Housing	13,891	0.10	0.30
	Child-related Issue	13,891	0.34	0.48
Outcomes	Homelessness	9,247	0.42	0.49
	Incarceration	9,289	0.34	0.47
	Parenthood	8,954	0.33	0.47
	Disconnected	9,985	0.30	0.46
	Enrolled in college/post-secondary education	12,117	0.21	0.41
	Employed	10,197	0.55	0.50

Notes: The sample is restricted to foster youth who responded to the NYTD survey at age 21, are not missing demographic information nor foster care history, and have at least one outcome. Sample sizes vary by outcome due to question non-response.

Table 2 – Marginal effect of extended foster care for youth that responded to the NYTD survey at ages 19 and 21

	Homelessness		Incarceration		Parenthood		Disconnected		Enrolled in College		Employed	
Panel A: Outcomes at 19 Years Old												
	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted
Years exposed to Fed EFC	-0.033*	-0.033	-0.036**	-0.039**	0.008	0.010	-0.016	-0.015	-0.008	-0.010	0.076***	0.080***
	(0.020)	(0.026)	(0.014)	(0.015)	(0.012)	(0.014)	(0.017)	(0.022)	(0.013)	(0.014)	(0.015)	(0.020)
Years exposed to State EFC	0.011	0.010	0.003	-0.002	0.002	0.007	0.024**	0.027**	-0.007	-0.009	0.032***	0.031**
	(0.015)	(0.015)	(0.011)	(0.012)	(0.014)	(0.014)	(0.011)	(0.012)	(0.010)	(0.011)	(0.011)	(0.013)
p-value of effect (Fed = State)	0.053		0.011		0.676		0.011		0.939		0.004	
Mean of outcome with no EFC ever	0.234	0.246	0.203	0.220	0.103	0.106	0.268	0.272	0.215	0.224	0.374	0.357
Percent Change	-14%	-13%	-18%	-18%	8%	9%	-6%	-6%	-4%	-4%	20%	22%
Observations	11,112	11,112	11,248	11,248	11,126	11,126	11,170	11,170	15,218	15,218	11,392	11,392
Adjusted R-Squared	0.096	0.081	0.208	0.195	0.153	0.153	0.055	0.047	0.397	0.382	0.070	0.065
Panel B: Outcomes at 21 Years Old												
	Homelessness		Incarceration		Parenthood		Disconnected		Enrolled in College		Employed	
	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted
Years exposed to Fed EFC	-0.048**	-0.050**	-0.045***	-0.050***	-0.033*	-0.036*	0.002	-0.005	-0.007	-0.010	-0.039*	-0.040*
	(0.019)	(0.022)	(0.016)	(0.014)	(0.018)	(0.020)	(0.014)	(0.015)	(0.015)	(0.014)	(0.021)	(0.022)
Years exposed to State EFC	-0.015	-0.010	-0.013	-0.015	-0.002	-0.014	-0.002	-0.006	0.001	0.002	0.003	0.009
	(0.017)	(0.018)	(0.015)	(0.014)	(0.019)	(0.018)	(0.021)	(0.023)	(0.012)	(0.013)	(0.019)	(0.022)
p-value of effect (Fed = State)	0.104		0.053		0.243		0.853		0.615		0.046	
Mean of outcome with no EFC ever	0.491	0.512	0.354	0.375	0.328	0.337	0.316	0.334	0.186	0.191	0.563	0.544

Percent Change	-10%	-10%	-13%	-13%	-10%	-11%	1%	-1%	-4%	-5%	-7%	-7%
Observations	9,247	9,247	9,289	9,289	8,954	8,954	9,985	9,985	12,117	12,117	10,197	10,197
Adjusted R-Squared	0.150	0.165	0.277	0.288	0.185	0.192	0.059	0.066	0.174	0.161	0.072	0.084

Notes: *** p<0.01, ** p<0.05, * p<0.1. Standard errors clustered at the state level are in parentheses. All regressions control for demographic characteristics, foster care history, experiences at 17 years old, state controls, and include cohort, state, and region by cohort fixed effects. EFC stands for extended foster care. "Fed" and "State" indicate how the program is funded. The *p*-value indicates whether the effect on the federal policy is statistically different than the effect on the state policy. Homelessness, incarceration, and parenthood at age 19 are measured as ever experienced between the ages 17 and 19, and at age 21, they are measured from ages 17 to 21. Disconnected, enrolled in college, and employed are measured at age 19 and 21. The weighted estimates are obtained from the inverse propensity score reweighting technique. Sample sizes vary across outcomes due to question non-response.

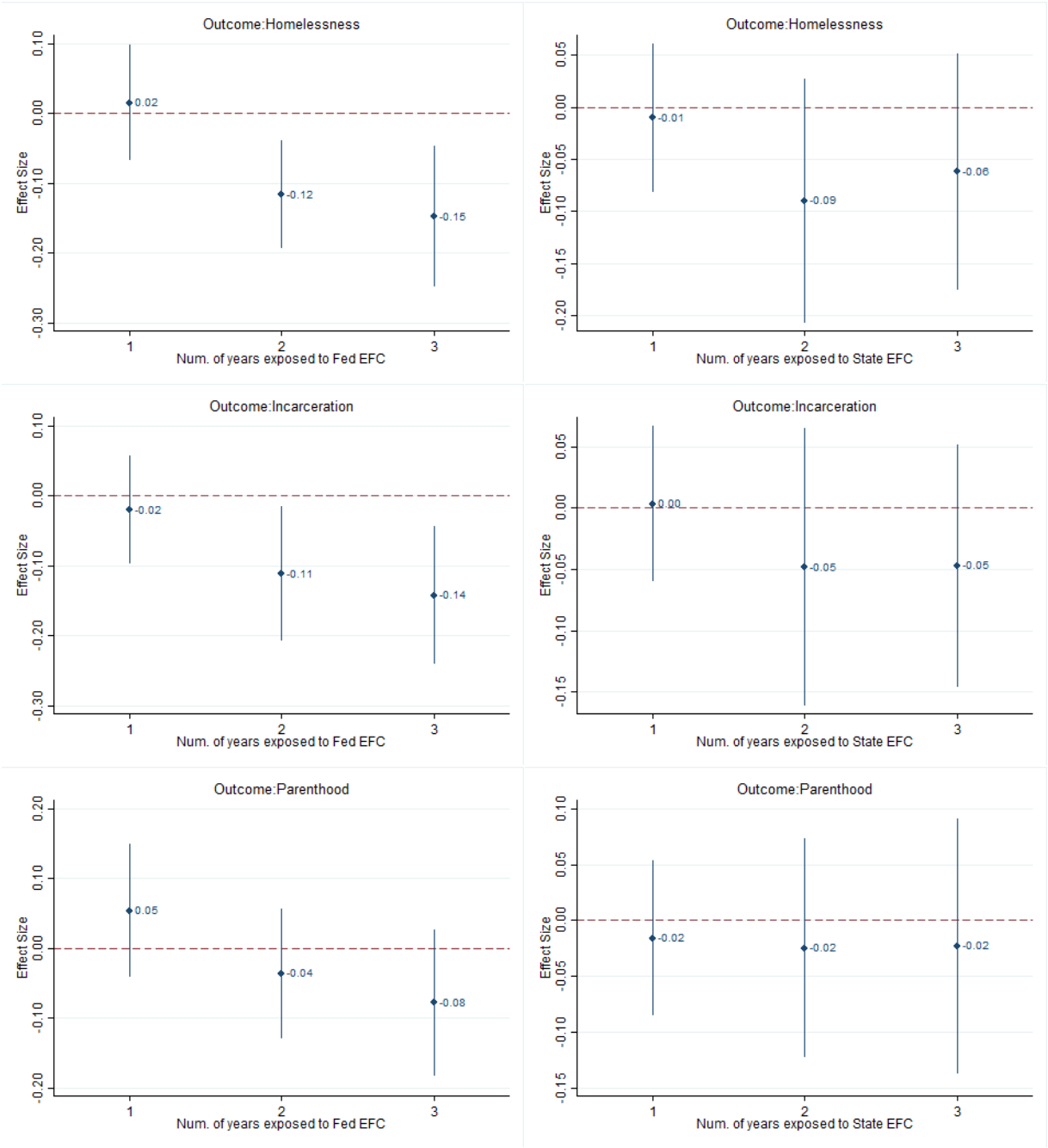
Table 3 – Trend in state characteristics prior to federally-funded extended foster care

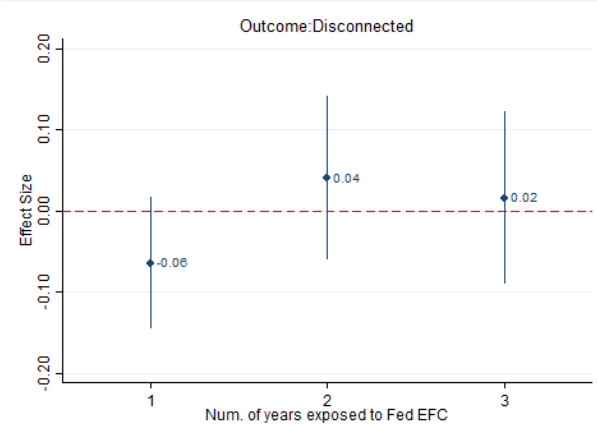
	(1) Trend Coefficient	(2) Standard Error	(3) *p*-value	(4) Observations	(5) N States
Unemployment rate	-0.704	(0.155)	0.000	260	26
Gross state product (in millions of 2016 USD)	0.0397	(0.0326)	0.234	260	26
Poverty Rate	-0.652	(0.465)	0.174	260	26
Income per capita (in thousands 2016 USD)	0.388	(0.276)	0.172	260	26
TANF recipients (per 1000 people)	-2.725	(2.311)	0.250	260	26
monthly TANF benefit for 3-person family (in 2016 USD)	-5.552	(6.629)	0.410	260	26
SNAP recipients (per 1000 people)	-10.88	(3.941)	0.011	260	26
monthly SNAP benefit for 1-person household (in 2016 USD)	-1.441	(2.494)	0.568	260	26
Child-only TANF recipients (per 1000 children)	-0.575	(0.379)	0.142	260	26
Medicaid beneficiaries (per 1000 people)	-16.95	(7.002)	0.023	260	26
Governor is Democrat (1=Yes)	0.153	(0.132)	0.258	260	26
Federal medical assistance percentage	-0.000540	(0.00381)	0.889	260	26
Foster youth (per 1000 people)	0.130	(0.143)	0.372	260	26
Proportion of Foster Youth aged 16 to 21	-0.00161	(0.00630)	0.800	260	26
Proportion of Foster Youth that are Funded under Title IV-E	-0.0232	(0.0162)	0.164	260	26
Proportion of Foster Youth 16-21 that are Funded under Title IV-E	-0.0156	(0.0187)	0.413	260	26
Proportion of Foster Youth 16-21 in Supervised Independent Living	0.133	(0.0842)	0.126	260	26
Median Monthly Payment for Foster Youth (Aged 16-21)	363.2	(264.4)	0.182	260	26
Median Monthly Payment for Foster Youth	28.38	(114.3)	0.806	260	26
Homeless (per 1000 people)	-0.0328	(0.172)	0.850	260	26
Percent of disconnected youth - age 16 to 24	-0.00395	(0.00580)	0.502	260	26
Percent of youth (18 to 24) enrolled in college	-0.0119	(0.00814)	0.157	260	26
Teen birth rate (per 1000 girls 15 to 19 years old)	-1.270	(0.766)	0.110	260	26
Percent of youth (12 to 17) who have used drugs in past year	-0.00475	(0.00313)	0.142	260	26

Notes: This table presents results from 24 regressions, where the outcome is shown in the first column and the key coefficient of interest is on the trend in the number of years since federally-funded EFC. The regression also includes indicators for each year after federally-funded EFC, region-year fixed effects, and state fixed effects. Importantly, because indicators for each year after EFC are included, the coefficient on the trend (column 1) is identified only from pre EFC years, and therefore, the *p*-value (column 3) can be interpreted as a test for whether there is a significant pre-trend for each outcome. Percent of youth who have used drugs in past year is missing in 2015, thus imputed as the average between the year before and after. Juvenile incarceration, an outcome of interest, is excluded due to missing data. The sample for each regression includes all states that passed federally-funded EFC prior to 2018 observed from 2008 to 2017. Standard errors are clustered at the state level.

Figure 2 – Testing the linear assumption of the marginal effects

The main results in Table 3 report the marginal effect size of an additional year exposed to extended foster care. These graphs plot the effect size and 95 percent confidence interval of 1, 2, and 3 years exposed to EFC (federal policy on left and state policy on right), a variation of Eq. (1), to test if the effect size is linear in exposure. Youth in Massachusetts and Vermont, where the age-out age is 22 years old, are considered exposed to EFC for three years.

