The Disenrollment and Labor Supply Effects of SNAP Work Requirements on Parents *

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Abstract

Neoclassical economic theory predicts that ordeals, such as work requirements, improve transfer program targeting. Means-tested transfer programs in the U.S. are increasingly adding or considering adding work requirements. We provide the first causal estimates of the two largest work requirements in the Supplemental Nutrition Assistance Program (SNAP). We leverage the fact that once the youngest child in the household turns six, many heads of household become subject to these requirements. Using novel administrative SNAP data linked with state administrative earnings records, we find these requirements have no impacts on labor supply, but have important SNAP disenrollment effects that reduce the targeting of SNAP benefits.

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1 Introduction

A key question in designing optimal transfer programs is how to ensure the neediest receive benefits. Almost all transfer programs condition eligibility on household resources to improve targeting. However, neoclassical economic theory argues that means-testing will cause some to reduce their work effort in order to qualify for transfer programs. These potential work disincentives might motivate the addition of ordeals, such as work requirements, to transfer programs. If work requirements operate as intended, they deter individuals with high potential earnings from participating in transfer programs, thereby improving targeting (Nichols and Zeckhauser, 1982; Besley and Coate, 1992). However, recent behavioral economics analysis suggests that the compliance costs of ordeals may be highest for the neediest households (Bertrand et al., 2004, 2006; Mullainathan and Shafir, 2013; Mani et al., 2013). Work requirements may also help achieve other policy goals, such as increasing "self-sufficiency" among transfer program recipients (e.g. Johnson and Corcoran, 2003), and reducing program costs (Herd and Moynihan, 2018).

Means-tested transfer programs in the U.S. and abroad are increasingly adding, or debating the addition of, work requirements. The Supplemental Nutrition Assistance Program (SNAP) became the backbone of the U.S. safety net after welfare reform in 1996, and policymakers have time and again considered the expansion of SNAP work requirements—most recently, SNAP work requirements changed under the Fiscal Responsibility Act of 2023 (Bauer and East, 2023). Moreover, the incoming presidential administration has plans to expand SNAP work requirements (Edwards, 2024; Bogage et al., 2024). As a result, understanding the effects of work requirements is crucial.

In this paper, we provide the first modern casual evaluation of the two largest work requirement and job-search-assistance programs in SNAP—the General Work Requirement and the Employment and Training (E&T) Program. We examine the impact of these work requirements on program participation outcomes, including targeting, and labor supply outcomes. To do so we use rich administrative data on SNAP linked to Unemployment Insurance (UI) earnings records from one state in the mountain-plains region (hereafter "the mountain-plains state"). This data allows us to generate intent-to-treat effects of being likely subject to the work requirements, as well as treatment on the treated effects among those actually subject to E&T.

General Work Requirements apply to 28% of all SNAP households, almost half of which are those with children. This policy requires that non-disabled, working-age beneficiaries who are not working take a job if offered and register in the state's online job search system. Those who are working must not voluntarily quit or reduce their hours. Failing to comply with General Work Requirements leads to sanction and loss of SNAP benefits. States report that very few cases are sanctioned as a result of these requirements, but these requirements may still have impacts, for example, if they deter households from participating in SNAP at all.

Those subject to General Work Requirements may be referred to the E&T program, in which 12% of SNAP households participate. E&T requires completing 48 job contacts over 3 months, and completing online job readiness and job search training modules. Failure to comply with E&T leads to a loss of SNAP benefits in the mountain-plains state.

Our empirical strategy is a simple and transparent difference-in-differences design that leverages exogenous variation in exposure to General Work Requirements and E&T. We take advantage of the fact that once the youngest child in the household turns 6, the head of household becomes subject to General Work Requirements and can be referred to E&T. We combine the exact age-in-months of the youngest child in the household with the exact date of SNAP eligibility recertifications, which occur roughly every 6 months. Thus, the main identification assumption is that households in which the youngest child narrowly turns 6

before recertification are otherwise identical to households in which the youngest child narrowly turns 6 *after* recertification. We further strengthen the empirical approach by introducing a placebo treatment cutoff where we include SNAP households in which the youngest child is right around their fifth birthday at a given recertification and contrast estimated age-6-relative-to-recertification treatment effects against age-5-relative-to-recertification placebo effects. This helps account for any relationship between children aging and the outcomes of interest, such as access to childcare based on child age. We demonstrate the validity of our approach by conducting several placebo tests, showing there is balance in observable characteristics around the age-6-relative-to-recertification cutoff, verifying parallel pre-trends in the key outcome variables, and showing no bunching in the age-6-relative-to-recertification variable around the cutoff.

To identify the effects of the E&T program separately from General Work Requirements, we take advantage of the richness of our data and the fact that we observe many of the demographic characteristics that determine referral to E&T before the eligibility recertification. We split the sample by these characteristics, and, we exploit the fact that potential sanctions from the two policies begin at different times and our data allow us to identify the precise timing of effects.

Our main analysis sample includes households with young children receiving SNAP between 2012-2020. We begin by analyzing the effects on SNAP receipt. We find that General Work Requirements do not have large or significant SNAP disenrollment impacts at recertification.

Turning to the E&T Program, we do find a meaningful disenrollment effect. Beginning in the first month E&T sanctions take effect, there is a large reduction in SNAP receipt, but only among the household heads—the household member directly subject to the work requirements. The rest of the household is still eligible for SNAP, so still receives benefits. Among those who are referred to E&T, heads of household receive 3.4 fewer months of benefits over a 6-month period compared to those narrowly exempt. Thus, while General Work Requirements seem to have little impact by themselves, they open up the possibility of being referred to E&T, which does have negative impacts on program receipt.

Because SNAP benefits are a function of the number of eligible household members, household-level SNAP benefit amounts fall as a result of E&T. We estimate that having a head of household referred to E&T is the equivalent of the household losing 1.4 months of household SNAP benefits over a 6 month period. Thus, if benefits are fungible across household members, this policy could have important spillover effects on other members of the household who are not directly subject to the work requirements, including many children. This is noteworthy because research has shown that poor nutrition in early childhood leads to worse health and economic outcomes in the future (Hoynes et al., 2016a; East, 2020; Bailey et al., 2020).

Next, we analyze the effects of both requirements on labor supply outcomes, which we observe whether or not the household continues to receive SNAP. We find no evidence of statistically significant or quantitatively large changes in quarterly employment or earnings. This is true regardless of whether the adult in the household is likely referred to E&T. We can rule out changes in quarterly earnings of larger than a $68 increase, and smaller than a $78 decrease for the full sample. We also show similarly small and insignificant effects persist for at least three quarters. Thus, these programs are unsuccessful as labor supply incentives or at increasing self-sufficiency (fraction of income from earnings) for SNAP recipients with young children.

Finally, we examine the effects on targeting. Using detailed data on demographics before recertification, we find that E&T reduces SNAP's targeting efficiency. Specifically, individuals with above-median earnings before recertification (who are relatively advantaged) do not see significant reductions in SNAP benefits, even though they are referred to E&T at similar rates as those with lower labor market attachment. Instead, the decline in head's SNAP receipt is entirely driven by individuals who were not working or had below-median

earnings in the year before recertification. The richness of our data reveals how this happens: the least disadvantaged group avoids E&T sanctions by obtaining new exemptions from work requirements. We find suggestive evidence this happens in part through a small and temporary increase in work, that conveys an exemption for E&T, in this small subgroup.

We use our results to estimate the cost effectiveness of the E&T Program. In fiscal year 2016, annual federal spending on E&T totaled $337,000,000, and states can receive additional funding on top of this amount (U.S. Government Accountability Office, 2018). We calculate the Marginal Value of Public Funds (MVPF) of eliminating the E&T Program and find that, if E&T was eliminated, for every additional $1 the government spends, SNAP recipients would receive at least $1.11 in benefits.

The data for our main analysis come from a single state, but several pieces of evidence point to external validity. First, we use data from the SNAP Quality Control (QC) system to show that on most dimensions, including employment rates and earnings, SNAP recipients in the mountain-plains state are similar to SNAP recipients in the whole country. The main exception to this is the mountain-plains state is less racially diverse, but we see little evidence of heterogeneous effects by race. Second, we use the less-detailed QC data to assess the impacts of the work requirements on program participation outcomes at the national level and the results confirm the analysis in the mountain-plains state. In particular, we find that mandatory E&T programs reduce program participation among household heads with young children.[1]

The fact that the work requirements we study affect households *with young children* makes understanding their impacts particularly policy-relevant. Many existing and proposed work requirements—including in the California Child Tax Credit and in Medicaid—take effect when children reach age 6. Additionally, recent policy proposals explicitly suggest expanding SNAP work requirements to more families with young children and making the existing requirements for families with children stricter (Bakst, 2024; American Enterprise Institute, 2024).

Our work contributes to three literatures. First, we add to research on ordeals and administrative burdens in transfer programs. Importantly, everyone in our sample has already overcome the costs associated with learning about and successfully applying for SNAP. Therefore, our findings demonstrate that increases in the cost of continuing to receive benefits impact program receipt ("compliance costs" as conceptualized in the political science literature on administrative burdens (Herd and Moynihan, 2018)). This complements several papers that find that the costs imposed on SNAP participants to recertify eligibility—filling out complicated forms, providing supporting documentation, and completing an interview with a caseworker—also reduce SNAP receipt (Homonoff and Somerville, 2021; Unrath, 2024).

Targeting effects are harder to measure because it is generally not possible to observe a households true "type" and whether they should receive benefits or not based on this. The approach in the literature, which is the same as the one we take here, is to split the sample by proxies of household need and assume that more needy households are more likely to be the unobserved type that should receive benefits. The existing literature has mixed findings on the effect of these compliance costs on targeting with some finding no impacts and others finding negative effects.

We also contribute to the literature on work requirements specifically. The most similar papers study SNAP work requirements for so-called "able-bodied adults without dependents" ("ABAWDs"), about 5% of all SNAP households. ABAWDs are required to complete a minimum of 80 hours per month of work

[1]States can choose whether to implement a "mandatory" or "voluntary" E&T program, and the mountain-plains state has a mandatory program. Mandatory programs require that everyone who is referred to E&T participate in the program to continue receiving SNAP. On the other hand, voluntary programs allow those referred to choose whether to participate and individuals will not lose SNAP either way.

or work-related activity. Evaluations of ABAWD Work Requirements have consistently found it reduces SNAP receipt. Further, research that uses administrative data to identify groups subject to ABAWD Work Requirements find null effects on employment outcomes (Gray et al., 2022; Stacy et al., 2018; Vericker et al., 2023). On the other hand, research using survey data, with greater potential for mis-measurement (Meyer et al., 2022), have mixed findings on employment outcomes (Ribar et al., 2010; Cuffey et al., 2022).[2] There is limited evidence on the targeting effects of ABAWD Work Requirements but the existing evidence suggests they also reduce targeting (Gray et al., 2022).

Beyond providing estimates of the effects of different, understudied SNAP work requirements, our results add to the SNAP work requirements literature in two ways. First, unlike ABAWD work requirements, E&T can be completed without being employed in the formal labor market and we show this still has an impact on SNAP receipt. Those subject to ABAWD requirements may not able to find a job or not able to work the number of hours they would like to, which is common challenge for low-wage workers (Bauer et al., 2025). In contrast, E&T can be completed without any constraints imposed by employers. Our results show that even after you set aside demand-side labor market considerations, work requirements still meaningfully deter SNAP participation. The second difference between the ABAWD literature and our work comes from the fact that ABAWD requirements explicitly exclude families with children and most of the research exploits a regression discontinuity design around age 50. In contrast, the policies we study impact families with children and adults of many ages, generally younger than age 50. Those impacted by General Work Requirements and E&T are also more likely to be female. Families, especially single mothers with children, which is the most common family structure in our sample, face different constraints than childless individuals. Given this, and recent policy proposals to expand work requirements on families with children, understanding whether the impacts of work requirements are the same for families with children as childless adults is crucial.

Finally, this paper complements the literature on the relationship between SNAP and work decisions. Due to the lack of plausibly exogeneous variation in the SNAP program across locations or over time, studies of SNAP's effect on labor supply are limited. The most generalizable modern evidence comes from Cook and East (2024) who identify the effect of SNAP on labor supply using a caseworker fixed effects design.[3] Cook and East find that barriers to work faced by most SNAP recipients mean that SNAP has little impact on their labor supply decisions. This is similar to the findings in Gray et al. (2022), who hypothesize that the null effect of ABAWD Work Requirements on employment is due to barriers to work that SNAP recipients face. Here, we show two pieces of evidence that support the findings in this literature. First, that the removal from SNAP does not lead to increases in labor supply, consistent with little effect of overall access to SNAP on labor supply. And, second, that the neediest SNAP recipients face barriers to completing the E&T program, which importantly does not require them to look for or find a suitable job that offers the required number of hours worked. So, these barriers are not simply challenges in navigating the formal labor market.

The rest of the paper proceeds as follows. Section 2 describes the SNAP program and the relevant work requirements. Section 3 describes the data and sample. Section 4 outlines our empirical approach and

[2]Other recent papers analyze the impacts of work requirements with strict minimum hours or earnings requirements for other programs such as Medicaid and the Child Tax Credit. These papers find null effects on employment (Goldin et al., 2024; Sommers et al., 2019, 2020). A large body of research evaluated the work requirements imposed in welfare-to-work programs in the 1980s and 1990s. These programs were more similar to SNAP E&T, although there was heterogeneity in program design and target populations across the welfare-to-work programs. These analyses mostly find small positive effects on employment and negative effects on overall household income because households lost welfare benefits (as summarized by Greenberg et al., 2005).

[3]Prior research took advantage of the program roll-out in the 1960-70s (Hoynes and Schanzenbach, 2012), or changes in rules for small subgroups such as non-citizens (East, 2018). These papers find null to negative effects on work.

discusses the descriptive analysis. Sections 5-9 discuss the results and Section 10 concludes.

2 SNAP Work Requirement Policy

SNAP (formerly the Food Stamps program) is a means-tested federal entitlement program, in which states are responsible for determining eligibility and paying out benefits. In general, to qualify for SNAP, applicants must have gross income below 130 percent of the federal poverty level and net income after deductions below 100 percent of the federal poverty level. Households with zero and near-zero income receive maximum SNAP benefits, which are a function of household size. As a household's income increases, benefits are decreased by the benefit reduction rate.[4] The canonical static labor supply model where individuals trade off consumption and leisure predicts that SNAP will disincentivize work, both because of the income effect from the benefit guarantee, and because of the substitution effect from the benefit reduction rate. Additionally, if some members of the household become ineligible to receive SNAP, the household benefit amount is lowered.

Benefits are paid out automatically each month on electronic benefits transfer (EBT) cards, which are used like a debit card for qualifying food purchases at SNAP-accepting stores. Households that receive SNAP benefits are required to recertify periodically to demonstrate their continued eligibility. This involves updating paperwork and documentation and can require an interview with a caseworker. In the mountain-plains state, recertifications happen every six months for almost all working-age households.

Most adults receiving SNAP do work if they can work; 35% of SNAP recipients are working-aged non-disabled adults, and 81% of them have earned income within the past year (Keith-Jennings and Chaudhry, 2018). Those who did not work within the past year cite barriers to work: 38% report caring for children or other household members, 23% report a health condition (besides any reported disability) limits their ability to work, 15% cannot find suitable work, and 15% are currently attending school. In our analysis sample, all households have a child around age 6, so adults may face barriers to work because of childcare responsibilities. In fact, about two-thirds of the heads of household in our sample did not work at all in the year prior to the recertification. We directly explore heterogeneity in the efficacy of work requirements by past work history, which is a proxy of household need and of the head of household's ability to work outside the home.

2.1 General Work Requirements

We begin with the requirement that affects the largest group of people–the "General Work Requirement".[5] As far as we know, there are no existing empirical studies on the impacts of the General Work Requirements. 28% of all SNAP households have at least one person subject to the General Work Requirement.[6] This requirement applies to working-aged (16-59) SNAP recipients who do not meet the following exemptions: working at least 30 hours per week or having weekly earnings equivalent to 30 hours of minimum-wage work, meeting work requirements for another program like TANF or UI, taking care of children under 6 or an

[4] SNAP's benefit reduction rate is 30%; however, the actual benefit reduction rate as income increases varies by the types of deductions the household has and is very close to zero at low income levels (Bitler et al., 2021; Han, 2022). SNAP-allowable deductions include a 20 percent deduction for every dollar of earned income, as well as deductions for certain types of expenditures including costs for shelter, childcare, and medical care. Households participating in multiple programs may have a more complicated benefit reduction rate. There are also asset tests and residency tests for non-citizens that vary by state and time.

[5] Information from `www.fns.usda.gov/snap/work-requirements` and a Hamilton Project report co-authored by Chloe East on SNAP work requirements: `www.hamiltonproject.org/publication/paper/a-primer-on-snap-work-requirements/`.

[6] Authors calculations using the SNAP Quality Control (QC) Data.

incapacitated person, having a physical or mental disability, participating in a drug or alcohol program, or being enrolled in school or a training program at least half-time. Those subject to these requirements are called "work registrants" and they must not voluntarily quit or turn down a job offer and not voluntarily reduce hours below 30 hours per week. There is a minimum hours requirement, but it is not strict.

When individuals apply for benefits, or recertify their eligibility, they are screened for whether they are subject to General Work Requirements. If subject, they are verbally made aware of the requirements they face, along with the consequences of failure to comply. They also receive mailers reminding them of the requirements.

One reason that General Work Requirements may have gone unstudied is that they are thought to have little bite in practice since few households are removed from SNAP as a result of sanctions from this requirement. Indeed, using information from 4 states, we found that across all these states, at most 1% of work registrants were sanctioned.[7]

Unfortunately, the data from the mountain-plains state does not allow us to observe General Work Requirement exemptions or sanctions directly, but we explore the net effect of the requirement on SNAP receipt below. Of course, sanctions are not the only way this requirement could impact people's outcomes—General Work Requirements could deter new applicants because of additional hassle costs, and General Work Requirements open people up to being referred to the much more stringent E&T Program, which we discuss next.

2.2 Employment and Training Programs

Another important—and under-studied—aspect of SNAP work requirements is its Employment and Training (E&T) Program. Roughly 25 percent of work registrants participate in E&T programs nationally. Work registrants who are referred to E&T receive an extended mailer that discusses the E&T component of the program (see Appendix Figure A1). This portion of the mailer contains strong language and boldface font that highlights the consequences of failing to comply.

States are required to implement an E&T Program, but the nature of the program varies by state.[8] As far as we know, and after talking to USDA, there is no comprehensive database about the details of state's E&T Programs. However, we have collected information on a key dimension of heterogeneity—whether the state has a mandatory or voluntary E&T Program. If mandatory, work registrants referred to E&T must complete the program in order to comply with the General Work Requirement and avoid sanction. If voluntary, work registrants referred can choose whether to complete the E&T Program and will not be sanctioned if they choose not to. The mountain-plains state is one of 24 mandatory E&T states in 2013. While our main analysis focuses on a single state, and thus the E&T Program in that state, we show that the results generalize to all states that have mandatory E&T Programs.

In the mountain-plains state, the E&T Program is state-run and focuses on job search and "job readiness" activities. Specifically, there are three key activities participants must do to satisfy the program requirements. First, they must register in the state's online job search and job readiness system. Second, participants must make 48 job contacts and enter information about each job contact in the state's online system. Third,

[7] To obtain this information we submitted Freedom of Information Act requests to all state SNAP agencies. Many states have not responded yet.