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Effect Size
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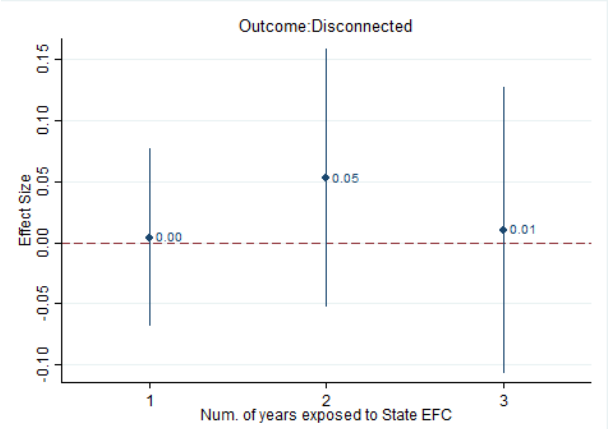
-0.10
-0.20
0.04
0.02
-0.06
1
2
3
Num. of years exposed to Fed EFC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Effect Size
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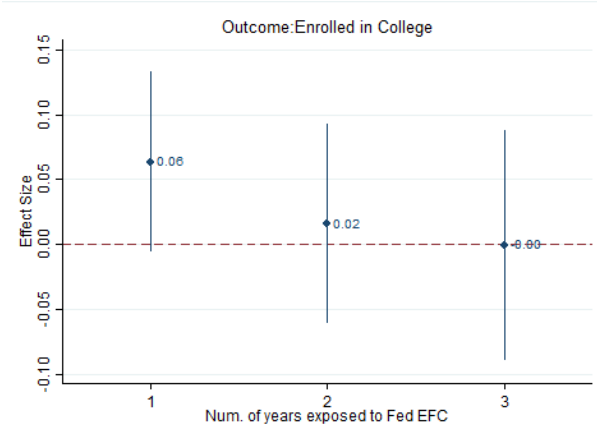
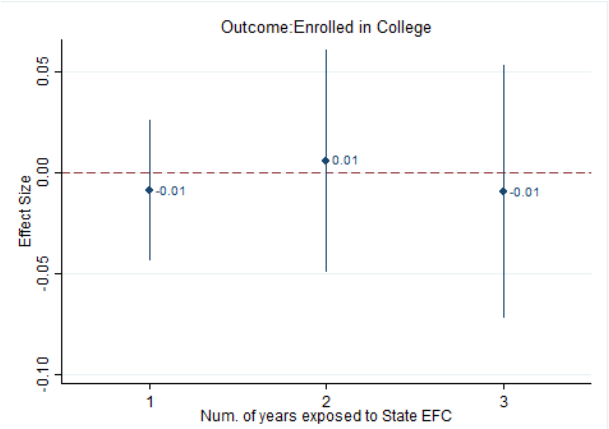
-0.10
0.05
0.00
0.01
1
2
3
Num. of years exposed to State EFC


Outcome:Enrolled in College
Effect Size
0.15
0.10
0.05
0.00
-0.05
-0.10
0.06
0.02
0.00
1
2
3
Num. of years exposed to Fed EFC


Outcome:Enrolled in College
Effect Size
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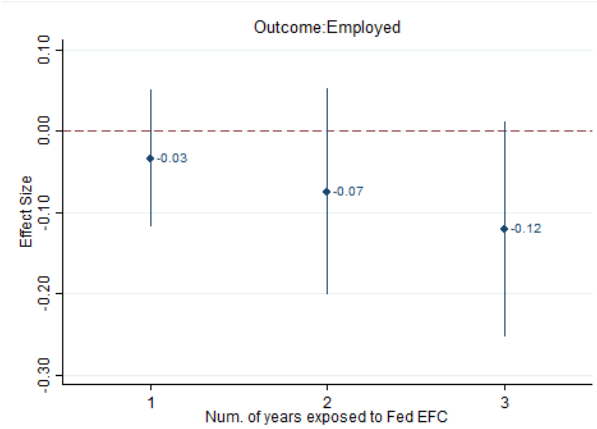
0.00
-0.05
-0.10
-0.01
0.01
-0.01
1
2
3
Num. of years exposed to State EFC


Outcome:Employed
Effect Size
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0.00
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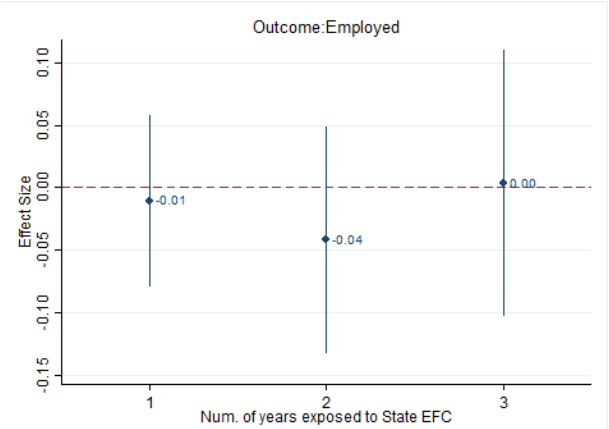
-0.20
-0.30
-0.03
-0.07
-0.12
1
2
3
Num. of years exposed to Fed EFC


Outcome:Employed
Effect Size
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0.05
0.00
-0.05
-0.10
-0.15
-0.01
-0.04
0.00
1
2
3
Num. of years exposed to State EFC

Table 4 – Exploring the impact of different extended foster care policies

	(1) Automatic Entry	(2) Reentry	(3) Direct Payments
Outcome: Homelessness			
Years with Fed EFC and no Policy	-0.051**	-0.020	-0.045**
	(0.022)	(0.028)	(0.020)
Years with Fed EFC and Policy	-0.046***	-0.044**	-0.048**
	(0.016)	(0.021)	(0.019)
Observations	9,247	9,247	9,247
Adjusted R-squared	0.150	0.150	0.150
Outcome: Incarceration			
Years with Fed EFC and no Policy	-0.050***	-0.054***	-0.043***
	(0.018)	(0.018)	(0.016)
Years with Fed EFC and Policy	-0.041***	-0.046***	-0.045***
	(0.013)	(0.015)	(0.016)
Observations	9,289	9,289	9,289
Adjusted R-squared	0.278	0.278	0.277
Outcome: Parenthood			
Years with Fed EFC and no Policy	-0.038*	-0.035	-0.036*
	(0.021)	(0.024)	(0.019)
Years with Fed EFC and Policy	-0.029*	-0.033*	-0.032*
	(0.016)	(0.018)	(0.016)
Observations	8,954	8,954	8,954
Adjusted R-squared	0.184	0.185	0.185
Outcome: Disconnected			
Years with Fed EFC and no Policy	0.003	0.014	0.017
	(0.016)	(0.021)	(0.018)
Years with Fed EFC and Policy	0.001	0.004	-0.002
	(0.013)	(0.015)	(0.019)
Observations	9,985	9,985	9,985
Adjusted R-squared	0.059	0.059	0.059
Outcome: Enrolled in College			
Years with Fed EFC and no Policy	-0.009	0.002	-0.009
	(0.017)	(0.020)	(0.017)
Years with Fed EFC and Policy	-0.003	-0.006	-0.006
	(0.012)	(0.014)	(0.013)
Observations	12,117	12,117	12,117
Adjusted R-squared	0.175	0.175	0.174
Outcome: Employed			
Years with Fed EFC and no Policy	-0.028	-0.032	-0.039*
	(0.021)	(0.026)	(0.021)
Years with Fed EFC and Policy	-0.047**	-0.038*	-0.039*
	(0.018)	(0.020)	(0.023)
Observations	10,197	10,197	10,197
Adjusted R-squared	0.072	0.073	0.072

Notes: *** p<0.01, ** p<0.05, * p<0.1. Standard errors clustered at the state level are in parentheses. All regressions control for demographic characteristics, foster care history, experiences at 17 years old, state controls (including exposure to state EFC interacted with the policy), and include cohort, state, and region by cohort fixed effects. EFC stands for extended

foster care. The first column reports the impact of automatic entry into EFC, the second column reports the impact of reentry into care, and the third column reports the impact of direct payments to the foster youth.

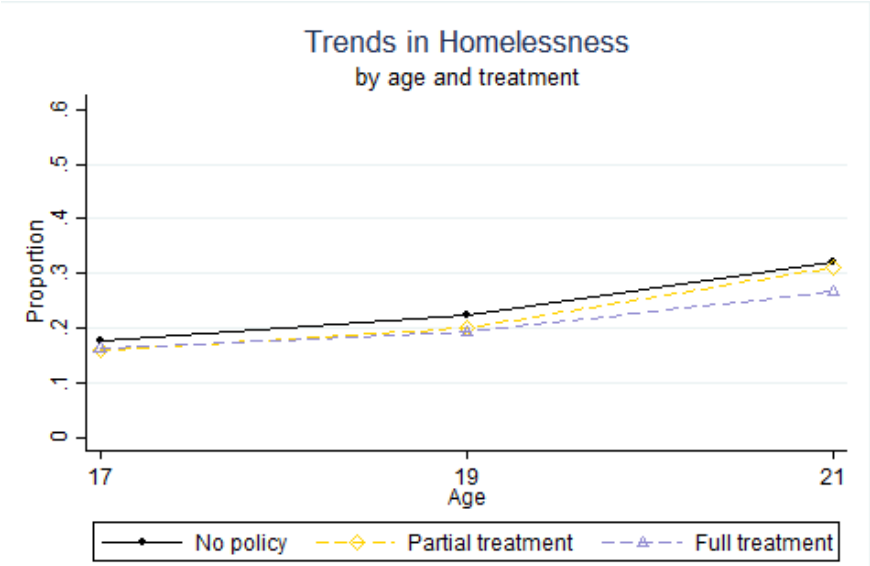
Table 5 – Heterogeneous effects of extended foster care

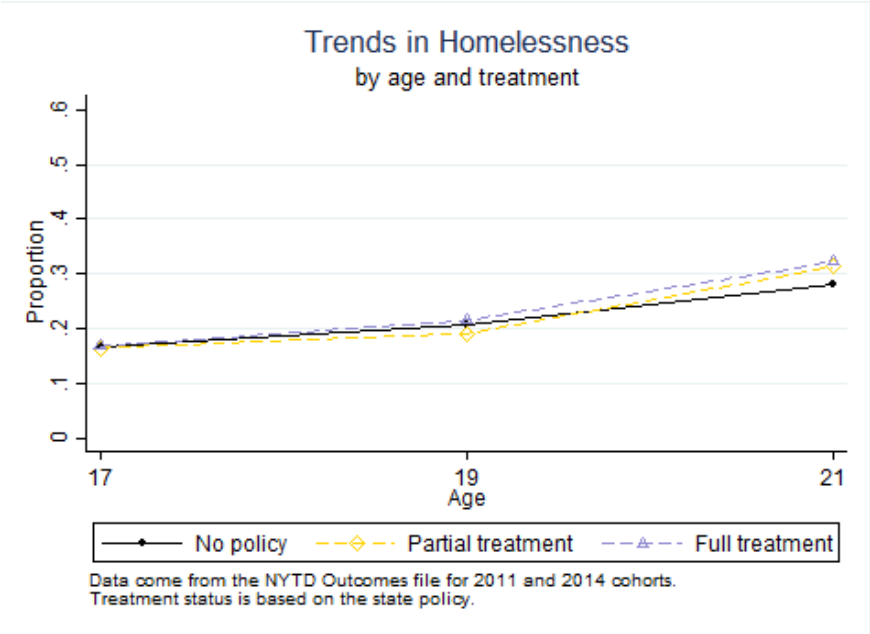
	Homelessness	Incarceration	Parenthood	Disconnected	Enrolled in College	Employed
Panel A: Interaction between extended foster care and select demographic characteristics						
Years exposed to Fed EFC x female	0.003	0.013	-0.007	-0.022**	-0.000	0.016
	(0.010)	(0.009)	(0.008)	(0.011)	(0.006)	(0.011)
Years exposed to Fed EFC x Non-Hispanic Black	-0.012	0.007	-0.016	0.014	-0.004	-0.010
	(0.012)	(0.010)	(0.010)	(0.009)	(0.007)	(0.015)
Years exposed to Fed EFC x diagnosed with disability	-0.003	0.003	-0.007	-0.008	0.000	0.002
	(0.013)	(0.009)	(0.007)	(0.012)	(0.008)	(0.008)
Observations	9,247	9,289	8,954	9,985	12,117	10,197
Adjusted R-squared	0.150	0.278	0.184	0.059	0.174	0.072
Panel B: Interaction between extended foster care and last placement setting as a child						
Years exposed to Fed EFC x foster home	-0.012	-0.007	-0.001	-0.025*	0.018*	0.023
	(0.012)	(0.012)	(0.014)	(0.014)	(0.009)	(0.015)
Years exposed to Fed EFC x group home	0.021*	0.013	-0.010	-0.015	0.017	0.003
	(0.011)	(0.015)	(0.013)	(0.012)	(0.011)	(0.014)
Years exposed to Fed EFC x kinship care	0.016	-0.007	-0.023	-0.039***	0.035**	0.031**
	(0.019)	(0.012)	(0.018)	(0.015)	(0.015)	(0.014)
Observations	9,198	9,240	8,904	9,935	12,050	10,146
Adjusted R-squared	0.152	0.285	0.185	0.062	0.176	0.075
Panel C: Interaction between extended foster care and experiences prior to 17 years old						
Years exposed to Fed EFC x incarceration	0.015*	0.016	-0.003	0.018	-0.006	-0.023
	(0.008)	(0.014)	(0.011)	(0.011)	(0.010)	(0.015)
Years exposed to Fed EFC x homelessness	-0.006	0.009	-0.019*	-0.014	-0.006	0.007
	(0.014)	(0.009)	(0.010)	(0.009)	(0.008)	(0.010)
Years exposed to Fed EFC x substance abuse	0.012	0.003	-0.010	0.006	-0.000	0.014
	(0.014)	(0.009)	(0.010)	(0.009)	(0.006)	(0.010)
Years exposed to Fed EFC x parenthood	0.021	-0.024**	0.020	-0.015	0.017	0.006
	(0.019)	(0.012)	(0.023)	(0.020)	(0.012)	(0.020)
Observations	9,247	9,289	8,954	9,985	12,117	10,197
Adjusted R-squared	0.151	0.277	0.185	0.060	0.174	0.073

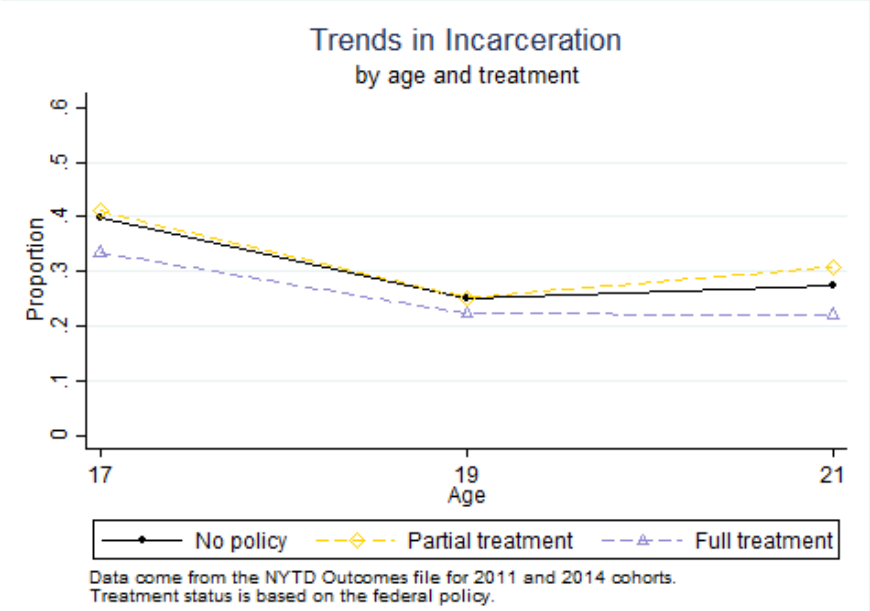
Notes: *** p<0.01, ** p<0.05, * p<0.1. Standard errors clustered at the state level are in parentheses. All regressions control for demographic characteristics, foster care history (including last placement setting in panel B), experiences at 17 years old, state controls (including exposure to state EFC interacted with the specified trait), and include cohort and state fixed effects. EFC stands for extended foster care. 77 youth are missing their last placement setting as a child, which is explains the slightly smaller sample sizes in Panel B. The results are the same if we assume these youth were not living in a foster home, group home, or kinship care. They are also the same if we proxy their last placement setting by their first placement setting.

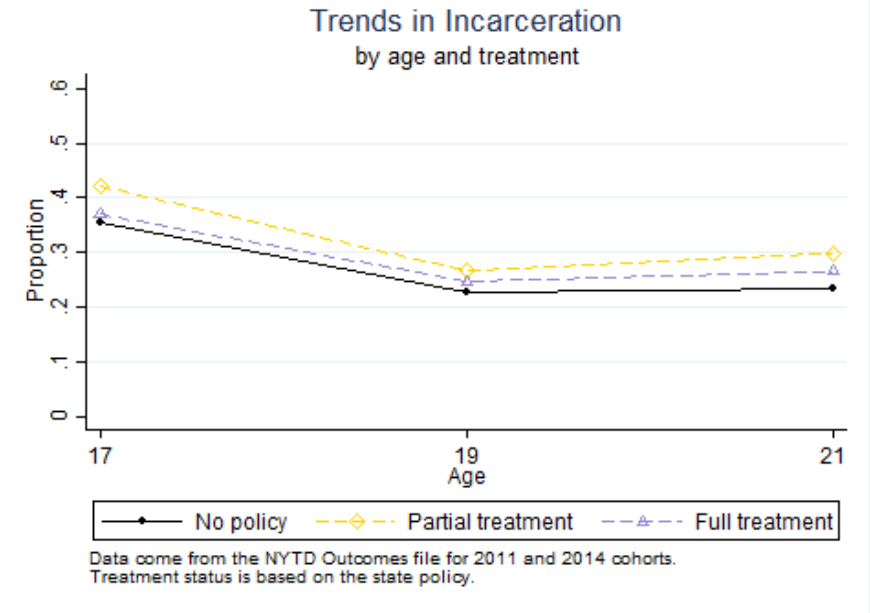
Appendix Tables and Figures

Appendix Figure 1 – Trends in Hardships by Age and Treatment Status for Foster Youth Aging Out of Care






Trends in Incarceration
by age and treatment
Proportion
0
.1
.2
.3
.4
.5
.6
17
19
21
Age
No policy
Partial treatment
Full treatment
Data come from the NYTD Outcomes file for 2011 and 2014 cohorts.
Treatment status is based on the federal policy.


Trends in Incarceration
by age and treatment
Proportion
0
.1
.2
.3
.4
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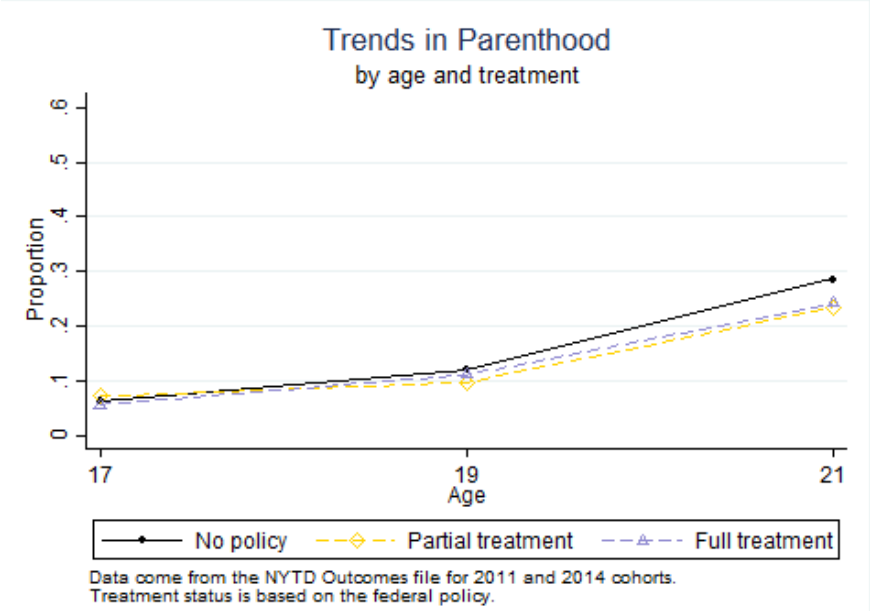
17
19
21
Age
No policy
Partial treatment
Full treatment
Data come from the NYTD Outcomes file for 2011 and 2014 cohorts.
Treatment status is based on the state policy.


Trends in Parenthood
by age and treatment
Proportion
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.1
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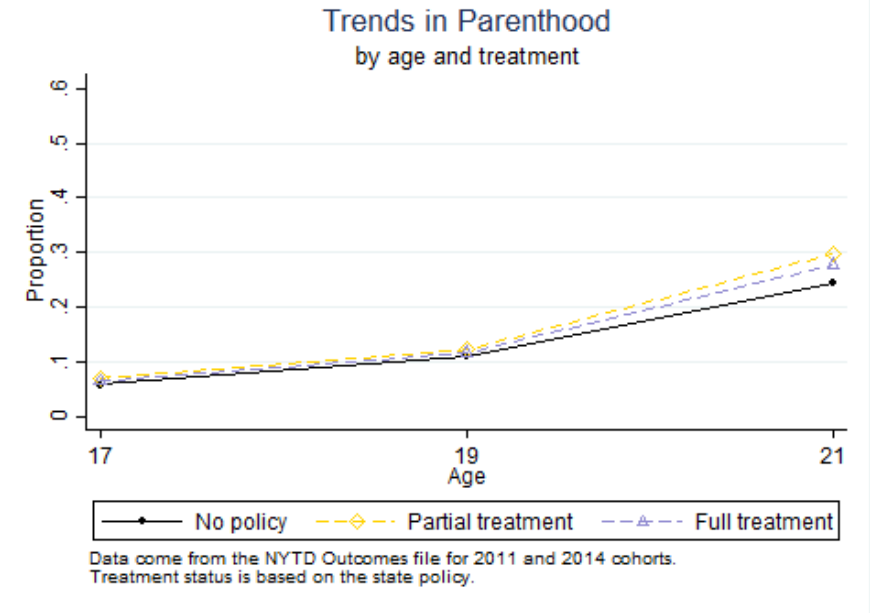
17
19
21
Age
No policy
Partial treatment
Full treatment
Data come from the NYTD Outcomes file for 2011 and 2014 cohorts.
Treatment status is based on the federal policy.


Trends in Parenthood
by age and treatment
Proportion
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17
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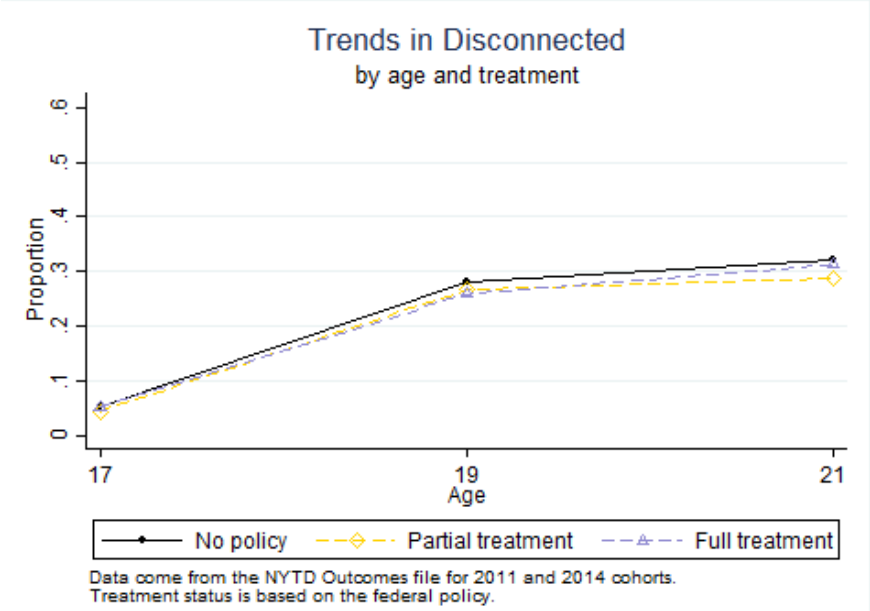
21
Age
No policy
Partial treatment
Full treatment
Data come from the NYTD Outcomes file for 2011 and 2014 cohorts.
Treatment status is based on the state policy.


Trends in Disconnected
by age and treatment
Proportion
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.2
.3
.4
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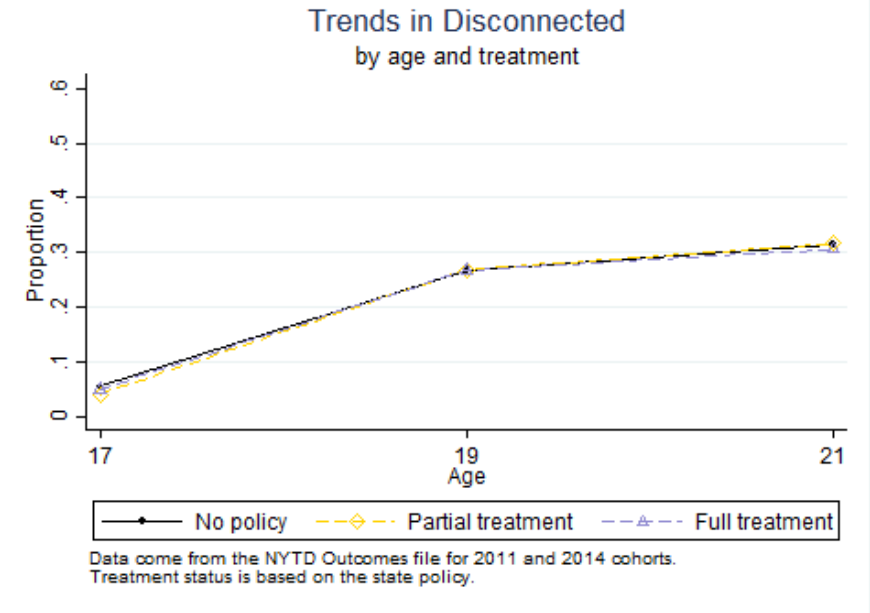
17
19
21
Age
No policy
Partial treatment
Full treatment
Data come from the NYTD Outcomes file for 2011 and 2014 cohorts.
Treatment status is based on the federal policy.


Trends in Disconnected
by age and treatment
Proportion
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.1
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17
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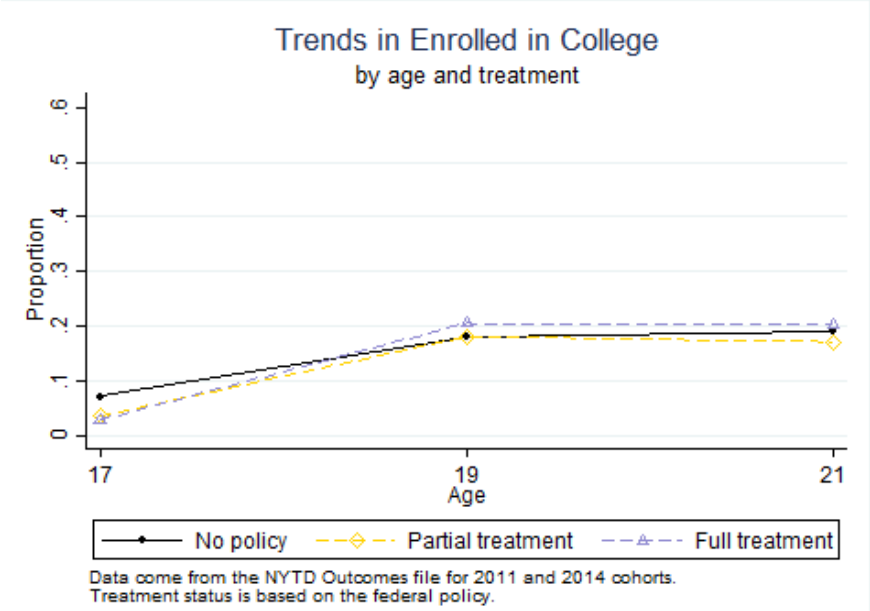
21
Age
No policy
Partial treatment
Full treatment
Data come from the NYTD Outcomes file for 2011 and 2014 cohorts.
Treatment status is based on the state policy.