[8] Allowable components of the program include job search, workfare, work experience or training, educational programs, self-employment programs, or job retention (Kaz et al., 2018). This flexibility was intended to best meet the needs of local labor markets. States may use third-party partnerships to operate their programs, which allows them to contract out E&T eligibility determination, staffing, program referral, and program administration.

participants can be assigned to complete job readiness workshops, which primarily consists of instructional videos on topics such as resume writing and networking.[9] The average time spent on any one E&T activity in mandatory E&T states ranges from 7-19 hours per week (U.S. Department of Agriculture, Food and Nutrition Service, 2023), and the mountain-plains states requires that weekly time spent on E&T to not exceed 30 hours. Participation in E&T for three consecutive months satisfies the program's requirements and the participant is then exempted from referral to E&T for the next twelve months. Those sanctioned lose SNAP benefits for 1, 3, or 6 months (depending on the order of the non-compliance).

In the mountain-plains state, certain characteristics exempt someone from being referred to E&T. Adults can be exempted for the following reasons: they are over age 47, have *any* earned income, receive Refugee Cash Assistance, live more than 35 miles from an employment center, are pregnant, are a refugee, are applying for Supplemental Security Income, have no fixed address, are on temporary layoff, are required by their probation or parole to complete court ordered activities, or are participating in a Vocational Rehabilitation program. Caseworkers can also exempt people from E&T referral if they are deemed "unable to work", which is somewhat subjective. Reasons cited for this "unable to work" exemption are lacking childcare, having domestic violence issues, having limited language skills, lacking public and/or private transportation, or if the cost to participate in E&T would exceed $50. We observe many of the objective characteristics that exempt people from being referred to E&T and we use these criteria to split the sample into work registrants likely to be referred to E&T or not.

An internal audit of the outcomes of people referred to E&T in 2012-2014 in the mountain-plains state found that 12% completed the E&T requirements, and of those who completed the requirements about half did so by having non-zero earnings. Moreover, of the 88% who did not complete the requirements, 77% of them never logged on to the online E&T system, meaning they never even set up an account on the E&T website.

The literature on E&T programs is limited. The analysis most similar to ours was conducted in the 1980s on the precursor to SNAP—the Food Stamp program (Puma and Burstein, 1994). This study was a randomized control trial experiment on new Food Stamp participants, where those in the treatment group were referred to E&T, and those in the control group were not. E&T activities in this study included job search, job search training, workfare and work experience, and education and vocational skills training. Rates of E&T participation in the treatment group were low, and the study found that being referred to E&T reduced receipt of SNAP benefits and had no significant impacts on employment, earnings, or wages. We update this analysis using more modern data, which is important since the nature of the labor market, who receives SNAP, and the E&T programs have changed over time.

The USDA conducted several descriptive studies of state E&T pilot programs in the late 2010s.[10] In three mandatory E&T states, between 36-63% of people referred never participated in any E&T activities. Additionally, in the first six months after initial referral to E&T, roughly 15% were sanctioned for the first time for failing to participate or getting a good cause exemption. For some, non-completion reflects individuals finding employment, but for many it was reflective of larger barriers to participating (such as lack of transportation or childcare).[11] However, this analysis simply compared outcomes of those referred to those not, whereas our empirical strategy allows us to identify the *causal* impacts of being referred to E&T.

[9] In most of our sample period, participants did not have to meet with an E&T caseworker. However, in parts of 2011-2012 and after 2021, monthly meetings with a caseworker to develop a job search plan that they must follow was additionally required.

[10] `https://www.fns.usda.gov/snap/considerations-improving-participant-experiences-usda-snap-employment-and-training-snap-et`

[11] `https://fns-prod.azureedge.us/sites/default/files/resource-files/SNAP-ET-FinalReport.pdf`.

2.3 ABAWD Work Requirements

The final set of work requirements are for "able-bodied adults without dependents" (ABAWDs) and were added to the program in 1996. We discuss this set of requirements because it is useful to understand the differences between these requirements, that have been the focus of academic research, and the two requirements we study. ABAWDs are also considered "work registrants" and must comply with the General Work Requirements as well. Until recently, ABAWDs were defined as those between the ages of 18-49, who report having no disabilities, are not pregnant, and do not take care of any dependents (e.g., children, people with disabilities, or the elderly). A key difference in the requirements we study and the ABAWD requirements is that the ones we focus on affect households *with children.*

Those subject to the ABAWD requirements—about 6% of all SNAP recipients according to SNAP QC data—must complete minimum work activity and report this activity to their SNAP caseworker, otherwise they are eligible to receive only three months of SNAP benefits within a 36-month period. The minimum work activity is at least 80 hours per month of employment or job training, and, notably, time spent searching for work does not count towards this requirement (as it does with other programs such as Unemployment Insurance).

2.4 Timeline of Work Requirements Relative to Recertification

We focus our analysis on SNAP cases that go up for recertification. Some cases will be newly subject to the General Work Requirements and possibly referred to E&T, while others remain exempt at recertification. To understand how we map this into our empirical analysis, we show a timeline in Figure 1, where time is in months relative to the focal recertification. This is important both to understand our empirical strategy and to assess potential mechanisms.

The first set of cases, depicted in the top row, are those that had the youngest child in the household between the ages of 6 years and 6-years-and-5-months at the focal recertification. This is the treatment group in our difference-in-differences analysis. These households were exempt from all work requirements before the focal recertification because their youngest child was under age 6. After the focal recertification, these cases are newly subject to the General Work Requirements, and these begin binding in the month after recertification ($t + 1$).

The head of household is also eligible to be referred to E&T beginning at $t + 1$. Referred adults can participate in E&T as early as the month they are referred or wait until the following month to begin participation. If those referred do not participate in E&T by the end of the first month *after* referral, they are given another month as a grace period, during which time they can submit evidence of a "good cause" exemption for why they did not participate before. Thus, individuals who do not participate in required E&T will lose benefits beginning in $t + 2$.

The second set of cases—shown in the middle row—have a youngest child between 5-years-and-6-months and 5-years-and-11-months at the focal recertification. These cases are exempt before the focal recertification and remain exempt between the focal and subsequent recertification. Then, these cases become subject to the requirements at the subsequent recertification in $t + 7$. This group is the main control group in our difference-in-differences analysis.

The final set of cases—shown in the bottom row—have a youngest child below age 5-years-and-6-months at the focal recertification. These cases remain exempt from work requirements at both the focal and subsequent recertifications. Eventually, as these children get older, all these cases will become subject to the

work requirements as well. We include cases where the youngest child is near a placebo age cutoff—age 5 at focal recertification—as a secondary control group in our difference-in-differences analysis.

2.5 Conceptual Framework and Predicted Effects

We begin by using a simple static, single-earner model where individuals trade-off consumption and leisure to model the effects of the imposition of General Work Requirements and E&T. This model assumes there are no barriers to work, such as childcare, and that the only source of income is the earnings of a single adult.

We begin with General Work Requirements. There are many ways to fulfill these work requirements, including not reducing work below 30 hours per week and job searching if not currently working. Less than 10% of people subject to General Work Requirements work more than 30 hours per week. And even those who may be subject to the 30 hours of work requirement can be exempted for having their hours fall below 30 by having a good cause, which is defined broadly. Consequently, very few work registrants will be subject to a minimum hours of work requirement. Nevertheless, we model the impacts of a minimum hours work requirement, because it helps to understand the differences in expected effects behind this stricter work requirement—that is also similar to the ABAWD Work Requirements—and the E&T Program we consider next.

In Figure 2, we build off the model from Gray et al. (2022) for the ABAWD Work Requirement. The main difference in our model is that we add the time costs imposed on SNAP participants for compliance with requirements, such as gathering documentation of work effort and submitting documentation to the SNAP caseworker. In these figures, hours not working is on the x-axis and income from earnings and SNAP is on the y-axis. In this discussion, we simplify the analysis and do not consider households that still receive SNAP because the children remain eligible for SNAP even when the head of household loses eligibility because of a work requirement. In the empirical analysis we consider the possibility that children continue to receive SNAP.

Starting with General Work Requirements in panel (a), the gray dashed line shows the basic budget constraint for SNAP without any work requirements. The benefit guarantee—the distance between D and E—increases income for those who are not working. The benefit reduction rate leads to a change in the slope of the budget constraint from B to D, up to the point the household becomes ineligible for SNAP because their income is too high (point B). It is worth noting that a full-time worker in a single household with two children would not cross this income eligibility threshold unless their hourly wage is above $16, more than double the federal minimum wage. Thus, individuals are unlikely to cross this threshold, as most SNAP recipients do not work full-time or earn much above the minimum wage, but we include this income eligibility threshold on the graph for illustrative purposes.

The imposition of a minimum hours work requirement is denoted as the solid black line. We incorporate a time cost of complying with the work requirements, represented by the distance between E and G. For those who work less than the minimum hours threshold, they earn wages from work but receive no SNAP benefits. Once individuals cross the minimum hours threshold, they receive SNAP benefits (point C). After this point, the set of choices follows the original dashed budget constraint.

This type of work requirement changes the incentives to work in several ways. First, for those who would work just below the hours threshold in the absence of work requirements, there is an incentive for them to increase their hours to the threshold level to receive SNAP (point C) due to both income and substitution effects. Second, for those who would not work at all, or work very few hours in the absence

of work requirements, it is not optimal for them to increase their hours to the threshold level, so they will exit SNAP. Some of the people who exit SNAP may increase work slightly in response to the loss of SNAP (the income effect). However, if we allow for the possibility of barriers to work, such as those due to dependent care responsibilities, individuals who exit SNAP may not change their labor supply in response to the work requirements. Moreover, this model assumes that all individuals can find jobs easily and have complete flexibility in setting their work schedules, which is not the case (Bauer and East, 2023; Schneider and Harknett, 2019).

Next, we consider the impact of the E&T requirement in this same framework in panel (b) of Figure 2. The key differences here relative to the General Work Requirements is that there is no minimum work hours requirement, and that complying with E&T takes time but this is unpaid time. Of course, the motivation behind E&T is that there will be a future monetary reward for the time spent in E&T activities, which is not accounted for in this simple static model. Whether this is true is an empirical question and below we show no evidence of these benefits in the longer-run. Nevertheless, if participating in E&T increases future earnings, either because of human capital investments or better job matches, then E&T is not only a time cost, but has some monetary benefits that will be realized in the future. So, some people may choose to forgo current wages in order to participate in E&T and receive higher wages in the future.

Those subject to E&T requirements cannot choose point D, because if they do not work, they must complete the E&T activities in order to get SNAP benefits. Instead, for those who do not work, they must spend a certain amount of time engaged in E&T-related tasks.[12] So, for those who do not work and do not participate in E&T their income is zero (point E), and for those who do not work and do participate in E&T their income is the maximum SNAP benefit amount (point H). The exact location of point H depends on how time-intensive E&T is. While we do not have specific data on the number of hours each participant spends in E&T, based on the descriptive statistics discussed above, it seems reasonable this is between 20-30 hours per week. The less time-intensive E&T is, the further to the right on the graph point H will be.

Also, recall that having *any* positive earnings exempts one from E&T, so the rest of the budget constraint, for anyone who works any positive amount, remains the same as in the basic SNAP case. Importantly, if the individual works the same number of hours as it takes to complete the E&T program, as long as the number of hours is greater than zero, they will have greater total income (earnings plus SNAP) if they work than if they participate in E&T. Thus, we would expect, among those able to work and with some control over their work hours, the utility-maximizing choice will be to work at least a small amount, instead of participating in E&T.

This simple framework motivates our empirical analysis. We study the effects of the imposition of these different requirements on receipt of SNAP benefits and labor supply outcomes over time.

3 Data

Our data come from a single state in the mountain-plains region, which remains unidentified for anonymity. In our prior paper, we showed that the population of SNAP recipients in the mountain-plains state is very similar to all SNAP recipients nationally, with the exception that the mountain-plains state has fewer non-white recipients (Cook and East, 2023), and we do a similar comparison here below. We observe SNAP applicants and beneficiaries, including the dates and outcomes of eligibility recertifications for beneficiaries. Among

[12]There are possibly cognitive costs and psychological costs of these tasks (Herd and Moynihan, 2018) that are not easily incorporated into this model and we discuss this below.

beneficiaries, we have detailed information about the composition of their household and demographics of each household member.

These data are linked to quarterly labor supply information from the state's Unemployment Insurance (UI) database. This type of data has been used in the past to evaluate the labor supply effects of other means-tested programs such as Medicaid, public housing, and SNAP (Baicker et al., 2014; Chyn, 2018; Gray et al., 2022). For every head of household that has interacted at all with the SNAP system, we observe the quarterly earnings and industry of every job they work. Importantly, we can observe these outcomes whether or not the household is currently receiving SNAP. A limitation of any study using UI earnings data to measure labor supply is that a small group of workers are excluded from the data because they work in jobs not covered by UI, such as those who are self-employed. We show in other work that this is unlikely to impact our results due to low rates of employment in non-covered jobs among the SNAP-eligible in our sample period (Cook and East, 2023). We also show below we confirm that the earnings measured in the UI data are very similar to total earnings that SNAP recipients report on their SNAP forms. Finally, we use self-reported household income, that includes income from self-employment, as an alternative measure of labor supply and show the results are robust to this.

3.1 Sample Construction

To estimate the impact of General Work Requirements and the E&T Program, we start with the full sample of SNAP eligibility recertifications observed from 2012 to 2020. We then make several sample restrictions to cleanly identify the effects of these requirements. First, we balance the sample by keeping recertifications with valid outcome information 3 months before and 12 months after a given recertification. Because labor supply outcomes are matched to the head of the case, we keep cases for which the head of the case is receiving SNAP before the recertification. Next, we drop SNAP households (aka SNAP "cases") for which the youngest in the household is exactly 6 during the month of recertification. This accounts for potential measurement error in the children's age-in-month variable.[13]

Over 80% of SNAP households with children near age 6—our main analysis sample—have only one working-age adult in them, and we limit our main sample to these single-adult households. Since each child younger than 6 exempts only one adult in the household from General Work Requirements and E&T, limiting to households with a single adult allows us to know which adult will be losing the exemption when the child turns 6. Additionally, the mountain-plains state only linked UI earnings records for the heads of household as a data security measure, so this ensures we are not missing any important secondary-earner effects. We do, however, find similar results when we include two-adult households.

We further drop cases for which the head of household would be exempt from General Work Requirements for objective reasons besides their youngest child being below age 6. Specifically, we drop cases with the head of household below age 16 or above age 59, the head of household in school at least part-time, households where any member has a disability that is documented in the SNAP system, and households that received TANF before the focal recertification.[14]

[13] We observe age measured in years and we infer the age-in-months of each recipient using other information about SNAP recipients. Specifically, we observe detailed information about case demographics for everyone on the case during each month of benefit receipt. When participants have a birthday, their age updates in the data, even during the middle of a certification cycle. When we observe a participant's age increment, this identifies the given birth month. Using this procedure, we are able to infer birth month for roughly 90 percent of beneficiaries. We drop the recertifications for which we cannot infer the ages-in-months for all 3-to-6-year-old children within the household.

[14] The mountain-plains state exempts those who are receiving TANF from work requirements.

3.1.1 Summary Statistics

To understand the external validity of our findings, we explore how SNAP recipients who successfully recertified eligibility in the mountain-plains state differ from those who successfully recertified eligibility in the whole country in Table A1. For the national sample, we use the SNAP Quality Control (QC) Data and create a sample of cases with a working-aged, non-disabled, single head of household.

We compare these national statistics in columns (1)-(2) to all cases going up for recertification in the mountain-plains administrative data in column (3)—whether or not the recertification was successful. On most dimensions the mountain-plains state is similar to the national sample, however, the mountain-plains state is less racially diverse. Importantly, the mountain-plains state is similar to the national sample in terms of employment and earnings.

In column (4), we apply the sample restrictions detailed above to obtain our main analysis sample. Reassuringly, our analysis sample is very similar to all recertifications in the mountain-plains state. The main difference is our analysis sample includes households with more children, since we explicitly focus on households with young children at recertification.

Columns (5)-(6) divide the full sample from column (4) into cases that are more and less likely subject to E&T, respectively. Specifically, we defined cases as more likely eligible to be subject to E&T if the head of household is between the ages of 16 and 47,[15] is not a refugee, pregnant, receiving disability insurance or worker's compensation, or is not themselves disabled or living with someone who is disabled. Also, importantly, to be eligible for E&T referral, the head must have not reported any earned income at their focal recertification. Because earnings can be volatile for low-income earners, we only consider cases to be less likely to be referred to E&T if their baseline earnings are above the bottom 25th percentile. The likely-subject-to-E&T subsample is similar to all recertifications in the state; however, UI-reported earnings and employment are lower because of the sample restrictions.

4 Empirical Design

To identify the causal impact of work requirements on household outcomes, we implement a simple and transparent difference-in-differences approach that exploits the change in eligibility for General Work Requirements and E&T when the youngest child in the household turns 6. This approach takes advantage of the uniquely rich information we have on the age-in-months of every member of a SNAP household, as well as the exact dates of SNAP eligibility recertification for each household.

The first difference in our difference-in-differences approach compares households whose youngest child turns 6 right before or after the focal recertification. Specifically, we define the treatment group as those whose youngest child is between the ages of 6-years-and-one-month and 6-years-and-5-months at the focal recertification. This is the group in the top row of Figure 1. The control group is those with a youngest child between the ages of 5-years-and-7-months to 5-years-and-11-months, shown in the middle row of Figure 1. We call this control group the "just-below-age-6 control group" in what follows.[16] The fact that we do not

[15] While in principle it could be possible to study the effects of aging out of E&T eligibility at age 47, this is not straightforward since those around age 47 may have been previously treated by the requirements.

[16] The intuition of this approach is similar to that of a regression discontinuity model where the running variable is age-in-months of the youngest child in the case at the month of the focal recertification. However, we do not implement a regression discontinuity model due to a unique institutional feature of our setting. In particular, cases are treated every 6 months when they have to complete another eligibility recertification. Thus, cases that are far enough to the right of the age-at-recertification cutoff will be treated prior to the focal recertification. Specifically, cases with a youngest child age 6 years and 6 months, or older, will have been treated at the recertification *prior to* the focal recertification. This limits the length of the potential

simply compare before and after the youngest child's sixth birthday, but the birthdate *relative* to the focal recertification date strengthens the identification assumption; potential confounders must vary not only with the child's date of birth, but with the date of birth relative to the date of recertification.

To further strengthen our empirical approach, we net out a placebo comparison between cases with a youngest child turning 5 narrowly before versus after the focal recertification. Specifically, comparing the first difference described above, with a second difference between cases with the youngest child between the ages of 5-years-and-one-month and 5-years-and-5-months, and those with the youngest child between the ages of 4-years-and-7-months to 4-years-and-11-months. We call these control groups the "placebo-age-5 control groups". There are no changes in SNAP work requirements or other SNAP policy rules around the fifth birthday, so including these groups accounts for any other changes in the outcomes of interest that happen as children age. Appendix B provides empirical support for including this second difference; in short, we find evidence that the youngest-child's age at recertification across ages 3 through 5 has a small negative relationship with SNAP participation, though no relationship with labor supply. Thus, our main specification includes this second difference, but as shown in the Appendix Figure B1, the results are very similar when we exclude it.