Trends in Enrolled in College
by age and treatment
Proportion
0
.1
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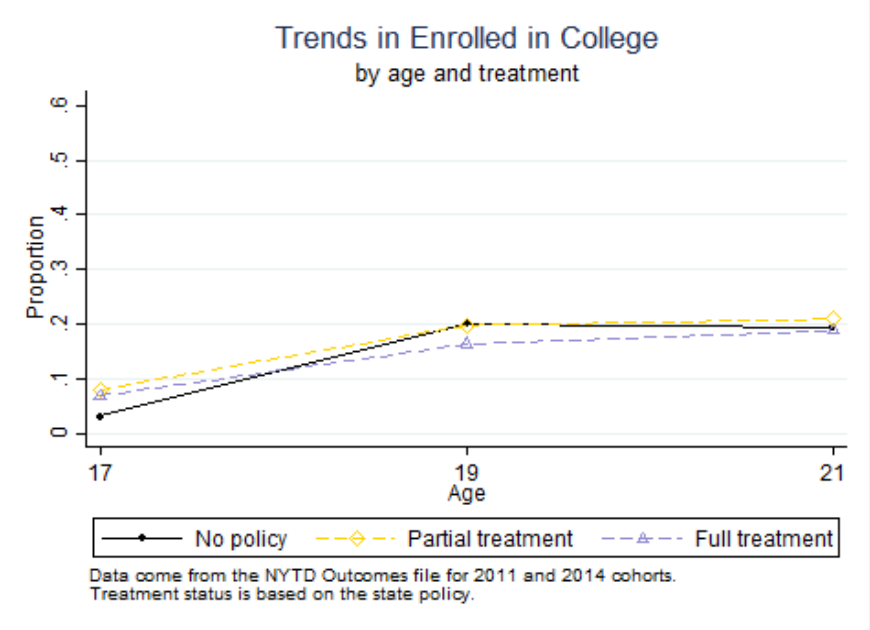
17
19
21
Age
No policy
Partial treatment
Full treatment
Data come from the NYTD Outcomes file for 2011 and 2014 cohorts.
Treatment status is based on the federal policy.


Trends in Enrolled in College
by age and treatment
Proportion
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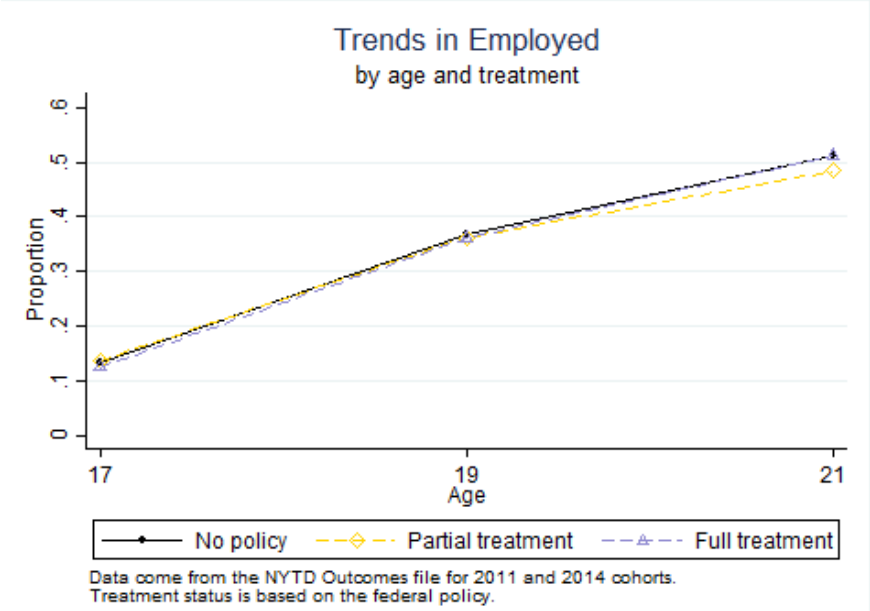
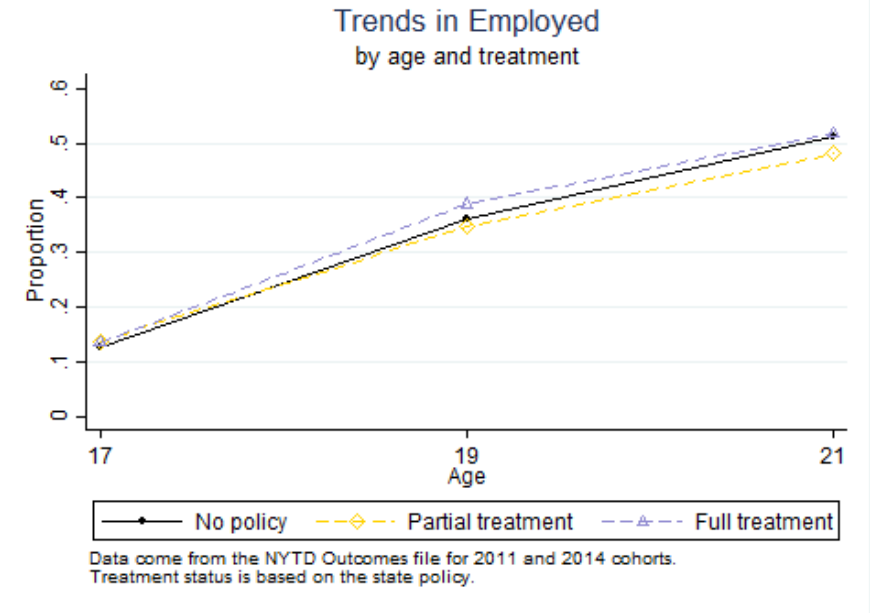
17
19
21
Age
No policy
Partial treatment
Full treatment
Data come from the NYTD Outcomes file for 2011 and 2014 cohorts.
Treatment status is based on the state policy.



Data come from the NYTD Outcomes file for 2011 and 2014 cohorts.
Treatment status is based on the federal policy.



Data come from the NYTD Outcomes file for 2011 and 2014 cohorts.
Treatment status is based on the state policy.

Appendix Table 1 – Correlation between service use at 21 and extended foster care

	Service Use at 21
Years exposed to Fed EFC	0.035
	(0.024)
Years exposed to State EFC	0.024
	(0.029)
Average Participation Rate without EFC	0.67
Observations	13,891
R-Squared	0.163

Notes: *** p<0.01, ** p<0.05, * p<0.1. Standard errors clustered at the state level are in parentheses. Regression controls for demographic characteristics, foster care history, experiences at 17 years old, state controls, and includes cohort, state, and region by cohort fixed effects. EFC stands for extended foster care. "Fed" and "State" indicate how the program is funded. A positive coefficient suggests service use is positively correlated with EFC. Service use includes using any of the following: foster care, housing assistance, academic support, career preparation, budgeting, mentoring, health education, or financial assistance.

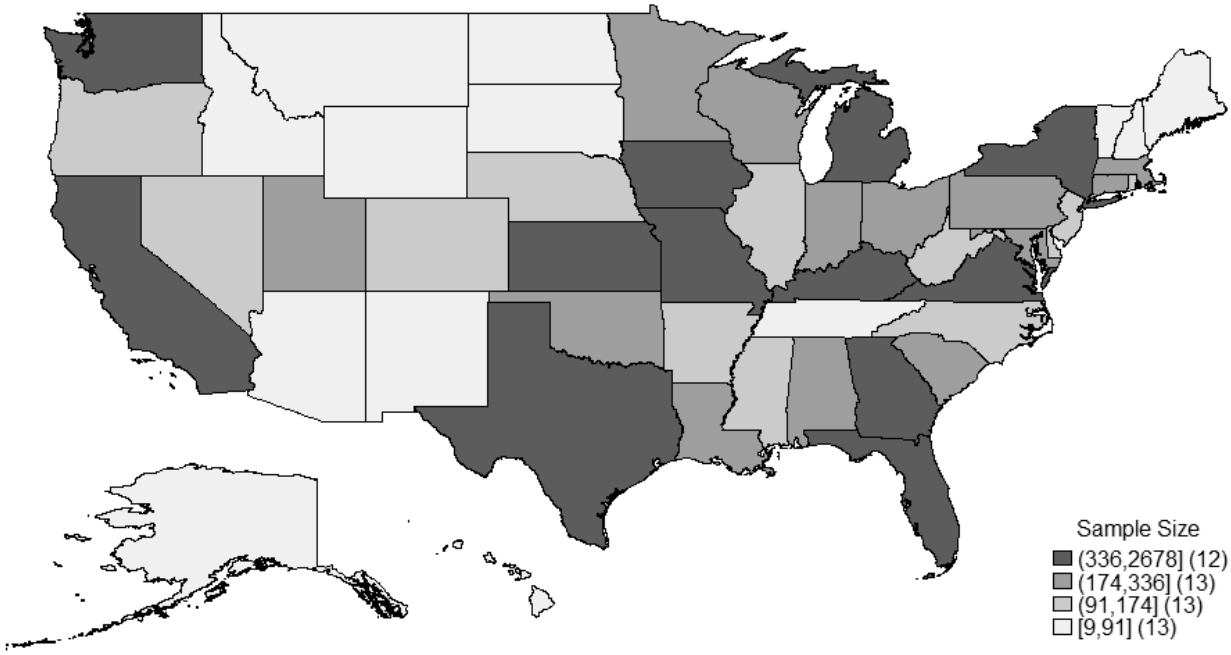
Appendix Table 2 – Summary statistics for NYTD participants by treatment

		No EFC Ever (N=1,724)		Full Treatment (N=10,001)		Partial Treatment (N=2,166)	
		Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Extended Foster Care Policy	Num. of years with federal EFC	0	0	2.21	1.29	0.49	0.76
	Num. of years with state EFC	0	0	0.81	1.29	1.20	0.83
NYTD Cohort	Cohort 1 (21 in FY2015)	0.71		0.39		0.69	
	Cohort 2 (21 in FY2018)	0.29	0.45	0.61	0.49	0.31	0.46
Demographic Characteristics	Female	0.51	0.50	0.55	0.50	0.54	0.50
	Non-Hispanic White	0.51	0.50	0.38	0.49	0.56	0.50
	Non-Hispanic Black	0.27	0.44	0.31	0.46	0.27	0.44
	Non-Hispanic Other	0.11	0.31	0.08	0.27	0.06	0.24
	Hispanic	0.12	0.33	0.22	0.42	0.11	0.31
	Ever diagnosed with a disability	0.52	0.50	0.60	0.49	0.48	0.50
	Age at time of survey	21.02	0.52	21.01	0.23	21.08	0.35
	Finished high school/GED	0.75	0.44	0.70	0.46	0.77	0.42
	In Foster Care	0.01	0.09	0.26	0.44	0.06	0.23
Experiences at 17	Ever been homeless	0.22	0.41	0.17	0.37	0.19	0.39
	Employed	0.16	0.36	0.16	0.36	0.15	0.36
	Ever been incarcerated	0.33	0.47	0.26	0.44	0.35	0.48
	Ever been referred for substance abuse	0.24	0.43	0.22	0.42	0.27	0.44
	Parenthood	0.05	0.22	0.05	0.22	0.06	0.25
Foster Care History	Total removals from home as a child	1.35	0.63	1.41	0.68	1.37	0.67
	Total placements as a child	8.14	7.87	6.93	6.63	7.55	8.08
	Cumulative length of stay in foster care as a child (in years)	4.30	3.37	4.51	3.75	3.99	3.30
	Age at first removal	12.13	4.41	11.56	4.86	12.45	4.36
	Age at last removal	17.06	1.71	17.34	2.00	17.17	1.72
First Placement	Kinship Care	0.15	0.36	0.16	0.37	0.12	0.33
	Foster Home	0.53	0.50	0.49	0.50	0.47	0.50
	Group Home	0.28	0.45	0.29	0.45	0.33	0.47
	Other	0.04	0.19	0.06	0.24	0.08	0.28
Ever removed for… These do not add up to 100% because a child may be	Abuse	0.27	0.44	0.28	0.45	0.23	0.42
	Neglect	0.59	0.49	0.56	0.50	0.47	0.50
	Parental Incarceration	0.09	0.28	0.05	0.22	0.07	0.26
	Parental Substance Abuse	0.21	0.40	0.19	0.39	0.19	0.39
	Inadequate Housing	0.11	0.31	0.09	0.29	0.12	0.32

		No EFC Ever (N=1,724)		Full Treatment (N=10,001)		Partial Treatment (N=2,166)	
		Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
removed for multiple reasons.	Child-related Issue	0.31	0.46	0.33	0.47	0.45	0.50
Last Placement Setting under 18	Kinship Care	0.11	0.32	0.13	0.33	0.08	0.27
	Foster Home	0.44	0.50	0.44	0.50	0.43	0.50
	Group Home	0.29	0.45	0.29	0.46	0.25	0.44
	Other	0.16		0.14		0.24	
State Controls (3-Year Average)	Unemployment Rate	5.34	1.21	5.20	1.28	5.26	1.36
	Poverty Rate	13.68	3.44	12.91	2.53	13.26	3.42
	Income per Capita (in 2016 USD)	44,782	4,352	51,962	8,348	44,901	4,627
	Gross State Product (in millions of 2016 USD)	260,469	183,246	1,109,000	1,004,000	447,159	559,864
	TANF Recipients (per 1,000 people)	6.53	3.72	15.07	12.89	10.21	8.73
	Child-only TANF Recipients (per 1,000 children)	6.33	3.51	10.26	6.50	8.87	6.00
	Monthly TANF Benefit for 3-person family (in 2016 USD)	395.50	136.50	531.70	205.70	392.60	135.50
	SNAP Recipients (per 1,000 people)	143.60	35.03	129.70	29.39	135.70	34.80
	Monthly SNAP Benefit for 1-person household (in 2016 USD)	196.60	12.99	193.10	6.70	195.70	8.83
	Medicaid Beneficiaries (per 1,000 people)	192.80	68.13	230.90	61.03	186.90	46.08
Outcomes	Homelessness	0.49	0.50	0.39	0.49	0.46	0.50
	Incarceration	0.35	0.48	0.32	0.47	0.41	0.49
	Parenthood	0.33	0.47	0.32	0.47	0.42	0.49
	Disconnected	0.32	0.47	0.29	0.46	0.33	0.47
	Enrolled in college/post-secondary education	0.19	0.39	0.22	0.41	0.20	0.40
	Employed	0.56	0.50	0.55	0.50	0.53	0.50

Notes: This table reports the summary statistics by treatment status for youth in the analytical sample. “Full Treatment” refers to the youth who lived with EFC from age 18 to 21, but the funding source may have changed. “Partial Treatment” refers to the youth who lived with and without EFC from age 18 to 21. Depending on a state’s age-out age and a youth’s cohort, partial treatment may come from being exposed right after aging out, at age 18 and 19, or later, at age 20.