Formally, we estimate the impact of the work requirements with the following difference-in-differences specification:

$$Y_{ir}^{\tau} = \alpha + \phi PostBirthday_{ir} + \theta SixthBirthday_{ir} + \beta PostBirthday_{ir} \times SixthBirthday_{ir} + \gamma X_{ir} + \epsilon_{ir} \quad (1)$$

where Y_{ir}^{τ} is the outcome of interest for case i, measured τ periods (either months or quarters) relative to the case's focal recertification, r. $PostBirthday$ indicates whether the youngest child in the household has had either their 5th or 6th birthday by the time of the focal recertification. $SixthBirthday$, is a dummy equal to 1 if the youngest child is near their 6th birthday at the focal recertification, and equal to zero if the youngest child is near their 5th birthday at the focal recertification. The coefficient of interest is β, which provides the additional impact of the youngest child narrowly turning 6 at recertification, relative to narrowly turning 5 at recertification. We include a vector of baseline controls X to improve statistical precision.[17] We cluster standard errors by case, because cases can appear multiple times in the sample.

The identification assumption is that cases with the youngest child just over age 6 at the focal recertification have the same potential outcomes as cases with the youngest child just below age 6 at the focal recertification, after netting out other changes in potential outcomes as children age with the placebo age-5 control groups. The most obvious potential confounder in our setting is that many children increase school enrollment around age 6. The compulsory school age in the mountain-plains state is 6 and the state offers publicly provided full-day kindergarten in most areas beginning at age 5. Given the strong positive relationship between children's school enrollment and parental labor supply (Cascio, 2009; Gibbs et al., 2024), the relationship between youngest child's age and school enrollment would potentially bias towards finding a positive effect of work requirements on labor supply. However, any relationship between school enrollment and parental labor supply that is constant across children's age is accounted for with our placebo age-5 control groups. And, a number of other things help reassure us that this potential source of bias is not

window around the cutoff and the ability to implement a regression discontinuity approach.

[17]The vector X includes the following head of household information: gender, race/ethnicity, citizenship, age, Spanish speaking status, pre-focal-recertification SNAP benefit amount, past referrals and participation in E&T, and county of residence. It also includes baseline labor supply information for the quarter preceding the focal recertification, including: quarterly employment, earnings, indicators for part-time and greater than part-time work, the number of jobs, the industry of employment, and wages in the industry of employment. Finally, it includes fixed effects for the calendar year-by-month of the focal recertification.

driving our findings, even if that relationship is not constant across ages. First, the recertifications happen throughout the year, and not just around the beginning of the school year. Second, in robustness checks below, we drop observations with a focal recertification date between August and October, when the school year begins in the mountain-plains state, and the results are very similar.

We show further support for the identification assumption by examining balance in the observable characteristics of the cases across the treatment and control groups in Table 1. The table provides estimates of β from Equation (1), where the outcome variables are case demographics measured in the SNAP administrative data as well as labor supply information from the Unemployment Insurance earnings records, estimated in separate regressions. Column (1) includes the full sample, column (2) restricts to the 43% of cases who are likely subject to E&T and column (3) includes the 41% of cases who need to meet General Work Requirements, but are likely exempt from E&T when their youngest child turns 6. The remaining cases we exclude from these subsamples because it is less clear if they will be subject to E&T or not. Observable characteristics, including pre-recertification labor supply, generally do not correlate with the treatment indicator, supporting the identifying assumption.

We also show in Appendix Figure A2 that the density of the number of cases is smooth across the age-6 cutoff (labeled month 72) for cases in our main sample. Statistical tests from Frandsen (2017) fail to reject the null of a break in the density at conventional levels of statistical significance. This rules out the possibility that cases are strategically choosing when or whether to recertify based on their anticipation of work requirements. One notable, though small, change in density is the drop for cases where the youngest child is at or above 6 years and 6 months old (78 months, shown in the black line) at recertification, among cases likely subject to E&T (panel (b) of the figure). Recall that these cases will have faced a recertification 6 months earlier, after which they will be potentially subject to the General Work Requirement and E&T. This suggests that being subject to these requirements somewhat reduces the likelihood of remaining on SNAP, which explains the small decline in the number of cases at 78 months old.

5 Effects on SNAP Receipt

5.1 SNAP Benefit Outcomes

We begin with our analysis of the effects of General Work Requirements and E&T on program receipt outcomes. The monthly data we have on program participation allows us to estimate an event-study approach to explicitly evaluate parallel pre-trends and dynamic effects. Specifically, we estimate an event study version of our main difference-in-differences model from Equation (1) for each month around the focal recertification.

We start by analyzing the effects for the full sample. In Figure 3, we plot the outcomes for the treatment group—those with their youngest child between the ages of 6-years-and-1-month and 6-years-and-5-months at the focal recertification—in the solid black line. The outcomes for the just-below-age-6 control group—those with their youngest child between the ages of 5-years-and-7-months and 5-years-and-11-months at the focal recertification—are plotted in the solid gray line. The outcomes we show are regression-adjusted both to account for the control variables and netting out the effects for the placebo age-5 control groups, however, for transparency, Appendix Figure B1 plots a version of Figure 3 that does not include any control variables and also does not include the placebo age-5 control group and the results are very similar. The difference-in-differences estimates that correspond to Figure 3—that measure the gap between the solid black and dashed gray lines—and their standard errors are in Table 2. In what follows, we discuss the results from Figure 3,

but use the analogous point estimates and standard errors from this table for additional context.

As expected, the outcomes are essentially identical among the treatment and controls groups in the 3 months before the focal recertification, supporting our identification assumption. Since E&T turns out to be a key driver of the SNAP receipt results, we begin by examining first-time E&T referrals (panel (a)) and E&T participation (panel (b)). In the initial month after the focal recertification, the treatment group is significantly more likely to be referred to E&T for the first time compared to the control group, as expected (row (1) of Table 2). In this same month, there is a significant increase in the likelihood of first participating in E&T (row (2) of Table 2), though of much smaller magnitude—referrals increase by 9 percentage points, but participation only increases by 0.8 percentage points, indicating many people referred do not end up participating. There is also a large and significant increase in first-time E&T referrals in the second month after recertification, as well as a smaller and significant increase in first-time E&T participation in this month. This follows what we expect based on the timeline laid out above in Figure 1. In particular, referrals to E&T begin in the month after focal recertification, and some people choose to begin participating in that month, whereas some begin in the following month ($t + 2$). The second month after focal recertification ($t + 2$) is when those referred in $t + 1$ are required to start participating and may be sanctioned if they do not.

Turning to SNAP receipt in panels (c)-(e), it is clear that the treatment reduces the likelihood the head of household receives SNAP beginning in month $t + 2$, but there is little effect on benefit amount or household benefit receipt in any time period. This corresponds to a significant 0.31 month reduction in head's receipt of SNAP over the 6 months following the focal recertification (final column of row (3) in Table 2).

The dynamics of these effects are informative. In particular, while there is a large drop in all SNAP receipt outcomes at $t+1$, these declines are the same magnitude for the treatment and control groups, reflecting the fact that recertification is a common time for households to stop receiving SNAP benefits either because they have become ineligible or because of the costs imposed on participants to recertify (Unrath, 2024; Homonoff and Somerville, 2021). The fact that the effect on head's SNAP receipt doesn't appear until $t + 2$ and then persists is consistent with E&T driving this because the E&T sanctions begin in $t + 2$, whereas the General Work Requirement sanctions begin in $t + 1$.

Finally, these figures allow for another placebo test. Looking at the months after the *subsequent* recertification, in $t + 6$, we see a very similar pattern for the just-below-age-6 control group as we saw for the treatment group after the focal recertification, which is expected because at that point all the children in this control group are old enough to make the head eligible for General Work Requirements and possibly E&T. And, after $t + 6$, when both the treatment and control groups are now subject to the requirements, their outcomes re-converge.

Based on the timing of the effects, the effects on SNAP receipt seem to be driven by referrals to mandatory E&T, which we explore in more detail next.

5.1.1 E&T Program Effects

We do a number of additional things to understand if E&T is indeed driving these main effects. First, we split the sample into those likely subject to and exempt from E&T in panels (b) and (c) of Table 2 and in Figure 4.[18] In Figure 4, the rates of E&T referral and participation among the treatment group are much

[18]As described above, individuals are likely eligible to be referred to E&T if the head of household is between the ages of 16 and 47, is not a refugee, pregnant, receiving disability insurance or worker's compensation, or is not themselves disabled or living with someone who is disabled. Also, importantly, to be eligible for E&T referral, the head must have not reported any earned income at their recertification—we consider cases to be exempt from E&T if their baseline earnings are above the

higher in the likely-subject sample (panels (a) and (c)) than the likely-exempt sample (panels (b) and (d)). Cumulatively, over the 6 months following the focal recertification, there is a 23.7 percentage point increase in E&T referrals and a 6.2 percentage point increase in E&T participation for the likely-subject sample, compared to 1.5 and 0.1 percentage point increases for those likely exempt. The reason E&T referrals are not closer to 100% in this subsample is twofold: first, we are not able to perfectly predict eligibility based on the observables, and, second, caseworkers can choose to give some people exemptions from E&T even if they are likely to be referred based on our categorization. Importantly, the negative effect on head's SNAP receipt is only present for those likely subject to E&T (panel (e) compared to (f) of Figure 4) confirming the hypothesis that program disenrollment effects are driven by E&T.

The fact that the increase in E&T referrals is more than three times as large as the increase in E&T participation indicates there will likely be many SNAP recipients who are sanctioned for not meeting the requirements. Indeed, cumulatively over the 6-month period, heads lose 0.8 months of benefits. This translates into $159 in lost benefits over 6 months, a 6% loss in benefits per month. Note, that the estimated cumulative effect on E&T referrals and participation is the total increase in people referred and participating, since each person can only do so once. On the other hand, the cumulative effect on head's receipt of SNAP can represent multiple months of reduced receipt for the same individual. There is also a negative, marginally significant effect on benefit receipt at all, suggesting that some households stop participating in SNAP at all as a result of E&T, but the more common response is for only the head to stop receiving benefits.

There are no effects on SNAP receipt outcomes for the subsample likely exempt from E&T. Using detailed data from a handful of states, we confirm that for any given state, at most 1% of those subject to the General Work Requirement are sanctioned. In conversations with state administrators in the mountain-plains state, this is largely because exemptions can often be found for those subject to this requirement. Thus, we conclude that at the recertification margin, the General Work Requirements do not have any bite; this is because they do not deter recertifications and do not lead to a large increase in sanctions among those recertifying. We also show below that these requirements have no impact on labor supply. So, in their current form, these requirements are an administrative cost to the federal and state governments with no meaningful effect on existing recipients' behavior.

The next exercise we do to understand if E&T drives the main effects is to split the full sample by observable pre-recertification demographics, as well as our measure of likely referred to E&T or not. Specifically, for each subgroup, we estimate the "first stage"—the effect of the youngest child crossing the age threshold on E&T referral in the 6-month window following the focal recertification—and we estimate the effect on head's SNAP receipt in the 6-month window following the focal recertification. We then display these estimates on a scatterplot in Figure 5 panel (a). The x-axis measures first stage effects and the y-axis measures effects on head's SNAP receipt. There is a very strong linear relationship between being referred to E&T and the head no longer receiving SNAP; those with higher rates of E&T referral are also more likely to fall off SNAP. This provides further evidence that E&T is likely the mechanism through which the main effects operate. (We discuss panel (b) of this figure below in the labor supply results section.)

Now that we have demonstrated E&T is the likely primary mechanism, we estimate an instrumental variables model where the endogenous variable is whether the case is referred to E&T at all over the 6-month window following the focal recertification. The IV estimates are shown in Appendix Table A2 and indicate that E&T referral reduces the number of months the head is receiving SNAP benefits by 3.37 months over a 6-month period. E&T also reduces total household benefits received over this 6-month period by roughly

bottom 25th percentile to account for volatility in earnings.

$669. Relative to baseline benefit amounts received among this group, this is equivalent to missing out on 1.4 months of SNAP for the entire household. As with any research design, the local average treatment effect (LATE) here is estimated among the compliers—the cases with near-6-year-old children. The fact that E&T Work Requirements substantially reduce benefits for cases with young children is striking given that young children are particularly sensitive to reductions in nutritional resources (East, 2020; Hoynes et al., 2016b).

While we are the first to study the effects of General and E&T Work Requirements using a quasi-experimental approach, our findings are consistent with the prior literature. The paper using the closest data and approach to ours finds that the imposition of ABAWD Work Requirements reduced SNAP receipt by 37%. Among those who were already receiving SNAP, SNAP receipt decreased by 48% (Gray et al., 2022). Turning to other costs of participating in SNAP, Giannella et al. (2023) find that giving SNAP applicants access to flexible interviews, instead of inflexible pre-scheduled ones, increases receipt of SNAP by 13% in the first month and 4% over five months. Similarly, when looking at the flexibility of recertification interviews, Homonoff and Somerville (2021) find that more flexibility in the ability to reschedule these interviews increases SNAP receipt by 22%.

5.2 Robustness

We explore if these results are robust to our main specification choices in Appendix Table A3. We show the results for the full sample in panel (a), and the subsamples likely to be referred to, or exempt from, E&T in panels (b) and (c), respectively. The first column shows the baseline results. The second column shows the results using households with the youngest child around age 4 at the focal recertification, instead of age 5, for the placebo control groups. Recall, as we discussed in Appendix C, these groups are included in the difference-in-differences framework to account for the relationship between youngest child's age and the outcomes of interest, but they matter little for the overall conclusions. Nevertheless, this check ensures our main results are robust to the choice of control groups and we find they are.

In the third column, we drop the control variables that account for pre-focal recertification demographics and labor supply. The results are very similar to the baseline, providing further supporting evidence for our identification assumption that the treatment and control groups are similar on these observables.

Finally, we drop observations where the focal recertification took place in between August and October, when school starts. If we are picking up the effect of older children more likely to start school around the focal recertification, then the results would change when we drop these observations, but they do not.

We conduct a further placebo test to ensure that our main results are not driven by other changes that occur differentially around when children turn age 6 compared to the recertification date. To do so, we estimate a slightly modified version of our main model on the full sample, where we focus on the age of the second-youngest child rather than the youngest child. The "treatment" group in this model are those whose second-youngest child turned 6 right before the focal recertification, but because they have an even younger child in the household, none of these households will actually be treated by work requirements. We only include a single control group, and thus this is a single difference model, where the control group includes those whose second-youngest child turned 6 right after the focal recertification. The results are shown in Appendix Figure A3 in panels (b), (d), and (f). We contrast this to the baseline results in panels (a), (c), and (e). There is no impact on E&T outcomes or head's receipt of SNAP for this placebo group as expected.

6 Effects on Labor Supply

We next examine whether General Work Requirements and E&T generate any labor supply effects. The labor supply outcomes are measured quarterly, and we focus on the first quarter after focal recertification, which is the first fully treated time period—meaning that the treated group (cases with a youngest child over age 6 at focal recertification) have the potential to have been subject to the General and E&T Work Requirements in all months of this quarter. While one quarter following treatment is a short-run outcome, it is policy-relevant. If beneficiaries begin working to replace lost benefits, begin working as a result of work requirements, or begin working after completing E&T, the effects will appear in the first quarter after recertification. We also explore the effects in later quarters, but, in these quarters, the control group has become exposed to General Work Requirements and possibly E&T, so the interpretation of the effects on these subsequent quarters is the longer-run effects of greater prior exposure to the work requirements.

Table 3 shows the results. The full sample of cases potentially subject to General Work Requirements is in column (1) and in columns (2)-(3) we split by whether the head of household is likely to be referred to E&T or not, respectively. The rows display the results on the likelihood the head works at all in the quarter and quarterly earnings, including zeros.

We find no consistent evidence of statistically significant or quantitatively large positive impacts on labor supply for the full sample. We can rule out changes in the extensive margin of working at all of larger than a 0.4 percentage point increase or smaller than a 3 percentage point decrease. We can also rule out changes in earnings of larger than a $68 increase per quarter or smaller than a $78 decline per quarter.[19] Splitting the sample by whether the head of household is likely subject to or exempt from E&T yields similar null results for both subsamples.

We do a number of things to ensure that we are not missing any meaningful labor supply effects among those more likely to be subject to E&T. First, we show in Figure 5 panel (b) that the "first stage"–the likelihood of being referred to E&T—is unrelated to the effect on earnings. Second, we estimate the same IV model as above with the endogenous variable being referral to E&T in Appendix Table A2. We find small and insignificant effects on employment and earnings. Finally, we estimate an IV model (not shown) where the endogenous variable is E&T participation. The results we find using this last IV approach are not precise, which, given the very small number of people participating in E&T is unsurprising, however, the IV estimates are quantitatively close to zero and similar to the intent-to-treat estimates.[20]

In principle, there may be longer-run impacts on labor supply, especially if the E&T Program successfully prepares participants for future work. We explore this directly in Appendix Table A5, which looks at the employment and earnings outcomes in the second and third quarters after focal recertification. Note that, as we move forward in time, the nature of the comparison between treatment and control groups changes because cases experience subsequent recertifications; so, some of the just-below-age-6 control group—with children ages 5-years-and-7-months to 5-years-and-11-months at the focal recertification—will now be subject to the work requirements as well. Thus, these estimates measure the longer-run effects of an additional 6 months of earlier exposure to the General Work Requirement and E&T. There is no evidence of large or significant labor supply impacts in the longer-run.

[19] In Appendix Table A4 we also look at the likelihood of working multiple jobs in a quarter, the likelihood quarterly earnings that are greater than $0 but below $2,000, and the likelihood quarterly earnings that are above $2,000. We use earnings greater than $0 but below $2,000 as a proxy for part-time work, because $2,000 per quarter is below the earnings level of a full-time full-quarter minimum wage job. The threshold of $2,000 in earnings per month is not particularly notable for SNAP recipients, and the results are similar using other cutoffs, such as $1,500 or $2,500.

[20] Results available upon request.

We interpret these findings in light of the conceptual framework discussed above. Given that General Work Requirements have no bite in terms of SNAP benefit receipt or labor supply decisions, we focus this discussion on the E&T Program. The results give no empirical support for E&T leading to an increase in earnings or employment in the short or longer-run. If this lack of benefits is known to potential participants, then they are choosing between: 1) participating in E&T, which is costly in terms of time and energy and offers no labor market benefits, but allows them to keep their SNAP benefits; 2) becoming exempt from E&T for a different reason than age of the youngest child, including working more, which allows them to keep SNAP benefits; and 3) not complying with E&T requirements and losing SNAP benefits.

Our results point to potential E&T participants choosing the first and third options. This might at first be surprising given that individuals could increase their work effort even slightly to continue to receive SNAP and receive some earnings, but several additions to the static model help to explain this finding. First, the static model assumes all individuals can find a job easily and have control over their work hours. Past research found this is not the case, especially for those working in the low-wage labor market, as SNAP recipients do (Butcher and Schanzenbach, 2018). Thus, getting a job quickly that also allows participants to reliably work a specific number of hours may be challenging in practice. These challenges could make the optimal choice to participate in E&T and keep SNAP benefits, instead of working in the labor market.

Additionally, the static model assumes that all potential participants can work. In fact, many SNAP recipients face barriers to work, especially because everyone in our sample has young children (Edmiston, 2019). These same barriers that prevent SNAP participants from working may also prevent them from participating in E&T, given the time and hassle costs of doing so.