Appendix Figure 2 – Sample size



Notes: This figure shows the number of youth in each state in the analytical sample. Sample sizes range from less than 100 youth to more than 2,000 youth. About 20 percent of the NYTD respondents live in California. The next largest states represented are Texas (5%), New York (5%), Kentucky (4%), and Michigan (4%). Comparing this figure to Figure 1 shows that there is variation in sample size by treatment status.

Appendix Table 3 – Regression results from alternative specifications and samples

	(1) Main Results	(2) Probit - Marginal Effects	(3) Logit - Odds Ratio	(4) Sample excludes forbidden group	(5) Same sample for all outcome measures
			Outcome: Homelessness		
Years with Fed EFC	-0.048**	-0.050***	0.796**	-0.051*	-0.031*
	(0.019)	(0.019)	(0.075)	(0.027)	(0.017)
Years with State EFC	-0.015	-0.017	0.925	-0.001	-0.005
	(0.017)	(0.017)	(0.076)	(0.017)	(0.017)
Observations	9,247	9,247	9,247	6,442	7,955
Adjusted R-squared	0.150			0.145	0.133
			Outcome: Incarceration		
Years with Fed EFC	-0.045***	-0.043***	0.766***	-0.069***	-0.049***
	(0.016)	(0.015)	(0.072)	(0.024)	(0.017)
Years with State EFC	-0.013	-0.012	0.919	-0.013	-0.001
	(0.015)	(0.014)	(0.084)	(0.017)	(0.017)
Observations	9,289	9,289	9,289	6,481	7,955
Adjusted R-squared	0.277			0.288	0.225
			Outcome: Parenthood		
Years with Fed EFC	-0.033*	-0.042**	0.802**	-0.064***	-0.024
	(0.018)	(0.018)	(0.083)	(0.023)	(0.016)
Years with State EFC	-0.002	-0.002	0.988	0.008	0.001
	(0.019)	(0.018)	(0.103)	(0.020)	(0.022)
Observations	8,954	8,954	8,954	6,214	7,955
Adjusted R-squared	0.185			0.181	0.164
			Outcome: Disconnected		
Years with Fed EFC	0.002	0.002	1.001	0.007	0.005
	(0.014)	(0.014)	(0.069)	(0.016)	(0.015)
Years with State EFC	-0.002	-0.002	0.987	0.022	-0.006
	(0.021)	(0.022)	(0.109)	(0.021)	(0.020)
Observations	9,985	9,985	9,985	6,915	7,955
Adjusted R-squared	0.059			0.061	0.059
			Outcome: Enrolled in College		
Years with Fed EFC	-0.007	-0.019	0.896	-0.010	0.006
	(0.015)	(0.022)	(0.100)	(0.018)	(0.015)
Years with State EFC	0.001	-0.015	0.918	-0.009	-0.027*
	(0.012)	(0.015)	(0.072)	(0.014)	(0.015)
Observations	12,117	8,194	8,194	7,968	7,955
Adjusted R-squared	0.174			0.166	0.071
			Outcome: Employed		
Years with Fed EFC	-0.039*	-0.028***	0.884***	-0.063***	-0.021
	(0.021)	(0.010)	(0.038)	(0.022)	(0.017)
Years with State EFC	0.003	0.010	1.047	-0.024	-0.010
	(0.019)	(0.011)	(0.052)	(0.019)	(0.014)
Observations	10,197	8,416	8,416	7,059	7,955
Adjusted R-squared	0.072			0.076	0.136

Notes: *** p<0.01, ** p<0.05, * p<0.1. Standard errors clustered at the state level are in parentheses. All regressions control for demographic characteristics, foster care history, experiences at 17 years old, state controls, and include cohort, state, and region by cohort fixed effects. EFC stands for extended foster care. "Fed" and "State" indicate how the program is funded. The first column reports the main results again for easy reference, and the remaining columns report results from alternative specifications and samples.

Appendix Table 4 – Differences in controlling for and omitting the state policy

	(1) Main Results	(2) Omit State Policy	(3) Combine State and Federal Policy
	Outcome: Homelessness		
Years with Fed EFC	-0.048**	-0.044**	
	(0.019)	(0.018)	
Years with State EFC	-0.015		
	(0.017)		
Years with Any EFC			-0.025
			(0.016)
Observations	9,247	9,247	9,247
Adjusted R-squared	0.150	0.150	0.150
	Outcome: Incarceration		
Years with Fed EFC	-0.045***	-0.041***	
	(0.016)	(0.014)	
Years with State EFC	-0.013		
	(0.015)		
Years with Any EFC			-0.023*
			(0.013)
Observations	9,289	9,289	9,289
Adjusted R-squared	0.277	0.277	0.277
	Outcome: Parenthood		
Years with Fed EFC	-0.033*	-0.032*	
	(0.018)	(0.019)	
Years with State EFC	-0.002		
	(0.019)		
Years with Any EFC			-0.009
			(0.016)
Observations	8,954	8,954	8,954
Adjusted R-squared	0.185	0.185	0.184
	Outcome: Disconnected		
Years with Fed EFC	0.002	0.003	
	(0.014)	(0.014)	
Years with State EFC	-0.002		
	(0.021)		
Years with Any EFC			0.004
			(0.017)
Observations	9,985	9,985	9,985
Adjusted R-squared	0.059	0.059	0.059
	Outcome: Enrolled in College		
Years with Fed EFC	-0.007	-0.007	
	(0.015)	(0.014)	
Years with State EFC	0.001		
	(0.012)		
Years with Any EFC			-0.006
			(0.010)
Observations	12,117	12,117	12,117
Adjusted R-squared	0.174	0.174	0.174
	Outcome: Employed		
Years with Fed EFC	-0.039*	-0.040**	
	(0.021)	(0.019)	
Years with State EFC	0.003		
	(0.019)		
Years with Any EFC			-0.006

			(0.019)
Observations	10,197	10,197	10,197
Adjusted R-squared	0.072	0.072	0.072

Notes: *** p<0.01, ** p<0.05, * p<0.1. Standard errors clustered at the state level are in parentheses. All regressions control for demographic characteristics, foster care history, experiences at 17 years old, state controls, and include cohort, state, and region by cohort fixed effects. EFC stands for extended foster care. "Fed" and "State" indicate how the program is funded. The first column reports the main results again for easy reference, the second column reports the results when the state EFC variable is omitted, and the third column reports the results when the federal and state policy are combined, effectively a state either has EFC or not.

Appendix Table 5 – Regression results changing the set of control variables

	(1) Main Results	(2) Excludes all Controls	(3) Excludes Demographic Controls	(4) Excludes Foster Care History Controls	(5) Excludes Controls for Experiences at Age 17	(6) Excludes State Controls	(7) Excludes State Fixed Effects	(8) Excludes Cohort Fixed Effects
				Outcome: Homelessness				
Years with Fed EFC	-0.048**	-0.071***	-0.079***	-0.050***	-0.045**	-0.043**	-0.021**	-0.044***
	(0.019)	(0.022)	(0.020)	(0.019)	(0.021)	(0.019)	(0.009)	(0.016)
Years with State EFC	-0.015	-0.042**	-0.029*	-0.023	-0.018	-0.013	-0.007	-0.024*
	(0.017)	(0.017)	(0.016)	(0.017)	(0.017)	(0.017)	(0.007)	(0.013)
Observations	9,247	9,247	9,247	9,247	9,247	9,247	9,247	9,247
Adjusted R-squared	0.150	0.032	0.118	0.124	0.126	0.150	0.139	0.150
				Outcome: Incarceration				
Years with Fed EFC	-0.045***	-0.078***	-0.078***	-0.047***	-0.040**	-0.046***	0.010	-0.037**
	(0.016)	(0.015)	(0.015)	(0.016)	(0.016)	(0.012)	(0.009)	(0.015)
Years with State EFC	-0.013	-0.041**	-0.027*	-0.019	-0.018	-0.009	0.012	-0.011
	(0.015)	(0.018)	(0.016)	(0.015)	(0.016)	(0.015)	(0.008)	(0.013)
Observations	9,289	9,289	9,289	9,289	9,289	9,289	9,289	9,289
Adjusted R-squared	0.277	0.045	0.225	0.261	0.207	0.276	0.264	0.277
				Outcome: Parenthood				
Years with Fed EFC	-0.033*	-0.048**	-0.059***	-0.032*	-0.030	-0.026	-0.002	-0.029*
	(0.018)	(0.018)	(0.020)	(0.019)	(0.019)	(0.017)	(0.007)	(0.017)
Years with State EFC	-0.002	-0.025	-0.017	-0.004	-0.009	0.004	0.010	0.003
	(0.019)	(0.024)	(0.021)	(0.020)	(0.018)	(0.021)	(0.008)	(0.020)
Observations	8,954	8,954	8,954	8,954	8,954	8,954	8,954	8,954
Adjusted R-squared	0.185	0.026	0.123	0.176	0.138	0.183	0.175	0.182
				Outcome: Disconnected				
Years with Fed EFC	0.002	-0.020	-0.008	-0.001	0.003	-0.011	0.010	0.004
	(0.014)	(0.017)	(0.014)	(0.015)	(0.015)	(0.019)	(0.008)	(0.019)
Years with State EFC	-0.002	-0.007	-0.007	-0.005	-0.002	0.004	0.003	-0.013
	(0.021)	(0.016)	(0.019)	(0.022)	(0.021)	(0.016)	(0.007)	(0.016)
Observations	9,985	9,985	9,985	9,985	9,985	9,985	9,985	9,985
Adjusted R-squared	0.059	0.015	0.044	0.055	0.048	0.059	0.050	0.058
				Outcome: Enrolled in College				
Years with Fed EFC	-0.007	0.026	0.021	-0.006	-0.007	0.002	-0.003	-0.012
	(0.015)	(0.020)	(0.023)	(0.015)	(0.014)	(0.016)	(0.008)	(0.014)
Years with State EFC	0.001	0.007	0.001	0.004	0.001	0.001	0.005	-0.009
	(0.012)	(0.011)	(0.012)	(0.012)	(0.012)	(0.012)	(0.007)	(0.011)

Observations	12,117	12,117	12,117	12,117	12,117	12,117	12,117	12,117
Adjusted R-squared	0.174	0.039	0.061	0.173	0.170	0.174	0.161	0.174
				Outcome: Employed				
Years with Fed EFC	-0.039*	-0.027	-0.038**	-0.036*	-0.040*	-0.029	-0.012	-0.034
	(0.021)	(0.019)	(0.019)	(0.022)	(0.022)	(0.021)	(0.008)	(0.022)
Years with State EFC	0.003	0.005	-0.000	0.007	0.003	-0.001	-0.010	0.018
	(0.019)	(0.014)	(0.017)	(0.019)	(0.019)	(0.014)	(0.008)	(0.016)
Observations	10,197	10,197	10,197	10,197	10,197	10,197	10,197	10,197
Adjusted R-squared	0.072	0.014	0.044	0.068	0.063	0.072	0.065	0.072

Notes: *** p<0.01, ** p<0.05, * p<0.1. Standard errors clustered at the state level are in parentheses. EFC stands for extended foster care. "Fed" and "State" indicate how the program is funded. The first column reports the main results again for easy reference. The main results regression controls for demographic characteristics, foster care history, and experiences at 17 years old, state controls, and include cohort, state, and region by cohort fixed effects. The remaining columns indicate which set of controls are excluded from the regression.