To explore whether these barriers are unique to households with children right at age 6, we tabulate the percentage of working-aged single adults who report childcare as a barrier to working outside the home in the Current Population Survey by the age of the youngest own child in the household (shown in Appendix Figure A5). 42% of single adults with their youngest child age 6 report childcare and family issues as the reason why they are not searching for work, even though they would like to work. This remains relatively stable across those with their youngest child between ages 4 to 12. Those with children below age 4 report higher rates of barriers to work for this reason, and those with children above 13 report lower rates of this barrier to work. This suggests our results likely generalize to households with children younger and older than age 6.

6.1 Robustness

We explore if these labor supply results are robust to our main specification choices in Appendix Table A3, as we did for program participation above. The labor supply results are not sensitive across any of these changes to the specification.

We also implement the same placebo test as above using the age of the second youngest child in the household. The results are shown in Appendix Table A6. As expected, we find no impacts on labor supply. This rules out the possibility that our main results are driven by other changes that occur when children in the household, besides the youngest child, turn 6.

Finally, a potential concern with relying on UI earnings to measure labor supply is it does not capture self-employment, including gig work, which has become much more common in recent years. To address this, we re-run the main labor supply analysis using the income that SNAP recipients report to their caseworkers that includes any income from self-employment. This is only observed for cases that continue to receive SNAP, but, as we documented above, the work requirements have little effect on overall SNAP receipt of

the household. As shown in Appendix Table A7, there are precise null effects on this measure of income, confirming the main results.

7 Effects on Targeting

As discussed in the conceptual framework above, the effects of work requirements may not be homogeneous. Whether they affect the more or less disadvantaged is an open question that has important implications for policy and economic theory about the usefulness of work requirements as a screening mechanism. Of course, as other empirical analyses of targeting, we cannot observe households' true "type" that indicates whether or not they should receive transfer benefits. Instead, we take the approach common in the literature, and explore heterogeneity in the effects, splitting by observable characteristics that proxy for household neediness (e.g., Unrath, 2024; Giannella et al., 2023; Gray et al., 2022; Wu and Meyer, 2023). Our approach assumes that households with fewer resources are needier and that this measure of neediness is correlated with a household's true "type". Importantly, we observe household resources before the household becomes subject to any work requirements. For this analysis, we focus only on those likely subject to E&T since this is the group where the effects on program receipt occur.

We begin by splitting the sample by earnings in the year *prior* to the focal recertification. We create three groups: those with no work in the year prior (66% of the sample) and, among those who did work, those with above- and below-median annual earnings ($7,686 per year).[21] We consider past earnings to be a proxy for household need, as is common in this literature (e.g., Giannella et al., 2023; Wu and Meyer, 2023).[22] As we documented in Table 1, past earnings are not related to whether the household will become subject to E&T at the focal recertification, so we are not splitting by an endogenous measure of household resources, which is a strength of our data.

In Figure 6, we show the event study results by month after the focal recertification and by earnings group. Each panel shows the results of running equation (1) on the main SNAP receipt outcomes. We run three separate regressions for each outcome variable, one for each earnings group, and plot the results from all three regressions in a single panel.

The results point against E&T serving as an effective targeting mechanism. All earnings groups experience a significant increase in E&T referral, shown in panel (a), with those not working before the focal recertification referred at somewhat higher rates (28 percentage points in first two months after the focal recertification, compared to 12-18 percentage points for the two groups working beforehand). Turning to E&T participation in panel (b), again all groups significantly increase E&T participation, but the above-median-earnings group has the lowest E&T participation rate—meaning the percent of those refereed to E&T that actually participate in E&T.[23]

Looking at head's receipt of SNAP in panel (c), the above-median-earnings group experiences no statistically significant reduction in any period, whereas the other two groups experience large and significant

[21] The E&T-likely sample skews toward those with no baseline annual earnings. Recall that in order to be eligible for E&T, recipients must report $0 of gross earned income during month of the focal recertification.

[22] We further support this claim using data from the Survey of Income and Program Participation—the total monthly household income of SNAP households with zero earnings is only $830 and $567 of this comes from SNAP. On the other hand, SNAP households with earnings have a total income of $3,727, of which $3,207 comes from earnings and $458 comes from SNAP. For these tabulations, we use the 2008 panel of the Survey of Income and Program Participation (SIPP) for data years 2008-2013. We include all households with a head of household of working age, between 18 and 59.

[23] Specifically, using the point estimates from panels (a) and (b), we calculate the E&T participation rate as the cumulative six-month effect on E&T participation, divided by the cumulative six-month effect on E&T referral. The above-median-earnings group has an E&T participation rate of 15% compared to 29% and 27% for the below-median and no-earnings groups, respectively.

negative impacts. The difference in this effect for the above-median-earnings group and no-earnings group is significant. Finally, there are no significant effects on household-level benefit receipt for any of the groups, shown in panel (d).

How is the above-median-earnings group able to remain on SNAP even though they do not participate in E&T at very high rates? We explore this by looking at the likelihood the case gets an exemption from E&T in panel (e). These exemptions are for a combination of objective and subjective reasons. The objective reasons include whether the youngest child is below age 6, as well as having positive earnings, being a student, receiving unemployment insurance, or being pregnant or homeless. Subjective exemptions are determined by the caseworker and the most common reasons are: lacks transportation, "low functioning", and simply "caseworker determination". Due to the nature of our data in which all exemption reasons are coded as a single categorical variable, and there is no systematic hierarchy for which exemption reason is selected, we do not separately examine effects on different exemption reasons.

The results are striking. All earnings groups see a decline in the likelihood of having any E&T exemption in the first month after focal recertification, due to losing the exemption for the youngest child below age 6, but this decline is significantly larger for the zero-earnings group. The gap in these estimates across earnings groups indicates that the above- and below-median-earnings groups were more likely than the no-earnings group to get exempted from E&T for some new reason when they lose their youngest-child-under-age-6 exemption. This could be because they change their behavior in order to get an exemption, or because they already qualified for a different exemption, such as receiving unemployment insurance, so they simply become exempt for this reason instead of the age of their youngest child being below age 6.

The gap in exemptions for E&T across earnings groups widens over time. Beginning in the second month after the focal recertification, the effect on exemptions for the above-median-earnings group becomes insignificant, and by the fourth month is insignificant with a point estimate of zero. Thus, within 3 months of the focal recertification, the above-median-earnings group has been able to get exempted from E&T for a reason besides the age of their youngest child.

The below-median-earnings and no-earnings groups also experience an increase in the likelihood of having an exemption over time, but the increase is much smaller, and even 6 months later, they are significantly less likely to have an exemption at all. Thus, these more disadvantaged groups are still subject to E&T even 6 months later.

Next, we examine whether there are any heterogeneous labor supply responses across these same earnings groups in Appendix Table A8. The panels show estimates from different quarters after the focal recertification. All but one estimate indicates no significant or quantitatively large changes in labor supply for any of the earnings groups in the first quarter after, or subsequent quarters. The exception is a marginally significant increase in the likelihood of working at all for the above-median-earnings group. This could indicate that some in this small group are increasing employment to become exempt from E&T. However, it is difficult to draw strong conclusions from this one estimate since we see no indication of a meaningful change in earnings and this effect on employment seems to be short-lived, as it disappears in the second and third quarters following the focal recertification.

Again, we discuss these results considering the conceptual framework. Those who did not work at all in the year prior to the focal recertification do not change their labor supply. This could be because this group may face the largest barriers to work and/or have the hardest time finding a job given their lack of recent work. This group increases E&T participation somewhat, suggesting that participating in E&T for this group might be easier than trying to find a job. However, this group also experiences the largest drop

in head's SNAP receipt.

On the other hand, those with above-median earnings likely have fewer barriers to work and the easiest time finding a job, given past work history, and this group is able to completely avoid E&T sanctions. They do this not by participating in E&T, but by suggestively working a little more, as predicted in the conceptual framework, and claiming other exemptions. It is important to keep in mind that this group is only about 10% of all those likely subject to E&T and any effects on employment are short-lived, so, overall, E&T does not achieve it's goal of meaningfully increasing labor supply and self-sufficiency.

We explore splitting by the length of time each case received SNAP before the focal recertification, which is another proxy for need—the longer a household is on SNAP, the needier they are likely to be. Appendix Figure A4 panel (a) displays the effects on the 6-month cumulative key outcome variables. We show the difference-in-differences estimate from our main regression model with the circle and their associated 95% confidence intervals in the shaded bars. The results for this other proxy of need mimics what we saw when we split by prior earnings, though the differences are not as stark.

Finally, we split by the employment-to-population ratio in the county of the SNAP case at the time of the focal recertification in panel (b) of Appendix Figure A4. This is motivated by the idea that it may be easier for individuals to find a job and thus comply with work requirements or become exempt from E&T during relatively good economic times. We find no evidence of heterogeneity on this dimension.

8 Nationwide Effect of Work Requirements

The prior analysis took advantage of the richness of the administrative data from the single mountain-plains state to identify the causal impacts of General Work Requirements and E&T. However, a limitation of this analysis is that it is only for a single state. To shed light on the generalizability of our findings, we turn to the SNAP Quality Control data. These repeated cross-sectional data are a random sample of monthly SNAP case reviews administered by state SNAP agencies each year. The dataset contains detailed information on the demographics of households that receive SNAP, as well as information about whether its members are subject to, or are sanctioned from, various SNAP work requirements. Importantly, the QC only includes cases that received SNAP, so if work requirements impact the number of SNAP cases, this will impact our sample. However, we saw above little effects on benefit receipt at all, and instead a decline in the likelihood the head receives benefits, so this is the outcome we focus on in the QC data.

The QC analysis sample mimics the main sample using the mountain-plains state data. We keep SNAP cases from 2012 to 2020 that have recertified SNAP eligibility, with a single adult head of household, whose youngest child in the household is between the ages of 3 and 9. We further restrict to those more likely to be eligible for General Work Requirements by including only those aged 16-59, who have no disability and no one in the household with a disability, and are not receiving TANF. We also construct a sample of those likely subject to E&T by further restricting to those aged 16-47 with no earned income at recertification, non-refugees, and those not receiving worker's compensation.[24]

We implement a simple pre-post model because we do not observe precise information on recertification date or child's age in the QC data. If the youngest child in the household is above age 6, we assume they are possibly treated, and if they are below age 6 we assume they are not yet treated. This requires a stronger identification assumption than the prior analysis: cases with children below and above age 6 are otherwise

[24]In the mountain-plains data, the sample of those likely subject to E&T requirements also excludes pregnant women and those not receiving disability insurance. This information, however, is not available in the QC data.

identical. Despite this strong assumption, this analysis helps to shed important light on the generalizability of the results using the mountain-plains state data. Additionally, we exploit several unique features of the QC data and dimensions of heterogeneity to strengthen the assumptions in this analysis. First, the QC data allows us to observe directly whether adults in a SNAP case are not receiving SNAP benefits because they are not meeting work requirements, so we use this to construct our main outcome of interest. Second, we split the sample by whether the head of household is likely subject to or exempt from E&T. Third, we split the sample by whether the state operates a mandatory or voluntary E&T program.[25]

We begin by examining the effects on E&T participation and head's receipt of SNAP across the full sample (first column), those likely subject to E&T (second column), and those likely exempt from E&T (third column) in Figure 7. The horizontal axes of the panels indicate the age of the youngest child in years and the vertical axes indicate the value of each outcome variable. We plot the average outcomes by age of youngest child in the dots. Additionally, in each panel, we report the results of the following pre-post regression with standard errors in parenthesis: $Y_{ir} = \alpha + \tau Post6Birthday_{ir} + \epsilon_{ir}$. Here, τ is the coefficient of interest and represents the difference in outcomes for cases with the youngest child above and below age 6. Given the imprecise information on dates in the QC data, we do not take a stand on whether households with the youngest child exactly age 6 will be treated, so we omit these households from the regression sample.

We find similar results as those using data from the mountain-plains state. There is a significant increase in E&T participation that is driven by those likely subject to E&T (panel (b)). And, there is a roughly 1 percentage point drop in the likelihood the head of household receives SNAP in the likely-subject group (panel (e)). The effects on E&T participation among the likely-exempt group are much smaller, and there is no drop in the head's receipt of SNAP (panel (f)) for this group.

Figure 8 focuses on the subsample likely subject to E&T and splits the sample into states with mandatory programs (left column) and voluntary programs (right column). Those facing a mandatory E&T Program have higher rates of E&T participation (panel (a)). Additionally, they have a higher likelihood of the head of household being removed from SNAP for not meeting these requirements than in voluntary states. Heads of household likely subject to E&T in mandatory states are 1.2 percentage points less likely to receive SNAP. It is difficult to directly compare the magnitudes of these estimates to the estimates from the mountain-plains given the differences in data and analysis structures. Therefore, we emphasize instead that the results all point to the same conclusion—mandatory E&T programs lead to a meaningful reduction in head's receipt of SNAP.

[25]In order to determine whether a state runs a mandatory or voluntary E&T program in a particular year, we use combined information from SNAP QC data and GAO (2018) and McConnell et al. (2024). We identify which states have mandatory and voluntary SNAP E&T programs in 2010 and 2017 from GAO (2018). We additionally identify states that offer a combination of mandatory and voluntary programs from McConnell et al. (2024). Often these combination programs require the heads of household to comply with E&T as if it is mandatory, but other household members can treat it as voluntary. To classify these combination states as either mandatory or voluntary and to identify the year that states switch their status from mandatory to voluntary, or vice versa, we use the QC data. Specifically, we calculate the number of mandatory E&T participants in each state and year. For states who switch between mandatory and voluntary E&T programs between 2010 and 2017, we designate the year with the largest quantitative change in mandatory E&T participants as the year the state switched from a mandatory to voluntary E&T program. For states that offer both mandatory and voluntary programs, we calculate the ratio of mandatory E&T participants to total E&T participants by state and year. We then classify the program as mandatory if over 50% of the participants were in a mandatory program, and voluntary otherwise. We have also re-run the results dropping states with a combination of mandatory and voluntary programs and dropping states that switch the type of program in our time period. The results are robust to these changes.

9 Welfare Effects

We contextualize our results with a social welfare framework using the Marginal Value of Public Funds (MVPF) approach in Hendren and Sprung-Keyser (2020).[26] We calculate the MVPF of eliminating the E&T Program, which is the ratio of individuals' willingness to pay to eliminate the E&T Program to net government costs of eliminating the E&T Program, defined as:

$$MVPF = \frac{WTP}{C + FE} \tag{2}$$

We assume the willingness of potential E&T participants to pay for the elimination of the Program is equivalent to the change in SNAP benefit amounts if the E&T Program were eliminated. Since we do not find that E&T helps individuals find jobs or higher-quality jobs, we assume the value of the E&T Program itself to participants is zero. The denominator is the direct cost of operating the E&T Program (C), including savings from paying less in SNAP benefits, administrative costs of E&T, and any fiscal externalities (FE) due to changes in individual behavior. We ignore individuals' willingness to pay to avoid the ordeal itself, which means our MVPF estimate is conservative.

Because we find no large changes in labor supply in response to E&T, we argue there are no fiscal externalities due to changes in income or payroll tax revenue. We estimate the MVPF of eliminating the SNAP E&T Program is 1.11. Thus, if E&T was eliminated, recipients would receive $1.11 in benefits for every $1 the government spends.

10 Conclusion

This paper examines the effects of SNAP General Work Requirements and E&T on SNAP benefit receipt and labor supply outcomes using a difference-in-differences design. We are the first to rigorously examine SNAP's General Work Requirement and its accompanying Employment and Training Program. We show that General Work Requirements have no detectable effect on whether the household receives benefits likely because of widely available exemptions from the requirements, but that referral to the E&T Program does. While only the head of household loses benefits as a result of E&T, this has negative consequences on the entire household due to lower benefit amounts.

We find no evidence of meaningful effects of General Work Requirements or E&T on labor supply. These results add to mounting evidence that SNAP Work Requirements decrease program participation and have little effect on labor supply (Bauer and East, 2023).

While our analysis identifies the effects for households with a child near age 6, this is a policy-relevant local average treatment effect. Work requirements in other programs, such as the California Child Tax Credit, take effect when children turn 6 (Goldin et al., 2024), and recent policy proposals for SNAP include expanding the ABAWD requirement to include adults in households with children as young as 5 (American Enterprise Institute, 2024). In addition, children in this age range are particularly sensitive to changes in household resources and nutrition.

Our results also shed important light on the impact of these policies on targeting of transfer programs. In particular, the USDA's Food and Nutrition Service is explicit that their goal is "ensuring access to SNAP for eligible individuals... [and] it is incumbent upon the State to correctly identify individuals through

[26] Appendix C provides the details of the MVPF calculation.

the screening process who must be exempt [from E&T] and impose requirements that put individuals' and families' access to SNAP at risk through no fault of their own."[27] Our results suggest that many people who are not able to complete the mandatory E&T programs are referred to the program, and this causes them to lose SNAP benefits. This is especially common for more disadvantaged recipients. This has important policy implications for program efficacy, equity, and administration.

[27] https://www.fns.usda.gov/snap/et-screening-and-referral-guidance

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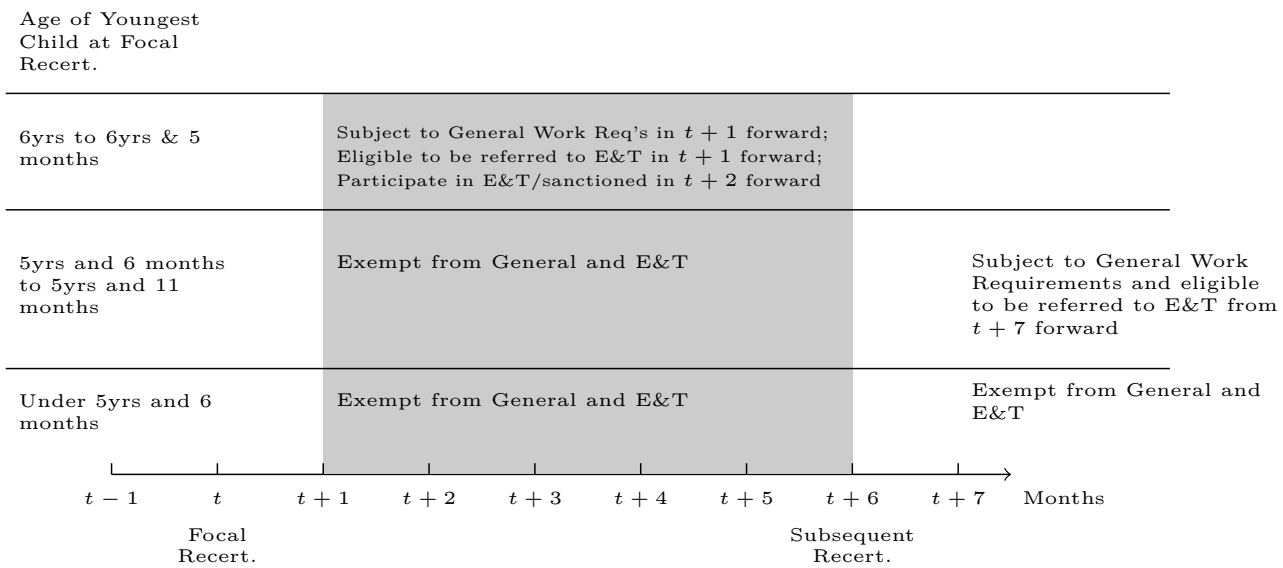
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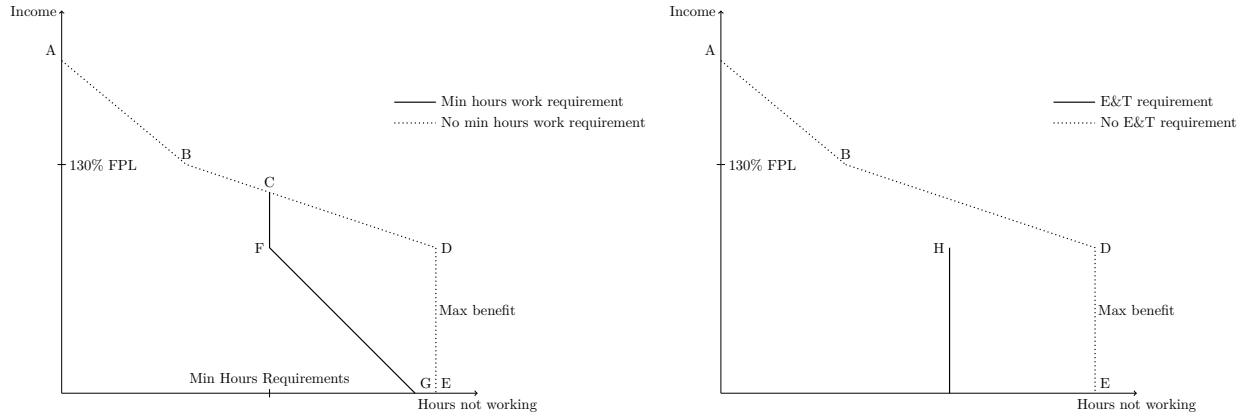
11 Figures and Tables

Figure 1: Typical General Work Requirement and E&T Timeline Surrounding Focal Recertification



Notes: Plot depicts the timeline for General Work Requirements and E&T. The x axis is months relative to the focal recertification month in period t. The subsequent recertification month occurs in period $t+6$. The 3 y-axis categories show work requirement subjection/exemption status for cases with various ages of their youngest child, measured at recertification t. The dark grey shading emphasizes which months occur during the recertification cycle following t.