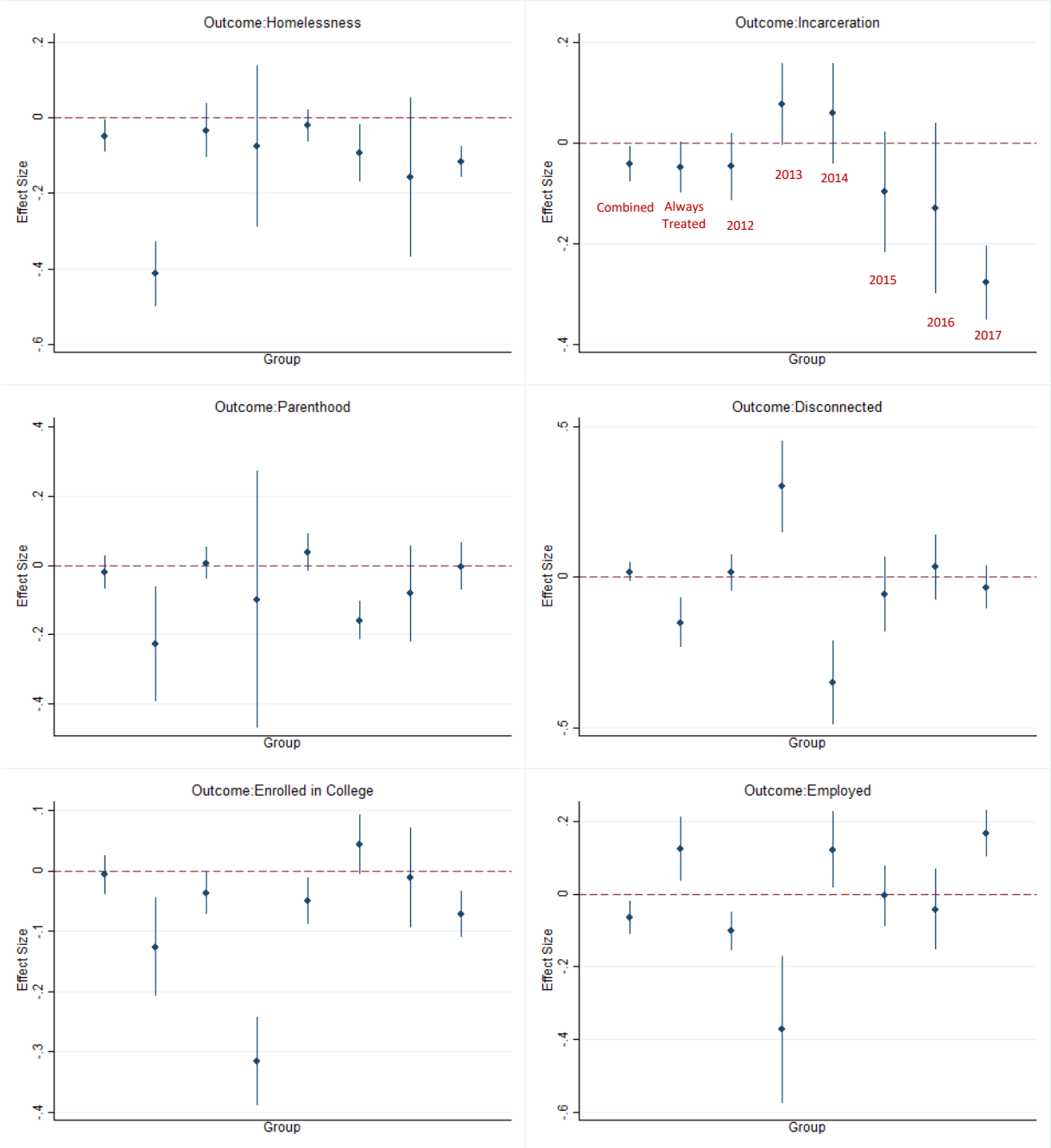
Appendix Table 6 – Placebo tests

	Panel A: Experiences at 17 years old					
	Homelessness	Incarceration	Parenthood	Employed	Referred for Substance Abuse	
Years exposed to Fed EFC	-0.003	0.011	0.003	0.005	0.017	
	(0.013)	(0.010)	(0.005)	(0.008)	(0.011)	
Years exposed to State EFC	-0.005	-0.013	-0.011**	-0.002	-0.011	
	(0.008)	(0.014)	(0.005)	(0.010)	(0.014)	
Mean of outcome with no EFC ever	0.219	0.328	0.0528	0.157	0.244	
Observations	13,891	13,891	13,891	13,891	13,891	
Adjusted R-Squared	0.044	0.196	0.029	0.034	0.083	
	Panel B: Outcomes at age 19 among youth treated later					
	Homelessness	Incarceration	Parenthood	Disconnected	Enrolled in College	Employed
Years exposed to Fed EFC	-0.031	0.146	-0.032	0.258**	-0.277***	-0.183***
	(0.122)	(0.104)	(0.053)	(0.104)	(0.059)	(0.061)
Years exposed to State EFC	-0.034	0.012	-0.013	-0.109**	0.025	0.082
	(0.029)	(0.057)	(0.030)	(0.043)	(0.018)	(0.048)
Mean of outcome	0.234	0.202	0.097	0.285	0.217	0.392
Observations	1,310	1,318	1,299	1,316	1,622	1,327
Adjusted R-Squared	0.112	0.197	0.121	0.072	0.364	0.088

Notes: *** p<0.01, ** p<0.05, * p<0.1. Standard errors clustered at the state level are in parentheses. All regressions control for demographic characteristics, foster care history, and include cohort, state, and region by cohort fixed effects. EFC stands for extended foster care. "Fed" and "State" indicate how the program is funded. Panel A tests whether experiences at age 17 differ by EFC exposure and Panel B tests whether outcomes at age 19 differ by EFC exposure after aging out. Panel B is restricted to the sample of states (Hawaii, Idaho, Louisiana, Montana, Nevada, New Mexico, North Carolina, Ohio, Oklahoma, Rhode Island, Utah, Virgina, Wisconsin, Wyoming) that implemented EFC after the youth turned age 19.

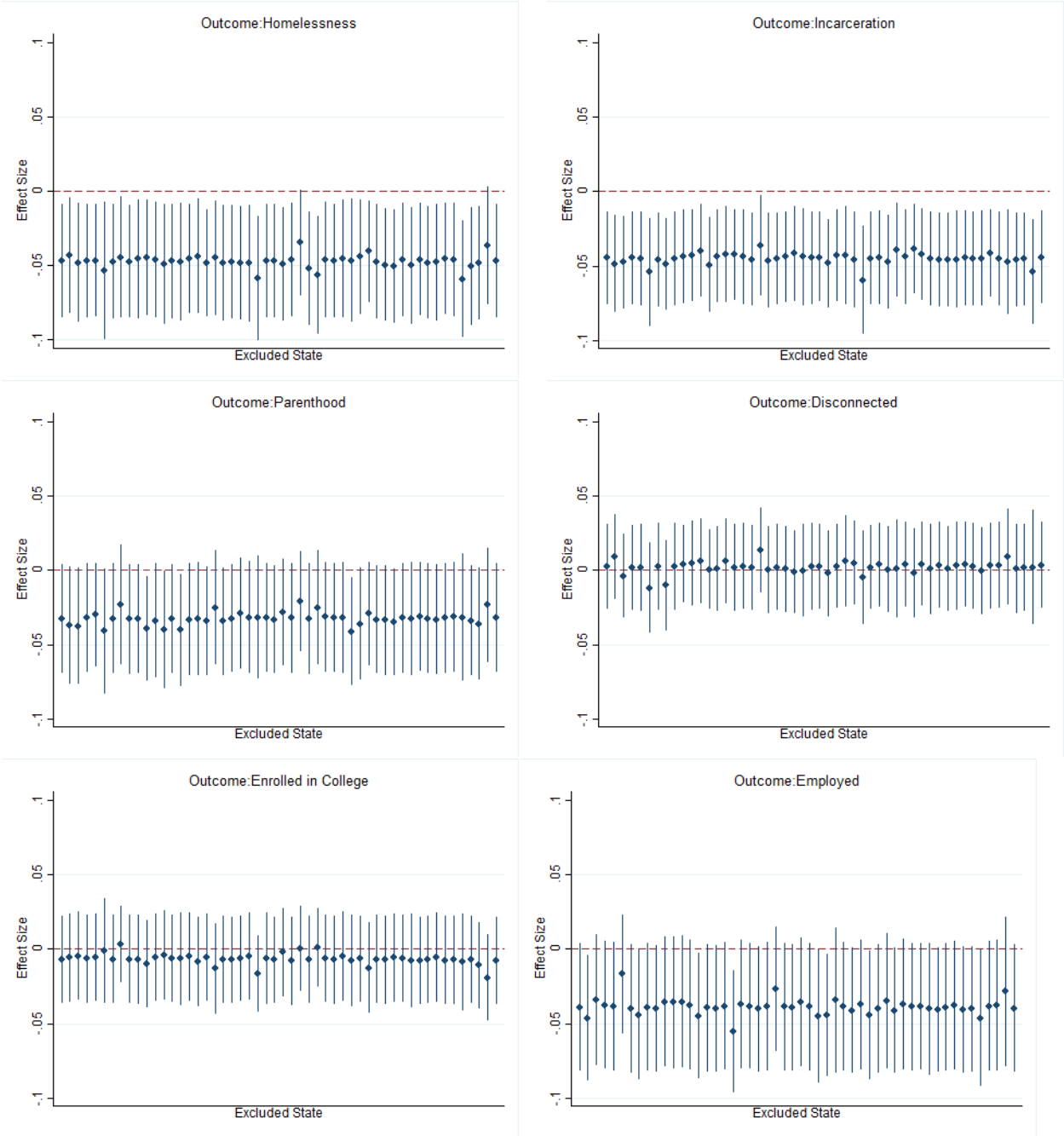
Appendix Figure 3 – Group specific treatment effects

Each graph plots the group specific marginal effect size (in percentage points) and the 95 percent confidence interval for an additional year exposed to federally-funded extended foster care. I construct the groups based on when states implemented federally-funded extended foster care, and exclude the 19 states that only have state EFC. The comparison states in each regression are the 6 states (ID, LA, NH, NM, OK, RI) with no EFC as of 2018. The first, leftmost estimate is the combined result for this exercise which includes 26 treated states. The always treated group consists of the 14 states that had federal EFC prior to 2012. In 2012, there are 6 treated states, in 2016 there are 2 treated states, and for the rest of the groups there is only 1 treated state.



Appendix Figure 4 – Graphical display of effect size for outcomes at age 21 omitting one state at a time

Each graph plots the marginal effect size (in percentage points) and the 95 percent confidence interval for an additional year exposed to federally-funded extended foster care. There are 52 estimates plotted in each graph. The first, leftmost estimate is the main result, and the remaining 51 are the effect sizes when a single state is omitted from the analysis. States are dropped in alphabetical order, so the sixth estimate is the effect size when California (the state with the most NYTD respondents) is excluded.



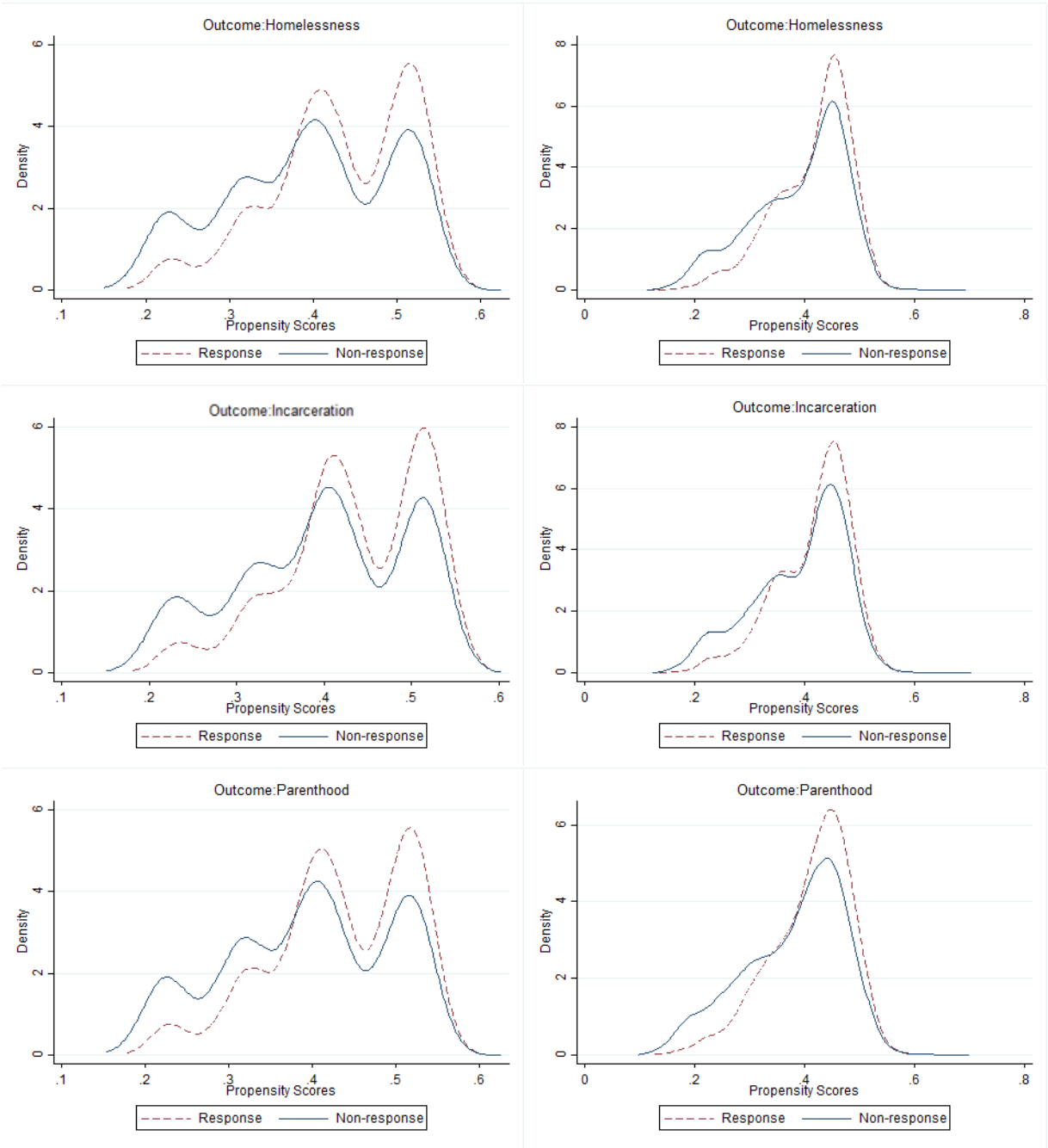
Appendix Table 7 – Correlation between NYTD participation at 21 and extended foster care