Figure 2: Work Requirement Budget Constraint

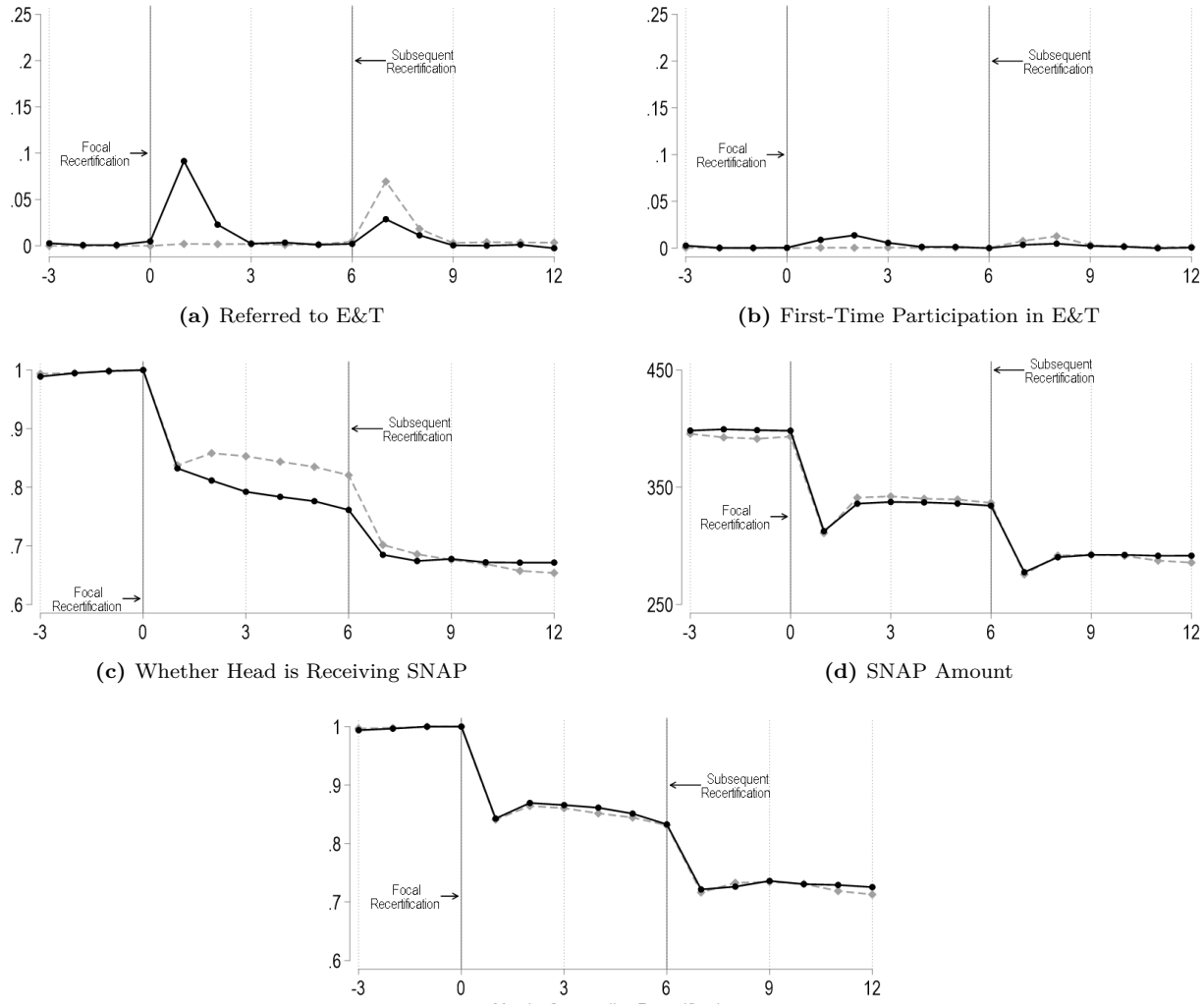


(a) General Work Requirements

(b) E&T Requirements

Notes: Panels (a) and (b) plot a budget constraint with hours not working on the x-axis and income on the y-axis. Panels (a) and (b) show the budget constraints of General Work Requirements and E&T requirements respectively. In panel (a), line ABCDE represents the budget line when there is no minimum required hours of work. Line ABCFG represents the budget line when there is a minimum-hours-of-work requirement. The line FG shows income before meeting the minimum-hours-of-work requirement to receive SNAP. Similarly, CD shows at the same number of hours worked but with no work requirements, income is higher. Finally, at point B, individuals earn 130% of the FPL and no longer receive SNAP. Panel (b) displays the budget constraint when there are E&T requirements (line H), and when there are no E&T requirements (line ABDE). Unlike work requirements, individuals don't receive income by participating in E&T. Consequently, at point H, individuals spend fewer hours not working because of the time spent participating in E&T activities but don't receive higher income.

Figure 3: Effects of General Work Requirements on Benefit Outcomes – **Full Sample**



(a) Referred to E&T

(b) First-Time Participation in E&T

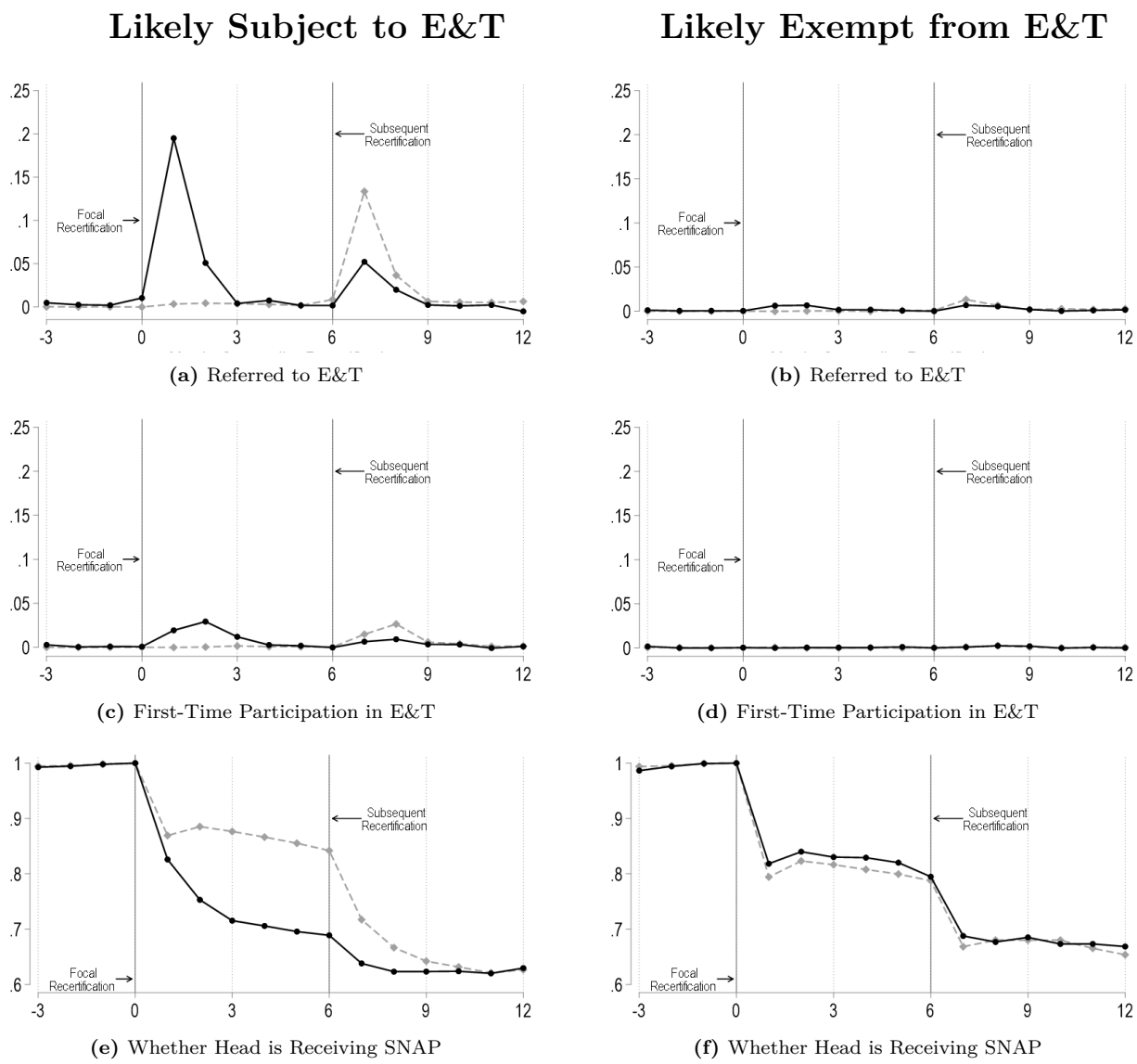
(c) Whether Head is Receiving SNAP

(d) SNAP Amount

(e) SNAP Receipt

Notes: Figure displays regression-adjusted averages of the given outcome for cases with a youngest child narrowly older than 6 at recertification (the solid black line) and younger than 6 (the dashed grey line). Averages remove placebo estimates for cases with the youngest child narrowly turning 5 at recertification using the method described in Section 4. The x axis is months relative to the focal recertification in period 0. For cases still on SNAP, the subsequent recertification occurs in period 6. The full sample is restricted to case-recertification combinations between 2012 and 2020, to cases with a single adult where the head of the case is receiving benefits at baseline, we can observe age-in-months for all children on the case, and the head of the case is not exempt from General Work Requirements by being too old/young, having a disability or caring for someone with a disability, or receiving TANF at baseline.

Figure 4: Effects of General Work Requirements on Benefit Outcomes – **Likely Subject/Exempt from E&T Subsamples**



(a) Referred to E&T

(b) Referred to E&T

(c) First-Time Participation in E&T

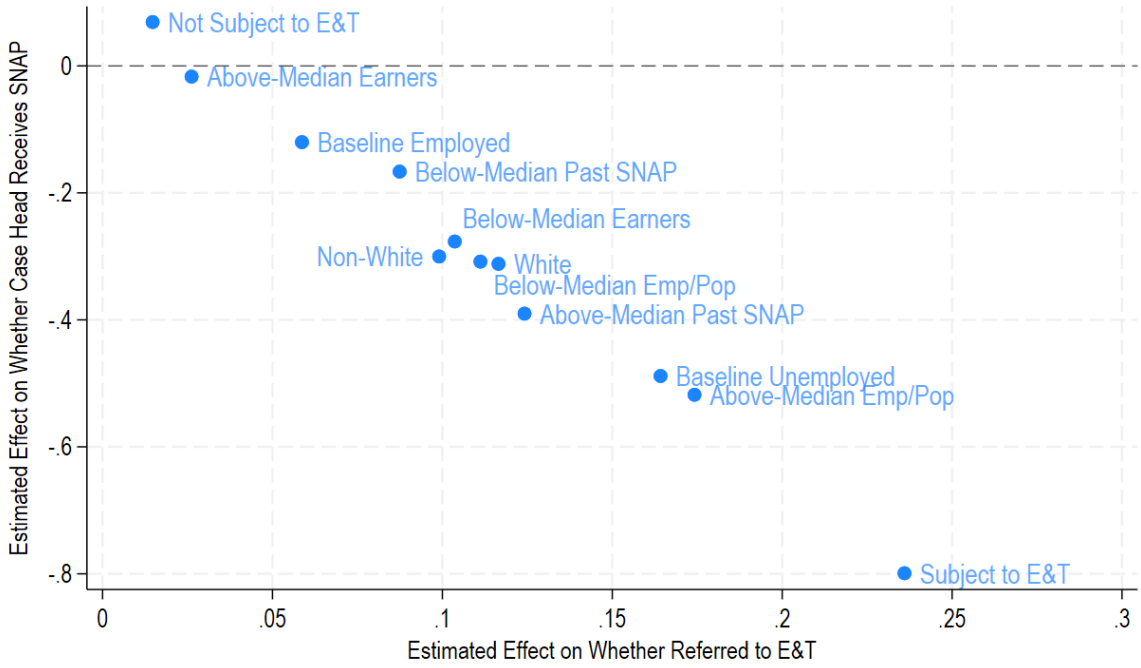
(d) First-Time Participation in E&T

(e) Whether Head is Receiving SNAP

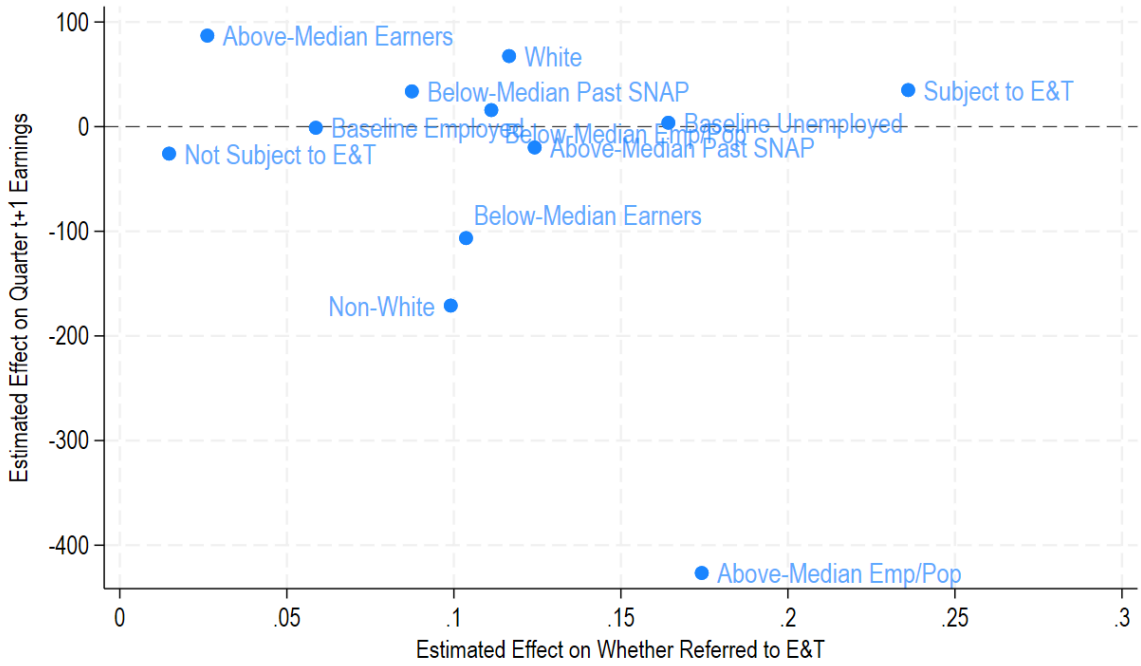
(f) Whether Head is Receiving SNAP

Notes: Figure displays regression-adjusted averages of the given outcome for cases with a youngest child narrowly older than 6 at recertification (the solid black line) and younger than 6 (the dashed grey line). Averages remove placebo estimates for cases with the youngest child narrowly turning 5 at recertification using the method described in Section 4. The x axis is months relative to the focal recertification in period 0. For cases still on SNAP, the subsequent recertification occurs in period 6. The full sample is restricted to case-recertification combinations between 2012 and 2020, to cases with a single adult where the head of the case is receiving benefits at baseline, we can observe age-in-months for all children on the case, and the head of the case is not exempt from General Work Requirements by being too old/young, having a disability or caring for someone with a disability, or receiving TANF at baseline. The left column further restricts to cases that are likely to be categorically subject to E&T, while cases in the right column are likely categorically exempt.

Figure 5: First-Stage and Reduced Form Estimates of E&T Referral for Various Subgroups



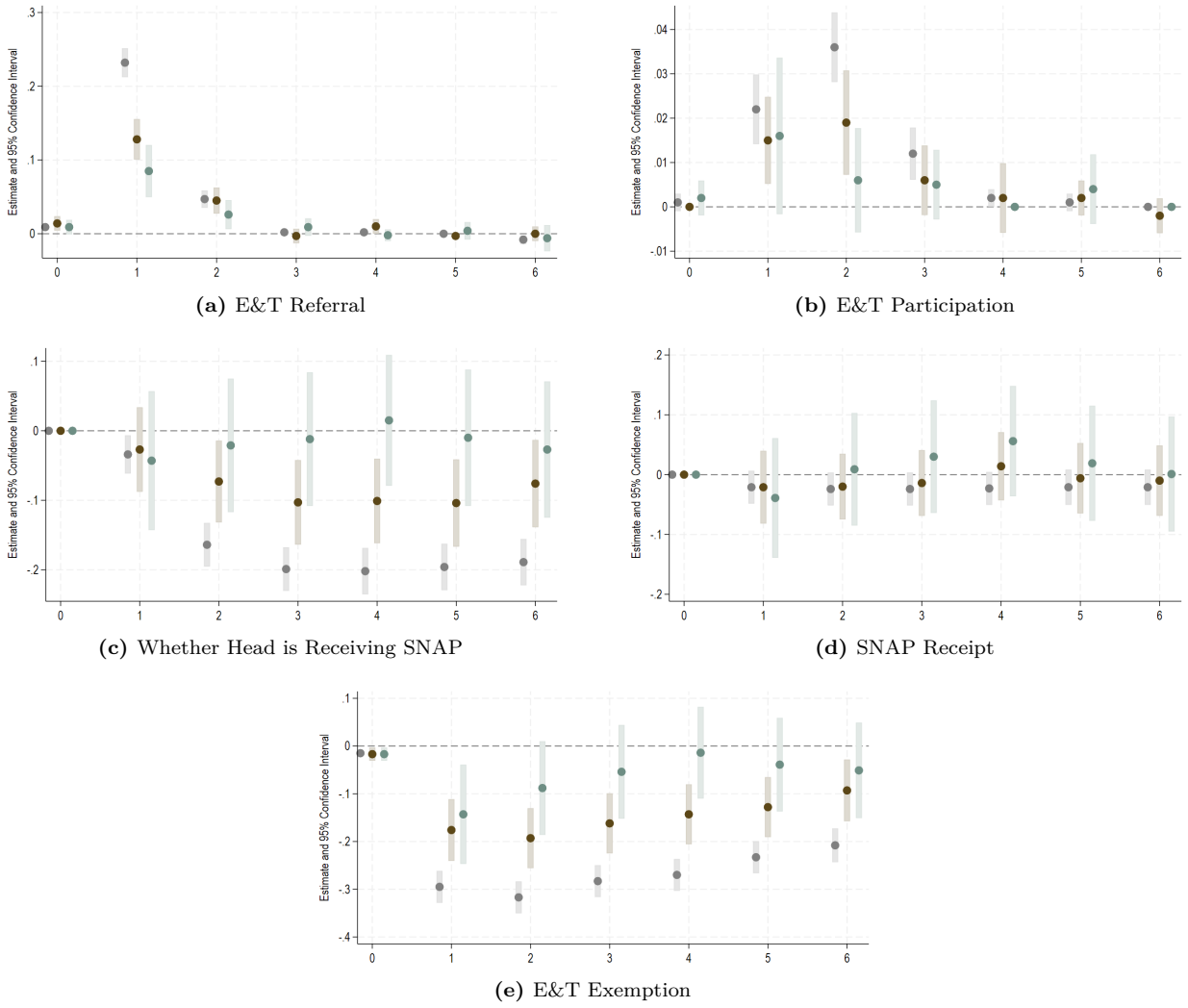
(a) Cumulative Months Head is on SNAP (6 Months)



(b) Earnings in Quarter $t+1$

Notes: Each point in this figure reports estimates of β from separate regressions of Equation (1). The x axis uses as the outcome an indicator that equals one if the cases is ever referred to E&T over the 6 months following the focal recertification. The y axis uses at the outcome either the cumulative months the case head receives SNAP over the next 6 months (panel a) or the quarterly earnings during the quarter after recertificiation (panel b). The full sample is restricted to case-recertification combinations between 2012 and 2020, to cases with a single adult where the head of the case is receiving benefits at baseline, we can observe age-in-months for all children on the case, and the head of the case is not exempt from General Work Requirements by being too old/young, having a disability or caring for someone with a disability, or receiving TANF at baseline.

Figure 6: Dynamics in Heterogeneous Effects by Baseline Annual Earnings



(a) E&T Referral

(b) E&T Participation

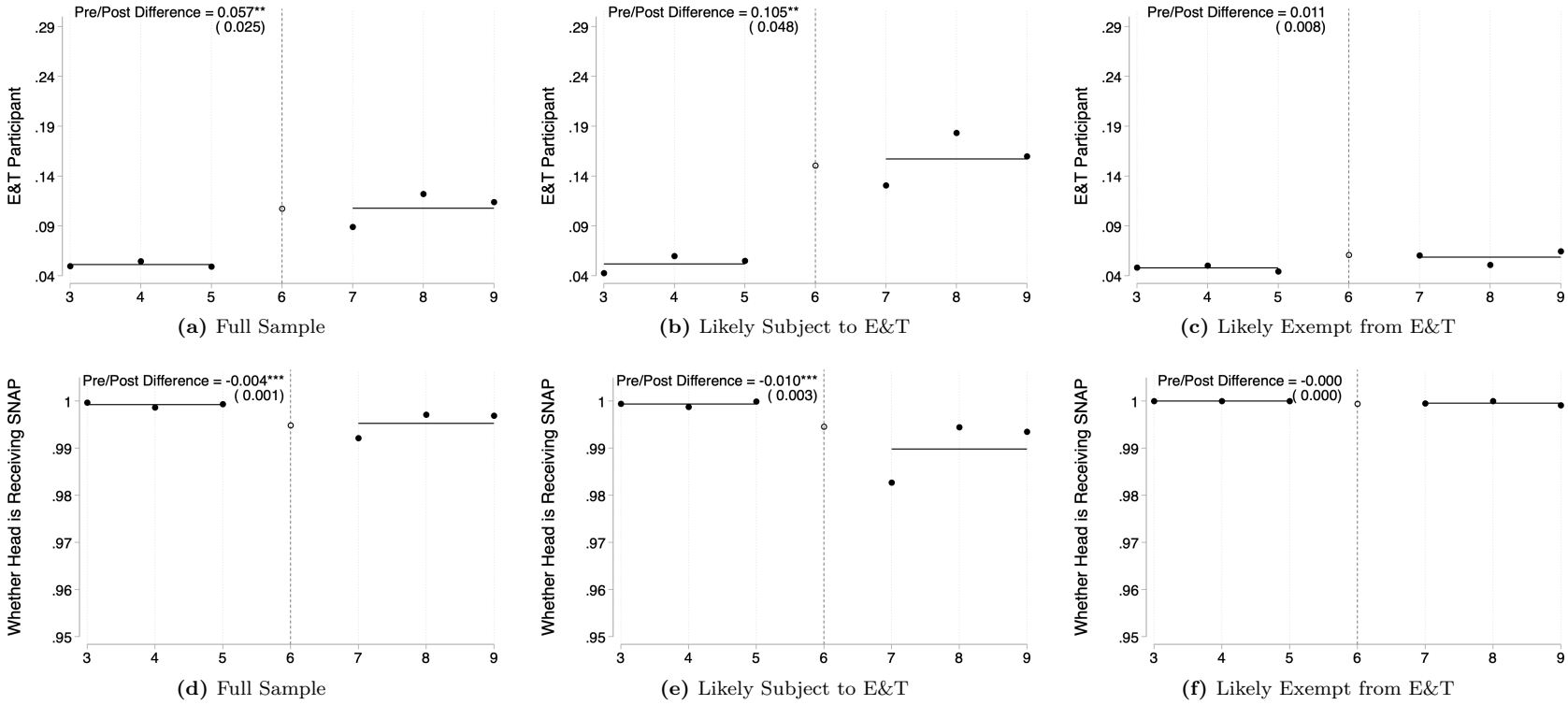
(c) Whether Head is Receiving SNAP

(d) SNAP Receipt

(e) E&T Exemption

Notes: Figure presents estimates of β from Equation (1) for three subgroups: cases with no earnings during the year prior to the focal recertification, and cases with above/below-median earnings during the year prior to the focal recertification. The x axis is months relative to the focal recertification in period 0. The full sample is restricted to case-recertification combinations between 2012 and 2020, to cases with a single adult where the head of the case is receiving benefits at baseline, we can observe age-in-months for all children on the case, and the head of the case is not exempt from General Work Requirements by being too old/young, having a disability or caring for someone with a disability, or receiving TANF at baseline.

Figure 7: Effects of Work Requirements, by Whether Case is Likely Subject to General Work Requirements and E&T

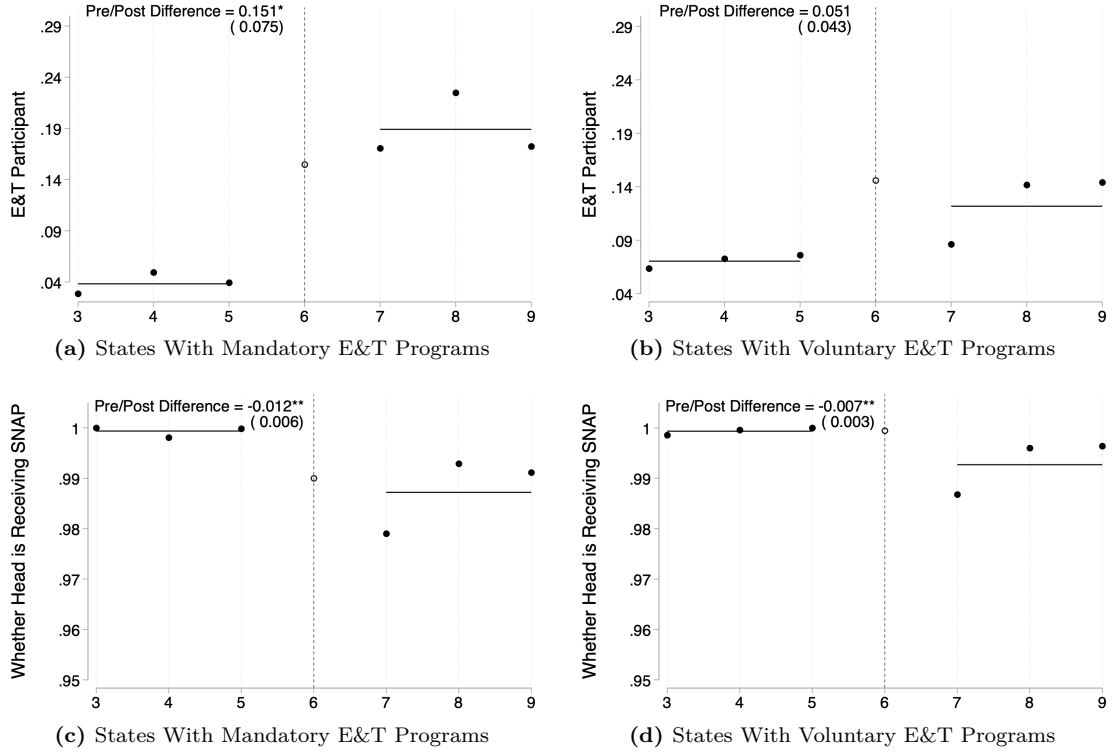


(a) Full Sample **(b)** Likely Subject to E&T **(c)** Likely Exempt from E&T

(d) Full Sample **(e)** Likely Subject to E&T **(f)** Likely Exempt from E&T

Notes: Data source is SNAP Quality Control (QC) from 2012 to 2020. Includes single adult household heads between the ages of 16 and 59, with no disability. Uses only SNAP recertifications. Panels use 3 different samples, a full national sample, those likely subject to E&T (ages 16–47, no earned income, non-refugees, no workers compensation, and no TANF), and those likely exempt from E&T (not likely subject with earned income greater than the 25th percentile). The x-axis denotes age of the youngest child in the household. The household head participated in E&T if they were completing a component of the training program, including: were participating in a non-SNAP E&T, job search or job search training, workfare or work experience, work supplementation, education leading to high school diploma or GED, postsecondary education leading to degree or certificate, remedial education, or vocational training. Results are weighted using QC weights and use clustered standard errors at the state level. * p<0.10, ** p<0.05, *** p<0.01

Figure 8: Effects of Work Requirements on E&T and the Household Head Being on SNAP, Likely Subject to E&T



(a) States With Mandatory E&T Programs

(b) States With Voluntary E&T Programs

(c) States With Mandatory E&T Programs

(d) States With Voluntary E&T Programs

Notes: Data source is SNAP Quality Control (QC) data from 2012 to 2020. Includes single adult household heads between the ages of 16 and 47, with no disability, no earned income, non-refugees, no workers compensation, no TANF. Uses only SNAP recertifications. Panels use two different samples a sample of states during years in which they had a mandatory E&T program, and states during years in which they had a voluntary E&T program. The x-axis denotes the age of the youngest child in the household. The household head participated in E&T if they were completing a component of the training program, including: were participating in a non-SNAP E&T, job search or job search training, workfare or work experience, work supplementation, education leading to high school diploma or GED, postsecondary education leading to degree or certificate, remedial education, or vocational training. Results are weighted using QC weights and use clustered standard errors at the state level. * p<0.10, ** p<0.05, *** p<0.01

Table 1: Above Age-6 Threshold Balance Test

	Full Sample	Likely Subject to E&T	Likely Exempt from E&T
Age	0.212**	0.054	0.279*
	(0.098)	(0.156)	(0.165)
	[31.908]	[31.510]	[31.905]
Spanish Speaking	0.002	0.004	0.001
	(0.002)	(0.003)	(0.004)
	[0.013]	[0.005]	[0.022]
Citizen	-0.001	0.002	-0.002
	(0.002)	(0.003)	(0.004)
	[0.985]	[0.987]	[0.982]
Benefit Amount	8.169**	8.807	9.639
	(3.823)	(5.357)	(6.463)
	[393.013]	[451.899]	[322.383]
Black	-0.003	-0.003	-0.005
	(0.003)	(0.005)	(0.006)
	[0.034]	[0.027]	[0.046]
Hispanic	0.003	-0.005	0.005
	(0.006)	(0.010)	(0.011)
	[0.160]	[0.142]	[0.193]
White	-0.004	0.011	-0.014
	(0.007)	(0.012)	(0.013)
	[0.732]	[0.744]	[0.697]
Female	0.003	0.000	0.004
	(0.004)	(0.007)	(0.007)
	[0.940]	[0.935]	[0.945]
Quarterly Employment	0.010	0.020	0.007
	(0.009)	(0.013)	(0.014)
	[0.406]	[0.175]	[0.638]
Quarterly Earnings	33.556	36.360	31.322
	(38.723)	(37.170)	(72.407)
	[1357.042]	[321.245]	[2652.069]
Part-time Work	0.001	0.010	0.007
	(0.007)	(0.011)	(0.009)
	[0.114]	[0.116]	[0.061]
Full-time Work	0.009	0.011	-0.000
	(0.009)	(0.009)	(0.015)
	[0.292]	[0.060]	[0.577]
Median Earnings in Industry	0.075	0.246	0.053
	(0.158)	(0.232)	(0.250)
	[6.585]	[2.938]	[10.389]
N	26,894	11,517	11,152

Notes: Each cell in this table reports estimates of β from separate regressions of Equation (1) using as the outcome the variable specified in the row label. Standard errors (in parentheses) are clustered by case. Columns are estimates run on the full sample or samples that are likely subject to or exempt from E&T. Control means of the outcomes are provided in brackets. * p<0.10, ** p<0.05, *** p<0.01

Table 2: Estimates of Narrowly being Subject to General Work Requirements on Benefits

a) Full Sample	Months After Recertification: 1st Month		2nd Month		3rd Month		4th Month		5th Month		6th Month		Cumulative 6-Month Effect	
First Referred to E&T [Base Avg.=0.000]	0.088***	(0.004)	0.023***	(0.002)	0.001	(0.001)	0.002**	(0.001)	0.000	(0.001)	-0.002**	(0.001)	0.112***	(0.004)
First Participated in E&T [Base Avg.=0.000]	0.008***	(0.001)	0.013***	(0.001)	0.005***	(0.001)	0.001	(0.001)	0.001	(0.001)	0.000***	(0.000)	0.028***	(0.002)
Head Receiving SNAP [Base Avg.=1.000]	-0.008	(0.009)	-0.050***	(0.009)	-0.064***	(0.009)	-0.064***	(0.009)	-0.063***	(0.009)	-0.064***	(0.010)	-0.313***	(0.047)
SNAP Receipt [Base Avg.=1.000]	-0.002	(0.009)	0.002	(0.008)	0.001	(0.009)	0.005	(0.009)	0.002	(0.009)	-0.003	(0.009)	0.005	(0.046)
SNAP Amount	-4	(4)	-11***	(4)	-11***	(4)	-9**	(4)	-10**	(5)	-9*	(5)	-54***	(23)

b) Sub-Sample Likely Subject to E&T	Months After Recertification: 1st Month		2nd Month		3rd Month		4th Month		5th Month		6th Month		Cumulative 6-Month Effect	
First Referred to E&T [Base Avg.=0.000]	0.193***	(0.008)	0.044***	(0.004)	0.001	(0.002)	0.004**	(0.002)	0.000	(0.001)	-0.005***	(0.002)	0.237***	(0.009)
First Participated in E&T [Base Avg.=0.000]	0.019***	(0.003)	0.029***	(0.003)	0.010***	(0.002)	0.002**	(0.001)	0.001	(0.001)	0.000***	(0.000)	0.062***	(0.005)
Head Receiving SNAP [Base Avg.=1.000]	-0.037***	(0.013)	-0.131***	(0.013)	-0.160***	(0.014)	-0.160***	(0.014)	-0.159***	(0.014)	-0.151***	(0.014)	-0.798***	(0.070)
SNAP Receipt [Base Avg.=1.000]	-0.026**	(0.013)	-0.022*	(0.012)	-0.018	(0.012)	-0.011	(0.012)	-0.017	(0.013)	-0.020	(0.013)	-0.113*	(0.065)
SNAP Amount [Base Avg.=468]	-12*	(7)	-28***	(7)	-32***	(7)	-28***	(7)	-30***	(7)	-29***	(7)	-159***	(35)

c) Sub-Sample Likely Exempt from E&T	Months After Recertification: 1st Month		2nd Month		3rd Month		4th Month		5th Month		6th Month		Cumulative 6-Month Effect	
First Referred to E&T [Base Avg.=0.000]	0.006***	(0.002)	0.006***	(0.002)	0.001	(0.001)	0.002**	(0.001)	0.000	(0.001)	-0.001***	(0.000)	0.015***	(0.003)
First Participated in E&T [Base Avg.=0.000]	-0.001	(0.001)	0.000***	(0.000)	0.000***	(0.000)	0.000	(0.001)	0.001	(0.001)	0.000***	(0.000)	0.001	(0.001)
Head Receiving SNAP [Base Avg.=1.000]	0.017	(0.015)	0.010	(0.014)	0.007	(0.015)	0.014	(0.015)	0.013	(0.015)	0.000	(0.016)	0.061	(0.079)
SNAP Receipt [Base Avg.=1.000]	0.022	(0.014)	0.020	(0.014)	0.016	(0.014)	0.023	(0.015)	0.021	(0.015)	0.007	(0.015)	0.108	(0.078)
SNAP Amount [Base Avg.=319]	4	(6)	3	(7)	6	(7)	8	(7)	10	(7)	7	(8)	39	(36)

Notes: Each cell in this table reports estimates of β from separate regressions of Equation (1) using as the outcome the variable specified in the row label. Standard errors (in parentheses) are clustered by case. Columns denote during which month relative to recertification the outcome is measured. "Cumulative 6-Month Effect" uses as the outcome the summation of the given variable during the 6 months following the focal recertification. In panel (a), we apply the sample restrictions described in Section 3.1. We further restrict to cases that would likely be subject to E&T requirements if the youngest child is over six (panel (b)) or exempt from E&T (panel (c)). * p<0.10, ** p<0.05, *** p<0.01