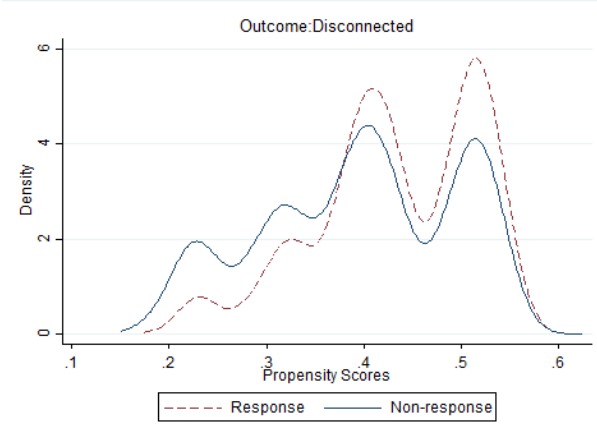
	No Controls	Includes Demographic Controls
Years exposed to Fed EFC	0.045**	0.022
	(0.021)	(0.041)
Years exposed to State EFC	0.052**	0.042
	(0.026)	(0.034)
Average Participation Rate without EFC	0.65	0.65
Observations	24,045	24,045
R-Squared	0.073	0.099

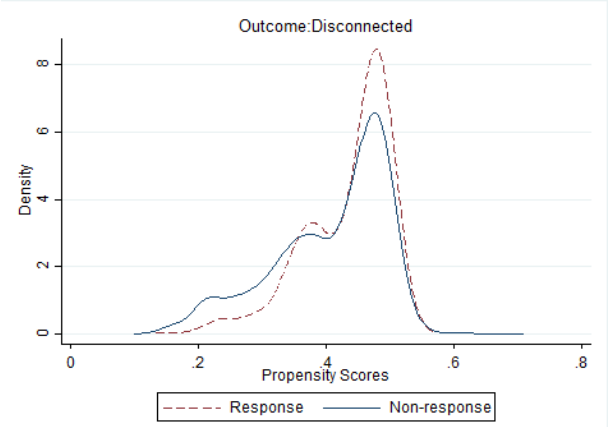
Notes: *** p<0.01, ** p<0.05, * p<0.1. Standard errors clustered at the state level are in parentheses. Regressions include a dummy variable for sample states, and cohort, state, and region by cohort fixed effects. Sample states only followed up with the youth randomly selected. EFC stands for extended foster care. "Fed" and "State" indicate how the program is funded. Positive coefficients suggest NYTD participation is positively correlated with EFC.

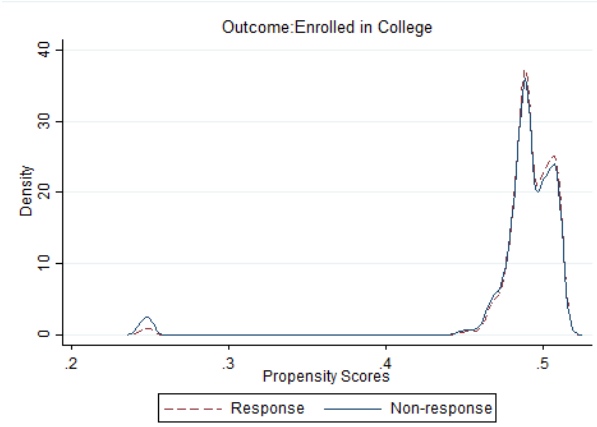
Appendix Figure 5 – Common support for inverse propensity score weighting

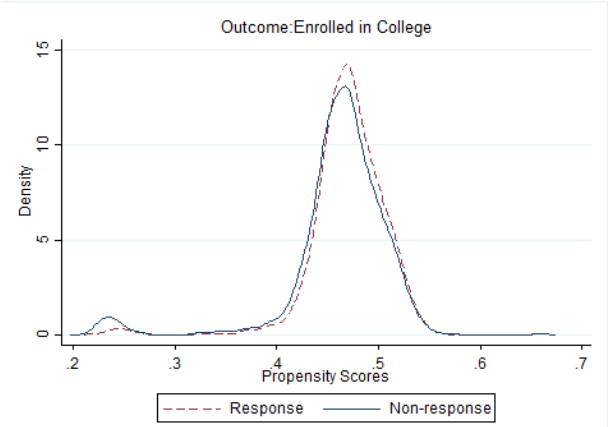
Respondents and non-respondents share common support across the outcomes. The figures on the left are for outcomes at age 19 and the figures on the right are for outcomes at age 21.

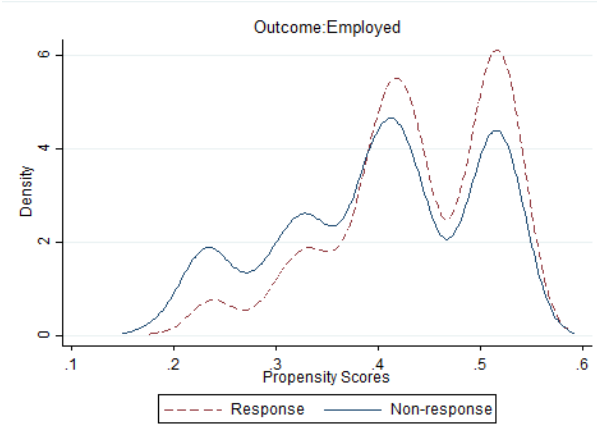


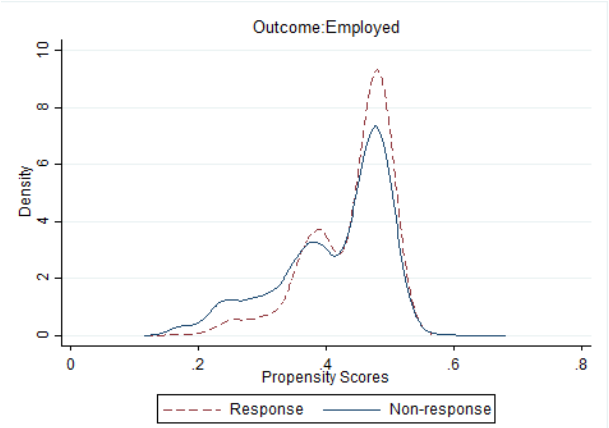

Outcome:Disconnected
Density
0
2
4
6
.1
.2
.3
.4
.5
.6
Propensity Scores
Response
Non-response


Outcome:Disconnected
Density
0
2
4
6
8
0
.2
.4
.6
.8
Propensity Scores
Response
Non-response


Outcome:Enrolled in College
Density
0
10
20
30
40
.2
.3
.4
.5
Propensity Scores
Response
Non-response


Outcome:Enrolled in College
Density
0
5
10
15
.2
.3
.4
.5
.6
.7
Propensity Scores
Response
Non-response


Outcome:Employed
Density
0
2
4
6
.1
.2
.3
.4
.5
.6
Propensity Scores
Response
Non-response


Outcome:Employed
Density
0
2
4
6
8
10
0
.2
.4
.6
.8
Propensity Scores
Response
Non-response

Appendix A – Extended Foster Care Effective Dates and Policy Details

The source of identification comes from state and federal policy changes to extended foster care. Prior to the Fostering Connections Act of 2008 (FCA) only a handful of states allowed foster youth to remain in care beyond their 18th birthday. In response to the FCA, many states extended their age-out age to 21 years old via state funding and/or federal reimbursement. States that are federally reimbursed for extended foster care support and services face more reporting and accountability requirements compared to states that solely rely on state funds to implement extended foster care. In addition, states with federally-funded extended foster care can support more youth by using both federal and state dollars.

In 2010, 25 states and the District of Columbia had extended foster care, and in 2017, 48 states and the District of Columbia, had extended foster care. Oklahoma is the only state that does not offer extended foster care. Louisiana and South Dakota have an exception that youth still in high school can remain in foster care until 21 years old, but otherwise youth age-out at 18 years old. Wisconsin only offers extended foster care to youth with Individual Education Plans (IEPs). There is considerable variation in timing, age-out age, requirements to be in extended foster care, and transitional services available. Table A1 provides more specific details about extended foster care in each state.

Although there is variation across many dimensions, I primarily exploit the timing variation for a few reasons. First, federal funding for independent living programs (ILPs) have existed since the 1980s, well before the FCA; therefore, all states offer some sort of independent living support to their youth aging out of foster care. Second, the marginal costs of pinning down all of the intricacies in every single state outweigh the marginal benefits at this time. Lastly, there is not enough data to effectively estimate a model that exploits the variation within each of these alternative dimensions.

Information about extended foster care in each state comes from a host of sources ranging from government reports and documents to state statutes and house bills. First, I used reports and documents from 2014 to 2019 created by Child Trends, Child Welfare Information Gateway, Congressional Research Service, National Conference of State Legislatures (NCSL), Pew Charitable Trusts, and the U.S. Government Accountability Office to get a time frame as to when a state implemented extended foster care. Each of these reports lists either "HHS, Children's Bureau," or "responses from state agencies" as their source. These reports include a map or table

identifying states with state or federal extended foster care at a single point in time. Some of these resources also include current state statutes, administrative codes, and agency policies providing additional details and context. In combination, these sources allow me to observe changes over time and infer a time frame in which a state implemented extended foster care. For example, the 2014 Pew Charitable Trusts report shows that North Carolina does not have extended foster care, but the 2017 NCSL webpage shows that North Carolina does have extended foster care, so I can infer that North Carolina implemented extended foster care sometime between 2014 and 2017. Although the time frame provides a good starting point, for my analysis I need specific dates in which extended foster care was implemented.

Next, I used legal databases to verify details and record effective dates of statutes and policies. The Juvenile Law Center (JLC) developed a tool that provides state-level information about implementation of extended foster care, such as availability, eligibility, and funding. Additionally, this tool provides the statute or policy from which the information comes. Using Westlaw Campus Research, a legal database provided by Georgia State University, I then looked up the referenced statutes and recorded the appropriate effective date. This database tracks the history of the statues, so I can read older versions and determine the first year a state implemented the extended foster care program. I use the earliest effective date, as long as there have not been revisions.

I used the NCSL's child welfare database to differentiate between state and federal extended foster care and to double check statue codes against JLC and effective dates against the Westlaw database. The NCSL database contains child welfare legislation related to foster care, services for older youth, and funding for child welfare services, among other topics, that have been enacted between 2012 and 2018 for all 50 states and D.C. For some states, the legal documentation can be viewed and tracked, and for others the state legal database was accessible to further look up the statute. Another way I determined if a state has federally-funded extended foster care was by noting the definition of a child and language related to juvenile court jurisdiction. States eventually seeking federal reimbursement, at a minimum, must change the statutory definition of "child" for Title IV-E programs[42]. The NCSL resource provides rich detail about more recent legislation, but I needed to use Westlaw for policies that predated 2012. Together these resources were used to verify and adjust effective dates of the state or federally-funded extended foster care.

[42] JCYOI. 2014. A Guide to Support the Implementation of Foster Care beyond 18. Pg. 6.

Finally, for states where dates were still missing or resources yielded conflicting dates, I google searched "<<state>> extended foster care." Often this search resulted in state specific journal articles discussing the policy climate at the time of publication, and sometimes referenced specific house bills.

Table A1 – Effective dates and details of policy changes

State	Date effective	Age-Out Age	Federal Reimbursement	Treatment	Eligibility Requirements	Process to Stay	Re-entry Allowed	Direct Payment to Youth	Law/Bill/Act and extra notes
AL	10/1/2010	21	yes	Always federal	least restrictive	Automatic with VPA	yes		Ala. Admin. Code § 660-5-22-.06(11)(a).; state policy prior to FCA
AK	1/1/2011	21	no	Always state	unknown	Court approved with VPA	yes	yes	HB126; HB27 adds eligibility requirements and reentry in 2016
AZ	11/30/2012	21	no	Nothing to state	least restrictive	VPA	yes, until 20	yes	AZ ADC R21-5-205; Navajo Nation and Pascua Yaqui federally reimbursed starting in 2014 and 2016
AR	6/1/2011	21	yes	Always federal	least restrictive	VPA	yes		
CA	1/1/2012	19; 21 in 2014	yes	Nothing to federal	least restrictive	Automatic with VPA	yes	yes	AB12; age-out age increased incrementally until 2014
CO	1/1/2012	21	no	Nothing to state	least restrictive	Automatic via court order	no		CO ST § 19-3-205
CT	6/30/2007	21	no	State to federal	enrolled in school		unknown		CT ST § 46b-129; Youth can stay until 23 in some cases.
	10/1/2013		yes		least restrictive	Voluntary opt-in	yes		
DC	10/1/2010	21	yes	Always federal	least restrictive	Automatic	yes		DC CODE § 16-2303. State policy prior to FCA
DE	7/5/2012	21	no	Nothing to state	unknown	Automatic with VPA or court ordered	yes	yes	HJR18 (146th GA), SB113
FL	1/1/2014	21	no	Nothing to state	least restrictive	Automatic with VPA or court ordered	yes		FL ST § 39.6251; 22 if disability.
GA	2/6/2012	21.5	no	Nothing to state	enrolled in high school	VPA	yes, until 20		GA ST § 15-11-2 in 2014
HI	7/1/2014	21	yes	Nothing to federal	least restrictive	Court approved with VPA	yes	yes	Senate Bill 1340 (Act252).Program name: Imua Kakou.
ID	7/1/2010	18	no	Nothing	unknown	Court approved with VPA	no		ID ST § 39-1202. Referred to as "continued care," which is not EFC.
IL	10/1/2010	21	yes	Always federal	least restrictive	Automatic with VPA or court ordered	yes	yes	State policy prior to FCA
IN	3/14/2012	20	no	State to federal	least restrictive	Court approved with VPA	yes	yes	IN ST 31-28-5.8-5
	7/1/2012		yes						
IA	1/1/2009	19	no	Always state	enrolled in high school	VPA	yes		Iowa Code § 234.1(2)
KS	5/31/2012	21	no	Nothing to state	enrolled in high school	Automatic	no		Kan. Stat. § 38-2203