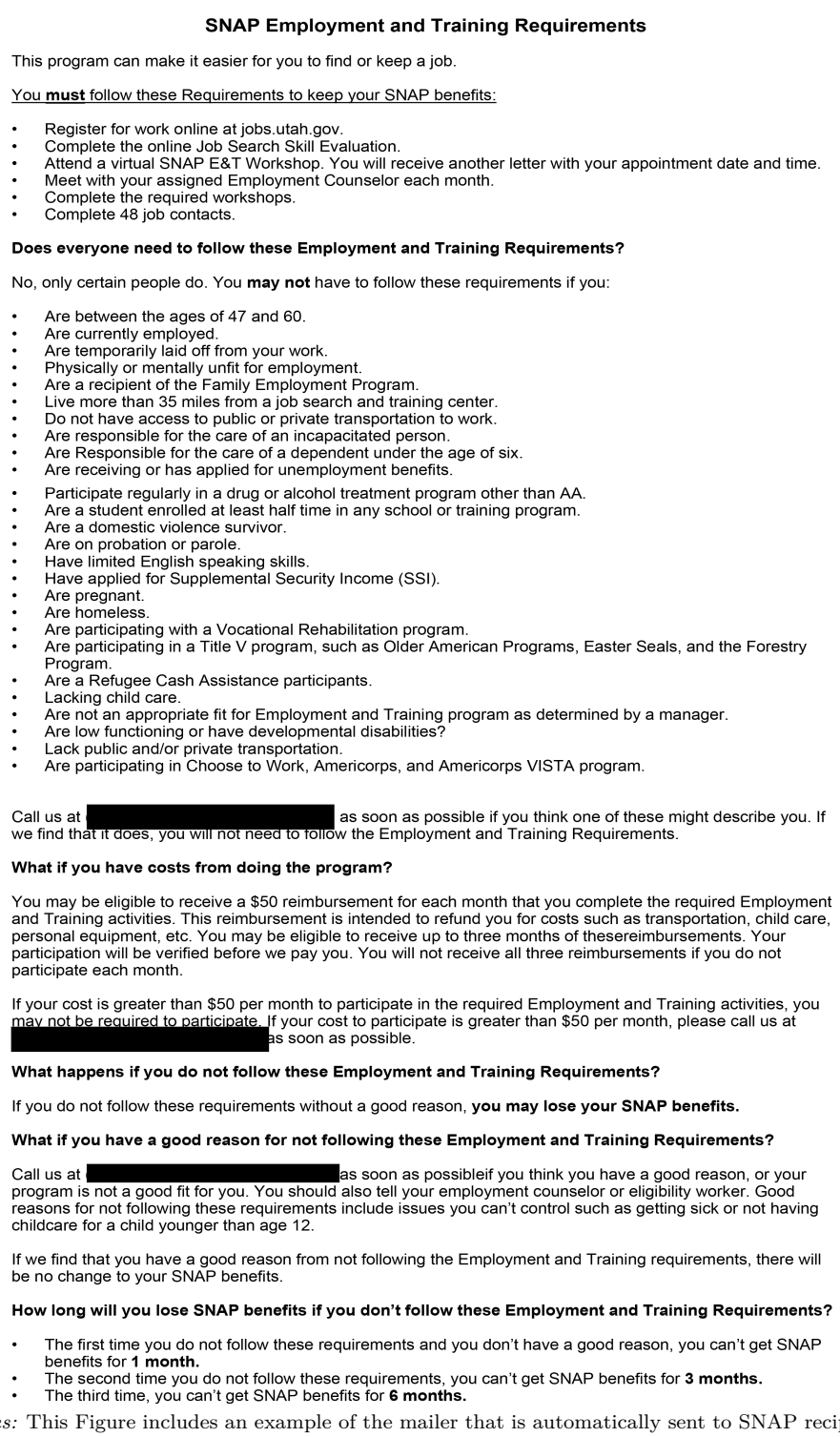
Table 3: Estimates of Narrowly being Subject to General Work Requirements on Labor Supply One Quarter Later

	Full Sample	Likely Subject to E&T Sub-Sample	Likely Exempt from E&T Sub-Sample
Employed [Base Avg.=0.410]	-0.012	-0.002	-0.013
	(0.008)	(0.014)	(0.008)
Real Quarterly Earnings [Base Avg.=1,439]	-5	37	-39
	(37)	(51)	(60)
	26,888	11,510	11,141

Notes: Each cell in this table reports estimates of β from separate regressions of Equation (1) using as the outcome the variable specified in the row label. Standard errors (in parentheses) are clustered by case. Columns are estimates run on the full sample or samples that are likely subject to or exempt from E&T. The full sample is restricted to case-recertification combinations between 2012 and 2020, to cases with a single adult where the head of the case is receiving benefits at baseline, we can observe age-in-months for all children on the case, and the head of the case is not exempt from General Work Requirements by being too old/young, having a disability or caring for someone with a disability, or receiving TANF at baseline. * p<0.10, ** p<0.05, *** p<0.01

A Appendix Figures and Tables

Figure A1: Example of SNAP E&T Work Requirement Mailer



SNAP Employment and Training Requirements

This program can make it easier for you to find or keep a job.

You **must** follow these Requirements to keep your SNAP benefits:

- Register for work online at jobs.utah.gov.
- Complete the online Job Search Skill Evaluation.
- Attend a virtual SNAP E&T Workshop. You will receive another letter with your appointment date and time.
- Meet with your assigned Employment Counselor each month.
- Complete the required workshops.
- Complete 48 job contacts.

Does everyone need to follow these Employment and Training Requirements?

No, only certain people do. You **may not** have to follow these requirements if you:

- Are between the ages of 47 and 60.
- Are currently employed.
- Are temporarily laid off from your work.
- Physically or mentally unfit for employment.
- Are a recipient of the Family Employment Program.
- Live more than 35 miles from a job search and training center.
- Do not have access to public or private transportation to work.
- Are responsible for the care of an incapacitated person.
- Are Responsible for the care of a dependent under the age of six.
- Are receiving or has applied for unemployment benefits.
- Participate regularly in a drug or alcohol treatment program other than AA.
- Are a student enrolled at least half time in any school or training program.
- Are a domestic violence survivor.
- Are on probation or parole.
- Have limited English speaking skills.
- Have applied for Supplemental Security Income (SSI).
- Are pregnant.
- Are homeless.
- Are participating with a Vocational Rehabilitation program.
- Are participating in a Title V program, such as Older American Programs, Easter Seals, and the Forestry Program.
- Are a Refugee Cash Assistance participants.
- Lacking child care.
- Are not an appropriate fit for Employment and Training program as determined by a manager.
- Are low functioning or have developmental disabilities?
- Lack public and/or private transportation.
- Are participating in Choose to Work, Americorps, and Americorps VISTA program.

Call us at [redacted] as soon as possible if you think one of these might describe you. If we find that it does, you will not need to follow the Employment and Training Requirements.

What if you have costs from doing the program?

You may be eligible to receive a $50 reimbursement for each month that you complete the required Employment and Training activities. This reimbursement is intended to refund you for costs such as transportation, child care, personal equipment, etc. You may be eligible to receive up to three months of thesereimbursements. Your participation will be verified before we pay you. You will not receive all three reimbursements if you do not participate each month.

If your cost is greater than $50 per month to participate in the required Employment and Training activities, you may not be required to participate. If your cost to participate is greater than $50 per month, please call us at [redacted] as soon as possible.

What happens if you do not follow these Employment and Training Requirements?

If you do not follow these requirements without a good reason, **you may lose your SNAP benefits.**

What if you have a good reason for not following these Employment and Training Requirements?

Call us at [redacted] as soon as possibleif you think you have a good reason, or your program is not a good fit for you. You should also tell your employment counselor or eligibility worker. Good reasons for not following these requirements include issues you can't control such as getting sick or not having childcare for a child younger than age 12.

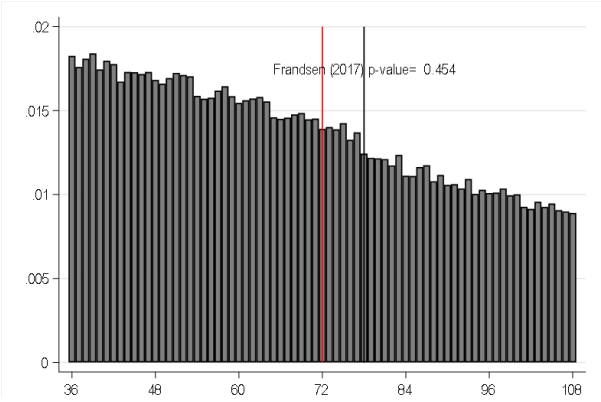
If we find that you have a good reason from not following the Employment and Training requirements, there will be no change to your SNAP benefits.

How long will you lose SNAP benefits if you don't follow these Employment and Training Requirements?

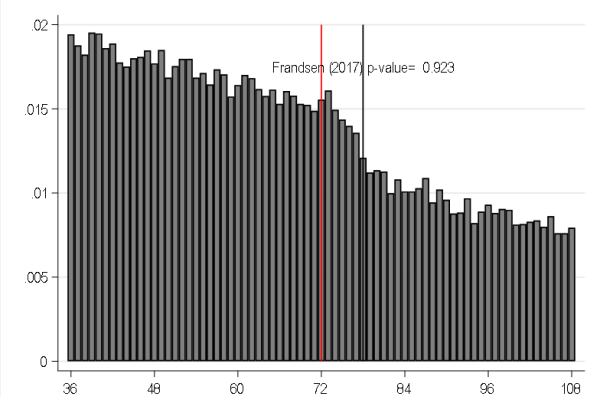
- The first time you do not follow these requirements and you don't have a good reason, you can't get SNAP benefits for **1 month.**
- The second time you do not follow these requirements, you can't get SNAP benefits for **3 months.**
- The third time, you can't get SNAP benefits for **6 months.**

Notes: This Figure includes an example of the mailer that is automatically sent to SNAP recipients who are subject to Employment and Training Requirements in the Mountain-Plains state we study.

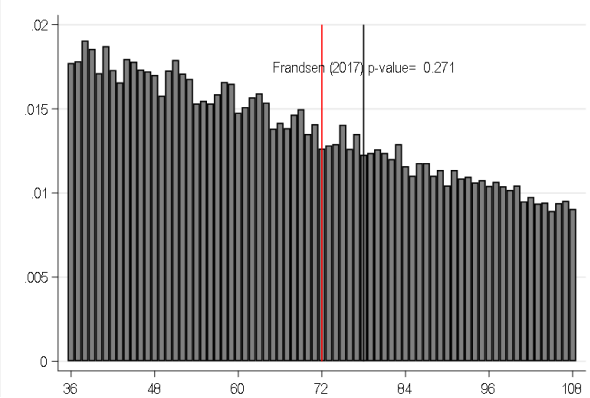
Figure A2: Densities Surrounding Cutoff for Households Who are Otherwise Subject to General Work Requirements



(a) Full Sample



(b) Likely Subject to E&T Sample

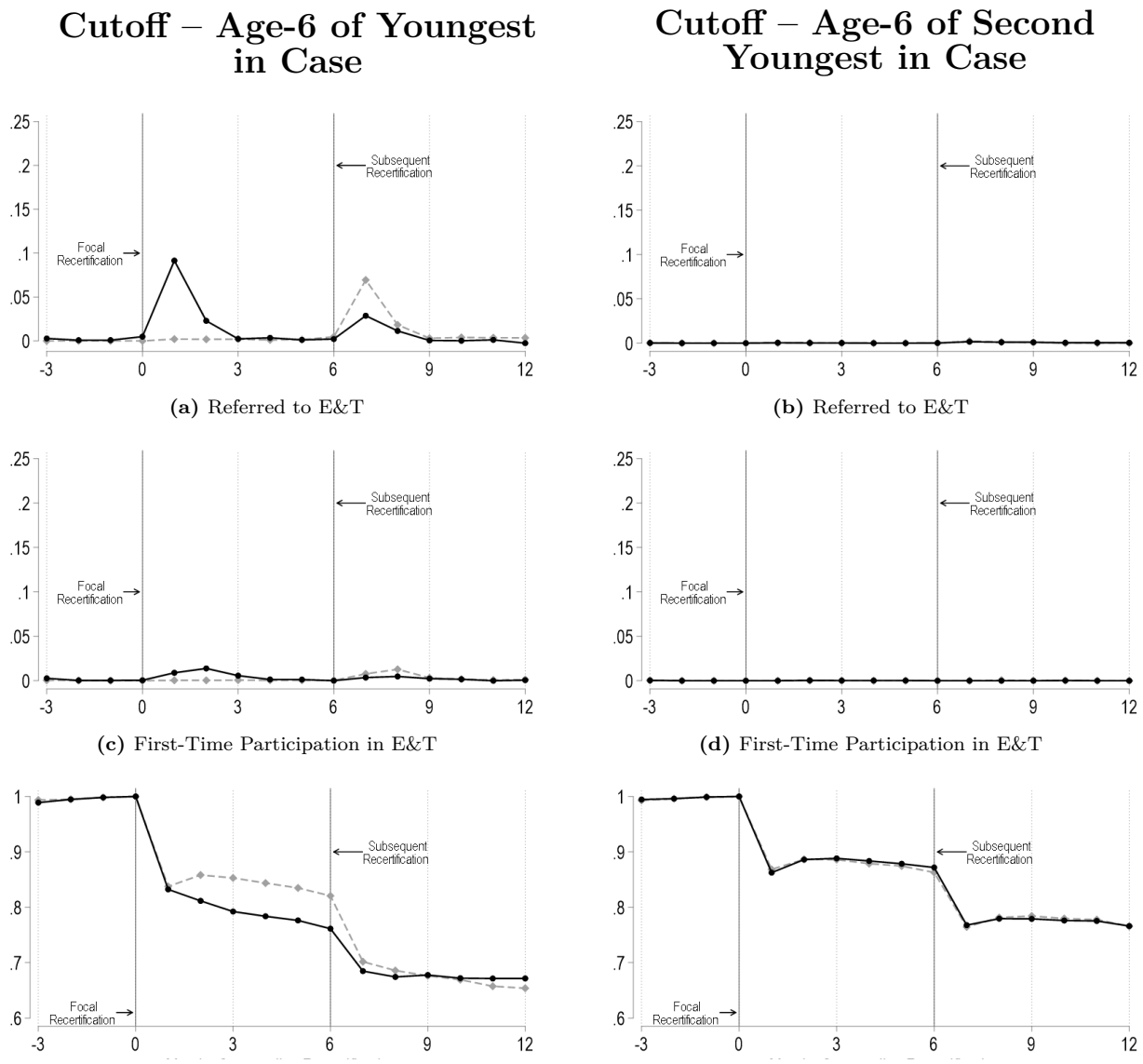


(c) Likely Exempt from E&T Sample

Age of Youngest (in Months)

Notes: Figure plots the densities of the age-of-youngest child measured in months at recertification for the full sample (panel (a)), and for the samples that are likely subject to (panel (b)) and exempt from E&T (panel (c)). p-values from RD manipulation tests of (Frandsen, 2017) are printed in each panel. See Section 4 for details on the sample selection. The red line signifies the age-6 cutoff that confers eligibility for General Work Requirements. The black line signifies the subsequent recertification 6 months later.

Figure A3: Effects of General Work Requirements on Benefit Outcomes – Older-Sibling Age-6 Placebo



(a) Referred to E&T

(b) Referred to E&T

(c) First-Time Participation in E&T

(d) First-Time Participation in E&T

(e) Whether Head is Receiving SNAP

(f) Whether Head is Receiving SNAP

Notes: The left column of the figure re-displays the plots from Figure 3 for comparison. The plots in the right column plot average values of the given outcome for cases with a *second-youngest* child narrowly above (in solid black) or below (in dashed grey) the age-6 cutoff. These right-column plots augment the sample restrictions from Section 3.1 by focusing on cases within 5 months of their *second-youngest* child turning 6 at the focal recertification.

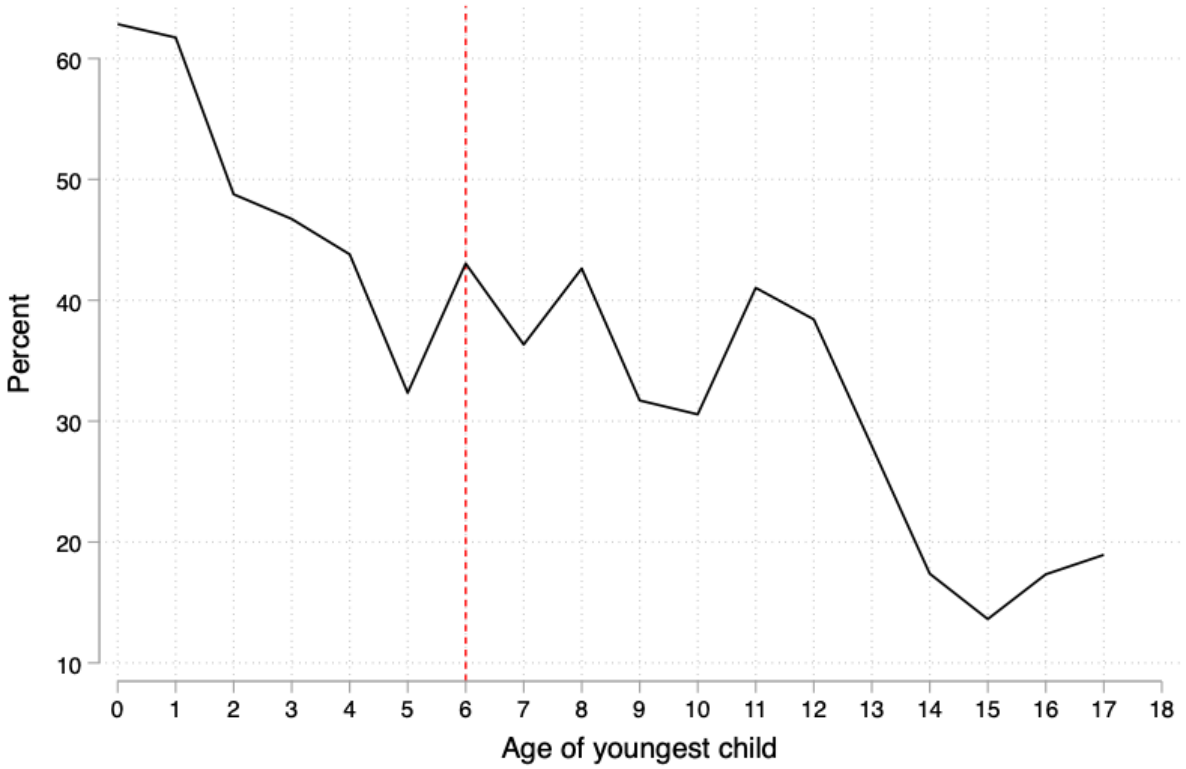
Figure A4: Heterogeneous Effects



(a) Previous SNAP Receipt **(b)** Employment/Population

Notes: The Figure depicts estimates and 95% confidence intervals of β from Equation (1) for various subgroups. Panel (a) splits by whether, prior to the focal recertification, the case received above or below the median number of months of SNAP observed in the full sample. Panel (b) splits by whether the case resides in a county with above or below median employment per population rates observed in the full sample.

Figure A5: Percent Not Looking For a Job Due to Lack of Childcare or Family Responsibilities



Notes: Uses Current Population Survey data from 2012-2020. The sample consists of single heads of household aged 16-59, who are not working and have not looked for work in the previous four weeks, but would like to work. Statistics are weighted using CPS weights.