State	Date effective	Age-Out Age	Federal Reimbursement	Treatment	Eligibility Requirements	Process to Stay	Re-entry Allowed	Direct Payment to Youth	Law/Bill/Act and extra notes
KY	4/11/2012	21	no	Nothing to state	none specified	VPA	yes, until 19		KY S 213
LA	6/1/2018	21	no	Nothing	enrolled in high school	VPA	no		La. Stat. § 46:286.24(A). 21 if still in HS. Young Adult Program (YAP) prior to 2013, ended due to budget cuts.
ME	9/28/2011	20	no	State to federal	least restrictive	VPA	yes	yes	Me. Rev. Stat. tit 22, § 4037-A(1)(a). V9 Program/Agreement
	1/1/2012		yes					yes	
MD	10/1/2010	21	yes	Always federal	least restrictive	Automatic with VPA	yes, until 20.5	yes	State policy prior to FCA
MA	10/1/2010	22	yes	Always federal	least restrictive	VPA	yes	yes	MA ST 119 § 21. State policy prior to FCA
MI	11/22/2011	21	no	State to federal	least restrictive	VPA	yes	yes	MI ST 400.645
	7/1/2012		yes					yes	
MN	10/1/2010	21	yes	Always federal	least restrictive	VPA	yes	yes	MN ST § 260C.451; State policy prior to FCA
MS	7/1/2013	21	no	Nothing to state	enrolled in high school	Automatic with VPA	no		MS ST § 43-15-13
MO	8/28/2013	21	no	Nothing to state	none specified	Court approved with VPA	yes, until 20		MO ST 211.036
MT	11/29/2017	21	no	Nothing to state	enrolled in high school	Court approved with VPA	no		MT ADC 37.51.102. No age limit if in secondary school starting in 2018. Transitional living program.
NE	12/1/2008	19	no	State to federal	unknown		unknown		
	9/1/2014	21	yes		least restrictive	VPA	yes	yes	2013 Young Adult Voluntary Services and Supports Act. Program name: Bridge to Independence (b2i).
NV	10/1/2015	19	no	Nothing to state	NA	VPA	no	yes	
NH	1/1/2009	18	no	Nothing	unknown	VPA	yes		NH ST § 169-C:34 (V-a). Voluntary services until 21
NJ	7/1/2006	21	no	Always state	enrolled in school, working at least part time, or unable due to medical or disability	Court approved with VPA	yes	yes	NJ ST 30:4C-2.3. Direct payments used for independent living
NM	9/29/2015	18	no	Nothing	NA	Court approved with VPA	no	no	N.M. Stat. § 32A-4-25.3. Navajo Nation federally reimbursed starting in 2014.
NY	10/1/2010	21	yes	Always federal	least restrictive		yes		NY FAM CT § 1055

State	Date effective	Age-Out Age	Federal Reimbursement	Treatment	Eligibility Requirements	Process to Stay	Re-entry Allowed	Direct Payment to Youth	Law/Bill/Act and extra notes
NC	1/1/2017	21	yes	Nothing to federal	least restrictive	Court approved with VPA	yes, until 20	yes	N.C. Gen. Stat. §108A-48(c). Eastern Band federally reimbursed starting in 2015.
ND	1/1/2012	21	yes	Nothing to federal	least restrictive	Court approved with VPA	yes		ND ST 27-20-30.1
OH	9/13/2016	21	yes	Nothing to federal	least restrictive	VPA	yes	yes	HB 50 of the 131 GA
OK	11/1/2015	18	no	Nothing	unknown	Court ordered	no		OK ST T. 10A § 1-9-107. Successful Adulthood Act.
OR	4/1/2011	21	yes	Always federal	least restrictive	Automatic	no	yes	OR ADC 413-030-0220; OR ST § 418.330. Direct payments used for tuition and waiver fees.
PA	1/1/2010	21	no	State to federal	enrolled in school or unable due to medical or disability	Court approved with VPA	no		
	7/1/2012		yes		least restrictive		yes	no	PA H 1261
RI	6/28/2018	21	no	Nothing	least restrictive	VPA	yes	yes	RI ST § 14-1-6 (c). Had extended foster care prior to 2007, but then scaled back.
	1/1/2019		yes						
SC	4/26/1996	21	no	Always state	enrolled in school or working at least part time	VPA	yes		SC ADC 114-595. Referred to as Aftercare Placement.
SD	1/1/1991	21	no	Always state	enrolled in high school	Automatic with VPA	no		SD ST § 26-6-6.1
TN	10/1/2010	21	yes	Always federal	enrolled in school or unable due to medical or disability	VPA	yes	yes	Tennessee's Transitioning Youth Empowerment Act of 2010
TX	10/1/2010	21	yes	Always federal	least restrictive	VPA	yes	Yes, starting in 2013	40 TX ADC § 700.346. 22 if still in HS. State policy prior to FCA.
UT	4/1/2015	21	no	Nothing to state	unknown	Automatic	yes		Transition to Adult Living Program. Navajo Nation federally reimbursed starting in 2014.
VT	6/6/2007	22	no	Always state	least restrictive	VPA	yes		VT ST T. 33 § 4904
VA	7/1/2015	21	no	State to federal	unknown	VPA	yes		VA ST § 63.2-905.1
	7/1/2016		yes		least restrictive	Automatic with VPA		yes	Fostering Futures Program

State	Date effective	Age-Out Age	Federal Reimbursement	Treatment	Eligibility Requirements	Process to Stay	Re-entry Allowed	Direct Payment to Youth	Law/Bill/Act and extra notes
WA	7/22/2011	21	yes	Always federal	Restrictions loosened overtime. Most restrictive in 2011 and least restrictive in 2016.	VPA	yes	yes	WA ST 74.13.020. Pilot program prior to FCA.
WV	1/1/2011	21	yes	Always federal	enrolled in school	VPA	yes, until 20		WV ST § 49-2B-2
WI	8/1/2014	21	no	State to federal	enrolled in high school	Court approved with VPA. Needs IEP	unknown		Wisconsin Act 334
	7/14/2015		yes				yes		Wis. Stat. Ann. § 48.975(3m);
WY	3/4/2016	21	no	Nothing to state	unknown	Court approved with VPA	no		WY ST § 14-3-431

Notes: This table provides an overview of the dates and details about each states' extended foster care policy. The effective date is used to determine whether EFC was available when a youth turned 18 years old. Most states with EFC extend the age-out age to 21; however, some states have younger ages. The effective date and age-out age are used to determine exposure to EFC. Federal reimbursement indicates that the state has an approved Title IV-E plan and receives federal reimbursement for EFC services. States that receive federal reimbursement are said to have "federally-funded EFC." The treatment column specifies how each state is represented in my sample. "Nothing" means that there was no policy prior to 2018. "Nothing to state" means that a state adopted a policy between 2012 and 2018. "Nothing to federal" means that a state adopted a policy and is receiving federal reimbursements between 2012 and 2018. "State to federal" identifies the eight states that have both a state and federal policy between the years 2012 and 2018. "Always state" means that the state had a policy prior to 2012, and "always federal" means that the state had a policy and has been receiving federal reimbursement prior to 2012. Eligibility requirements are referred to as "least restrictive" in states that allow youth to participate in extended foster care if any of the following requirements are met: enrolled in secondary school, enrolled in post-secondary school, working part-time, participating in training programs to reduce barriers to work or school, or unable to do the above due to a medical condition or disability. More restrictive eligibility requirements are specified. Most states require youth to sign a voluntary placement agreement (VPA) to remain in care, and some have the additional step of court approval. The majority of states allow for re-entry and some states pay their foster care maintenance payments directly to the youth. The final column references laws, bills, and acts when appropriate and provides additional details about a state's specific program. All of the information in this table comes from the collection of sources discussed above. A more detailed excel spreadsheet is available upon request.

Appendix B – Cost-benefit Analysis and Marginal Value of Public Funds

Cost-benefit analyses in California and Washington suggest that a dollar spent on extended foster care yields a return of two to five dollars (Courtney et al., 2009; Burley & Lee, 2010; National Conference of State Legislatures, 2019).

I find that a dollar spent on extended foster care maintenance payments yielded a return of just over four dollars for the NYTD participants in the FY2011 and FY2014 cohorts. Table B1 provides a breakdown of these estimates and calculations. I estimate the cost of extended foster care for the sample of NYTD participants at age 21 using their age of exit from care and monthly maintenance payments obtained from the AFCARS data. I calculate the total cost for youth in extended foster by multiplying the length of time in care beyond age 18 by the monthly maintenance payments. The median age of exit is 18 to 18.2 years, with a range from 18 to 22, meaning the median youth does not participate in extended foster care but some youth participate up to 4 years. Based on this sample, the average amount spent on extended foster care maintenance payments is 8,727 dollars per youth in states with a federal policy, 4,476 with a state policy, and 3,501 with no policy.[43] In total, 89.3 million dollars (or $6,387/youth) were spent on extended foster care maintenance payments across the country.

To calculate the benefits of extended foster care, I multiply the marginal effect sizes by three to compare the counterfactual outcome without any extended foster care to the predicted incidences of homelessness and incarceration when fully exposed to extended foster care for NYTD participants at age 21. All else equal, if none of the states implemented extended foster care during 2012 to 2018, then 1,181 more youth might have experienced homelessness and 1,097 more youth might have experienced incarceration by age 21. To determine the monetary value of reducing these hardships, I use the costs of homelessness and incarceration from the 2019 Annie E. Casey Foundation Future Savings report.[44] Specific to the NYTD FY2011 and FY2014 cohorts, extended foster care reduced costs to society by 366 million dollars (or $26,178/youth).

[43] States without extended foster care still occasionally support youth who are in high school or have a disability which is why these states still spend money on foster care maintenance payments.

[44] The cost of homelessness is a conservative estimate that only takes into consideration the cost of a providing a bed, and not the cost of other services that shelters may provide. The cost of incarceration is based on the cost of a one-day detention placement, costs to society, and recidivism.

According to Hendren and Sprung-Keyser (2020) who provide a framework for calculating the marginal value of public funds (MVPF),[45] when the government program pays for itself, like extended foster care, and the willingness-to-pay (WTP) is positive, MVPF is infinite and spending on the policy is Pareto improving. To provide a lower bound on the MVPF for extended foster care, I will assume the WTP for extended foster care for a foster youth is the median monthly rent in 2015 and 2018 ($975.50)[46] and the net government cost is the average monthly foster care maintenance payment ($1,649.94) less monthly savings from reducing homelessness ($1,008). Simply focusing on one aspect of extended foster care, housing support, the lower bound on the MVPF for extended foster care is 1.52. This MVPF exceeds the MVPF for housing vouchers and other programs targeted to young adults aged 18 to 21 (Hendren and Sprung-Keyser, 2020).

The benefits may be even larger since this calculation does not include the long-term benefits of reducing homelessness and incarceration at a young age.[47] Additionally, this analysis does not monetize the outcomes estimated with imprecision, nor does it account for nonpecuniary returns. Nonetheless, the benefits of extended foster care outweigh the costs and indicate that this program is a worthy investment, with at least a four-dollar return and infinite MVPF.

[45] The MVPF for extended foster care is the ratio of its value to foster youth to net government costs inclusive of fiscal externalities.

[46] Median rent in 2015 was $928 and in 2018 was $1,023 according to https://ipropertymanagement.com/research/average-rent-by-year.

[47] Reducing youth homelessness and incarceration may prevent future episodes and other costly outcomes (Hodgson et al., 2013; McLaughlin et al., 2016; Barnert et al., 2017; U.S. Department of Health and Human Services, 2017).

Table B1 – Cost-benefit analysis

	No EFC at age 18	State EFC at age 18	Federal EFC at age 18
Panel A: Cost of Extended Foster Care			
Number of youth	3416	3308	7167
Median [Average] age at exit	18.0 [18.1]	18.0 [18.1]	18.2 [18.4]
Average of total foster care maintenance payments received as an adult	$3,501	$4,476	$8,727
Total amount spent on foster care maintenance payments: **$89.3 million**			
Panel B: Benefit of Reducing Homelessness			
Predicted number of youth ever homeless (regression adjusted)	1677	1475	2487
Counterfactual if no EFC	1677	1624	3519
Difference in counterfactual and predicted	0	149	1032
Cost of being homeless for 7 days per youth: $252			
Cost avoidance: **$298,000**			
Panel C: Benefit of Reducing Incarceration			
Predicted number of youth ever incarcerated (regression adjusted)	1209	1042	1570
Counterfactual if no EFC	1209	1171	2537
Difference in counterfactual and predicted	0	129	968
Cost of being incarcerated per youth: $334,230			
Cost avoidance: **$366 million**			
Benefit-cost ratio: $4.11/$1			

Notes: The first panel presents the cost of extended foster care using the foster care maintenance payment amounts reported in AFCARS, and the next two panels present the amount of money saved using the costs of homelessness and incarceration from the Future Savings report produced by the Annie E. Casey Foundation (2019). All counts of youth are specific to the two NYTD cohorts (FY2011 and FY2014) that responded to the NYTD survey at age 21, and the regression adjusted predicted counts are based on the main results of this paper. The costs avoided are the benefits of extended foster care.