Table A1: Summary Statistics for Working-Age, Non-Disabled, Single Households

	All SNAP Recertifications (QC Data)		Mountain Plains Administrative Data			
	National	Our State	All Recertifications	Full Sample	Likely Subject to E&T	Likely Exempt from E&T
Age	37.043	35.994	35.052	32.130	31.650	32.121
Female	0.763	0.797	0.812	0.937	0.928	0.942
White	0.334	0.714	0.728	0.736	0.755	0.694
Black	0.308	0.029	0.039	0.034	0.028	0.044
Hispanic	-	-	0.153	0.157	0.135	0.192
Pacific Islander	0.003	0.009	0.015	0.014	0.013	0.018
Asian	0.010	0.007	0.014	0.015	0.013	0.018
Native American	0.012	0.024	0.056	0.050	0.063	0.040
Household Size	2.335	2.637	2.673	3.338	3.212	3.535
# Kids	1.299	1.620	1.673	2.338	2.212	2.535
Quarterly Earnings	1075.304	1180.157	986.671	1334.989	311.043	2616.529
Employed	0.343	0.369	0.332	0.402	0.175	0.629

Notes: The first two columns use data from the SNAP Quality Control Data Set for years 2012-2020. We use the weights provided by the Quality Control data. In the Quality Control data, large percentages of race and ethnicity information is unreported, and Hispanic is only identified among multiple race individuals. We take this information into account when considering how our racial composition compares to that in the QC. Samples are restricted to single adult households with young children, which consists primarily of females in both datasets. In columns (3)-(6) we use administrative data from the mountain plains state from 2012-2020. In both datasets we look at recertifications and use only working age, non disabled, single heads of household. In column (3) we use the broadest sample of recertifications among working-age, non-disabled, single household heads in the administrative data. In column (4) we restrict to our full sample, which includes those likely subject to General Work Requirements. Last, in column (5) we further restrict to those likely subject to E&T requirements (ages 16–47, no earned income, non-refugees, no workers compensation, and no TANF) and in column (6) we restrict to those likely exempt from E&T requirements (not likely subject with earned income greater than the 25th percentile).

Table A2: IV Estimates of Narrowly being Subject to General Work Requirements on Benefit and Labor Supply Outcomes

	Full Sample	Likely Subject to E&T Sub-Sample	Likely Exempt from E&T Sub-Sample
Benefit Outcomes (6-month Cumulative)			
Head Receiving SNAP [Base Avg.=1.000]	-2.792***	-3.369***	—
	(0.423)	(0.302)	
SNAP Receipt [Base Avg.=1.000]	0.044	-0.478*	—
	(0.407)	(0.276)	
SNAP Amount [Base Avg.=399]	-482***	-669***	—
	(204)	(149)	
	26,888	11,510	
Labor Supply Outcomes (Quarter $t+1$)			
Employed [Base Avg.=0.410]	-0.107	-0.009	—
	(0.069)	(0.058)	
Real Quarterly Earnings [Base Avg.=$1,439$]	-41	158	—
	(328)	(215)	
	26,888	11,510	

Notes: Each cell in this table reports IV estimates analogous to Equation (1) using as the outcome the variable specified in the row label. The endogenous variable is whether the case is referred to E&T over the 6 months following the focal recertification. The instrument is an indicator for having a recent birthday interacted with being near the age-6 cutoff. Standard errors (in parentheses) are clustered by case. Columns are estimates run on the full sample or samples that are likely subject to or exempt from E&T. Estimates are not displayed for the likely-exempt sample because there is not enough variation in E&T referrals for Stata to run the regression. The full sample is restricted to case-recertification combinations between 2012 and 2020, to cases with a single adult where the head of the case is receiving benefits at baseline, we can observe age-in-months for all children on the case, and the head of the case is not exempt from General Work Requirements by being too old/young, having a disability or caring for someone with a disability, or receiving TANF at baseline. * p<0.10, ** p<0.05, *** p<0.01

Table A3: Estimates of Narrowly being Subject to General Work Requirements on Outcomes

a) Full Sample	Main Estimates		Age-4 Placebo		No Controls		Drop Aug-Oct	
LS Outcomes: One Quarter After Recert.								
Employed	-0.012	(0.008)	0.000	(0.005)	-0.002	(0.009)	-0.009	(0.009)
Real Quarterly Earnings	-5	(37)	-43	(26)	26	(44)	-13	(42)
Benefit Outcomes: 6-Month Cumulative								
First Referred to E&T	0.112***	(0.004)	0.124***	(0.004)	0.111***	(0.004)	0.114***	(0.005)
First Participated in E&T	0.028***	(0.002)	0.030***	(0.002)	0.028***	(0.002)	0.027***	(0.003)
Head Receiving SNAP	-0.313***	(0.047)	-0.376***	(0.035)	-0.305***	(0.049)	-0.283***	(0.055)
SNAP Receipt	0.005	(0.046)	-0.036	(0.033)	0.013	(0.047)	0.051	(0.053)
SNAP Amount	-54***	(23)	-91***	(17)	-23	(25)	-48*	(27)
b) Sub-Sample Likely Subject to E&T	Main Estimates		Age-4 Placebo		No Controls		Drop Aug-Oct	
LS Outcomes: One Quarter After Recert.								
Employed	-0.002	(0.014)	-0.003	(0.010)	0.011	(0.015)	-0.006	(0.016)
Real Quarterly Earnings	37	(51)	-40	(38)	62	(56)	35	(58)
Benefit Outcomes: 6-Month Cumulative								
First Referred to E&T	0.237***	(0.009)	0.258***	(0.009)	0.235***	(0.009)	0.235***	(0.011)
First Participated in E&T	0.062***	(0.005)	0.065***	(0.005)	0.062***	(0.000)	0.059***	(0.006)
Head Receiving SNAP	-0.798***	(0.070)	-0.771***	(0.054)	-0.797***	(0.071)	-0.800***	(0.082)
SNAP Receipt	-0.113*	(0.065)	-0.053	(0.048)	-0.113*	(0.066)	-0.095	(0.076)
SNAP Amount	-159***	(35)	-123***	(26)	-130***	(40)	-141***	(41)
c) Sub-Sample Likely Exempt from E&T	Main Estimates		Age-4 Placebo		No Controls		Drop Aug-Oct	
LS Outcomes: One Quarter After Recert.								
Employed	-0.013	(0.008)	-0.002	(0.006)	-0.004	(0.014)	-0.011	(0.010)
Real Quarterly Earnings	-39	(60)	-37	(43)	21	(81)	-44	(69)
Benefit Outcomes: 6-Month Cumulative								
First Referred to E&T	0.015***	(0.003)	0.016***	(0.003)	0.014***	(0.000)	0.016***	(0.003)
First Participated in E&T	0.001	(0.001)	0.002**	(0.001)	0.001	(0.001)	0.000	(0.002)
Head Receiving SNAP	0.061	(0.079)	-0.057	(0.056)	0.072	(0.081)	0.142	(0.092)
SNAP Receipt	0.108	(0.078)	-0.016	(0.055)	0.119	(0.081)	0.186**	(0.091)
SNAP Amount	39	(36)	-57**	(26)	67*	(40)	54	(42)

Notes: Each cell in this table reports estimates of β from separate regressions of Equation (1) using as the outcome the variable specified in the row label. Standard errors (in parentheses) are clustered by case. Table panels are broken out by sample type and outcome grouping. The first column provides the main estimates. Column (2) uses as the placebo comparison group cases with a youngest child narrowly above and below turning 4 at recertification (instead of turning 5). Column (3) provides estimates that exclude the vector of baseline controls X. Column (4) provides estimates that exclude recertifications happening from August through October. * p<0.10, ** p<0.05, *** p<0.01

Table A4: Estimates of Narrowly being Subject to General Work Requirements on Labor Supply One Quarter Later

	Full Sample	Likely Subject to E&T Sub-Sample	Likely Exempt from E&T Sub-Sample
Multiple Jobs [Base Avg.=0.082]	0.002	-0.001	0.008
	(0.006)	(0.008)	(0.012)
Qrt. Earnings $\$1 - 2000$ [Base Avg.=0.112]	-0.007	-0.009	0.002
	(0.007)	(0.011)	(0.010)
Qrt. Earnings \$2000+ [Base Avg.=0.298]	-0.005	0.007	-0.015
	(0.008)	(0.011)	(0.012)
	26,888	11,510	11,141

Notes: Each cell in this table reports estimates of β from separate regressions of Equation (1) using as the outcome the variable specified in the row label. Standard errors (in parentheses) are clustered by case. Columns are estimates run on the full sample or samples that are likely subject to or exempt from E&T. The full sample is restricted to case-recertification combinations between 2012 and 2020, to cases with a single adult where the head of the case is receiving benefits at baseline, we can observe age-in-months for all children on the case, and the head of the case is not exempt from General Work Requirements by being too old/young, having a disability or caring for someone with a disability, or receiving TANF at baseline. * p<0.10, ** p<0.05, *** p<0.01

Table A5: Estimates of Narrowly being Subject to General Work Requirements on Labor Supply Two and Three Quarters Later

	Full Sample	Likely Subject to E&T Sub-Sample	Likely Exempt from E&T Sub-Sample
Two Quarters After Recert.			
Employed [Base Avg.=0.410]	-0.006	0.001	-0.005
	(0.008)	(0.014)	(0.010)
Real Quarterly Earnings [Base Avg.=1,439]	-9	41	-30
	(41)	(60)	(68)
	26,888	11,510	11,141
Three Quarters After Recert.			
Employed [Base Avg.=0.410]	-0.008	-0.007	-0.006
	(0.009)	(0.014)	(0.011)
Real Quarterly Earnings [Base Avg.=1,439]	-20	33	-52
	(44)	(66)	(70)
	26,888	11,510	11,141

Notes: Each cell in this table reports estimates of β from separate regressions of Equation (1) using as the outcome the variable specified in the row label. Standard errors (in parentheses) are clustered by case. Columns are estimates run on the full sample or samples that are likely subject to or exempt from E&T. Table panels provide estimates for labor supply outcomes measured 2 quarters (panel (a)) or 3 quarters (panel (b)) after the focal recertification. The full sample is restricted to case-recertification combinations between 2012 and 2020, to cases with a single adult where the head of the case is receiving benefits at baseline, we can observe age-in-months for all children on the case, and the head of the case is not exempt from General Work Requirements by being too old/young, having a disability or caring for someone with a disability, or receiving TANF at baseline. Columns (2) and (3) respectively restrict the sample to cases who are likely subect to or exempt from E&T. * p<0.10, ** p<0.05, *** p<0.01

Table A6: Estimates of Second-Youngest in Case Narrowly Turning 6 on Labor Supply One Quarter Later

	Full Sample	Likely Subject to E&T Sub-Sample	Likely Exempt from E&T Sub-Sample
Employed [Base Avg.=0.401]	0.006	0.011	-0.001
	(0.006)	(0.011)	(0.007)
Real Quarterly Earnings [Base Avg.=1,420]	30	54	0
	(32)	(43)	(52)
	9,684	4,066	4,390

Notes: Each cell in this table reports estimates from regressing the outcome (specified in the row label) against an indicator equal to one if the *second-youngest* in the case is narrowly older than 6 at recertification. Standard errors (in parentheses) are clustered by case. These specifications augment the sample restrictions from Section 3.1 by focusing on cases within 5 months of their *second-youngest* child turning 6 at the focal recertification. * p<0.10, ** p<0.05, *** p<0.01

Table A7: Estimates of Narrowly being Subject to General Work Requirements on Labor Supply One Quarter Later

	Full Sample	Likely Subject to E&T Sub-Sample	Likely Exempt from E&T Sub-Sample
SNAP-Reported Gross Income [Base Avg.=791]	13	16	1
	(15)	(21)	(25)
	24,439	10,710	9,782

Notes: Each cell in this table reports estimates of β from separate regressions of Equation (1) using as the outcome the variable specified in the row label. Standard errors (in parentheses) are clustered by case. Columns are estimates run on the full sample or samples that are likely subject to or exempt from E&T. The full sample is restricted to case-recertification combinations between 2012 and 2020, to cases with a single adult where the head of the case is receiving benefits at baseline, we can observe age-in-months for all children on the case, and the head of the case is not exempt from General Work Requirements by being too old/young, having a disability or caring for someone with a disability, or receiving TANF at baseline. Sample is further limited to current SNAP recipients during the given quarter. * p<0.10, ** p<0.05, *** p<0.01

Table A8: Estimates of Narrowly being Subject to General Work Requirements on Labor Supply Two and Three Quarters Later by Baseline Earnings Subgroups

	Above-Median Annual Baseline Earnings	Below-Median Annual Baseline Earnings	No Annual Baseline Earnings
One Quarter After Recert.			
Employed [Base Avg.= 0.603]	0.105*	-0.058	0.002
	(0.056)	(0.039)	(0.013)
Real Quarterly Earnings [Base Avg.= 1,668]	181	-6	3.430
	(341)	(151)	(46.982)
Two Quarters After Recert.			
Employed [Base Avg.= 0.603]	0.082	-0.045	0.008
	(0.056)	(0.039)	(0.013)
Real Quarterly Earnings [Base Avg.= 1,668]	370	-10	-8.146
	(341)	(151)	(46.982)
Three Quarters After Recert.			
Employed [Base Avg.= 0.603]	0.069	-0.025	-0.012
	(0.055)	(0.039)	(0.013)
Real Quarterly Earnings [Base Avg.= 1,668]	11	202	-29.932
	(346)	(168)	(54.330)
	1,260	2,619	7,619

Notes: Each cell in this table reports estimates of β from separate regressions of Equation (1) using as the outcome the variable specified in the row label. Standard errors (in parentheses) are clustered by case. Columns are estimates run on the full sample or samples that are likely subject to or exempt from E&T. Table panels provide estimates for labor supply outcomes measured 2 quarters (panel (a)) or 3 quarters (panel (b)) after the focal recertification. Columns present estimates split by whether the case had UI earnings of 0 or above/below the sample median during the year prior to the focal recertification. * p<0.10, ** p<0.05, *** p<0.01

B Empirical Support for Including Second Difference

This section provides an empirical rationale for why our preferred regression model includes a second difference that nets out differences in outcomes between cases narrowly on either side of the placebo age-5-at-recertification cutoff. To begin, Figure B1 replicates Figure 3, but simply compares cases with children narrowly above and below the age-6 cutoff—there are no controls in the regression and no placebo age-5 comparison group incorporated into this analysis. Estimates are nearly identical to those of Figure 3. Reassuringly, this shows that the above/below age-6 comparisons provide the bulk of the identifying variation of our analyses in the main text.

Next, we explore the contribution of the placebo comparison group in more detail. Panels (a) through (c) of Appendix Figures B2 through B4 show unadjusted raw means of various SNAP benefit receipt outcomes for cases with a youngest child within 5 months (excluding those whose birth month is the same as the recertification month) of various placebo age cutoffs. Panel (d) shows the same but for the treatment age cutoff (age 6).[28]

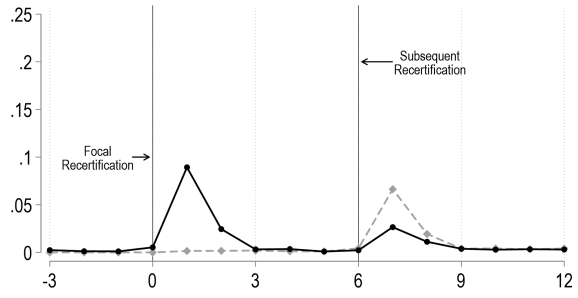
Notice that for the outcomes: "whether the head is on SNAP" (Figure B2) and "whether anyone on the case is receiving SNAP" (Figure B3), there is a gap that appears in period $t+1$ across the placebo ages 3 through 5. This is picking up the smooth negative relationship between age and SNAP receipt—cases with older children tend to have lower SNAP participation rates following recertifications. By simply comparing outcomes between cases with new 6-year-olds against cases with almost 6-year-olds, we would include these age effects, biasing estimates towards more negative effects on program receipt outcomes. Panel (e) of the figures provides the regression-adjusted versions of these plots that removes these age effects using the age-5 placebo cutoff from Equation (1). For instance, Panel (e) of Figure B3 shows that after adjusting for these age effects, there is no detectable impact of work requirements on any benefit receipt in the case.

These figures also highlight the relative importance of the first and second differences in the validity of the empirical design. Comparing panels (d) and (e) of Figure B2, for instance, it is clear that the first difference (i.e., comparing just above and below the age-6 cutoff) provides the key identifying variation for the design, while netting out the age-5 effect is only a minor correction.

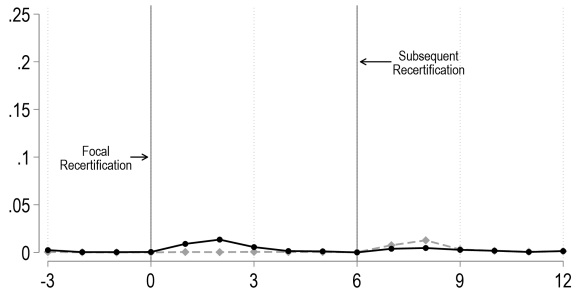
In Table B1, we perform a similar exercise with labor supply outcomes one quarter after the recertification. Here, we compare the mean outcomes of cases where the youngest child is within 5 months of the given age-at-recertification cutoff by regressing the given outcome on an indicator equal to one if the case is above the age cutoff at recertification. There are no statistically or economically meaningful differences in labor supply outcomes across various age cutoffs, including age 6 when work requirements begin. As a result, the correction for the age effects are not as important for labor supply outcomes, but we include them nonetheless for consistency.

[28] See Section 5.1 for a detailed explanation on how to read these types of event-style plots.

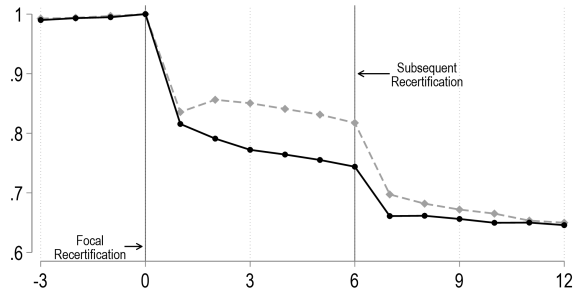
Figure B1: Effects of General Work Requirements on Benefit Outcomes – **Full Sample, Single Difference, No Controls**



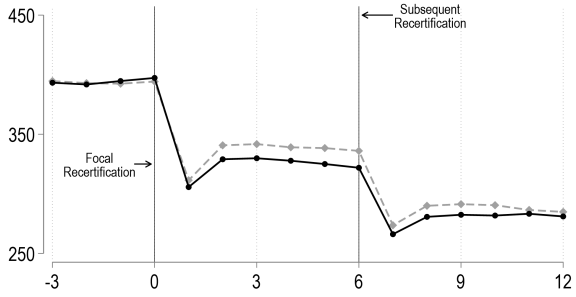
(a) Referred to E&T



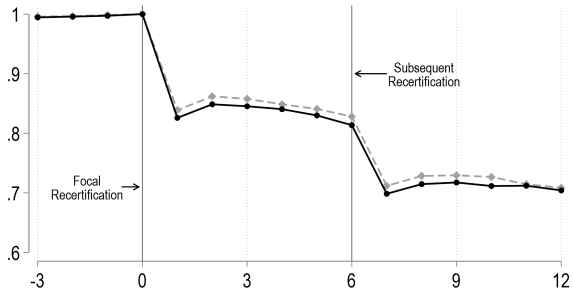
(b) First-Time Participation in E&T



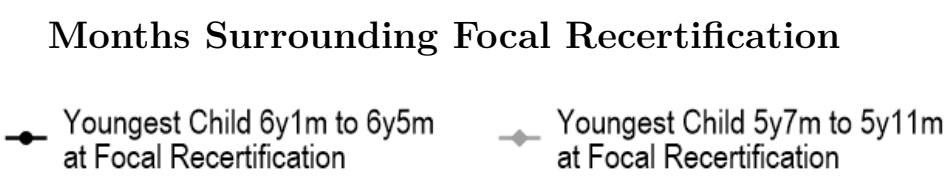
(c) Whether Head is Receiving SNAP



(d) SNAP Amount

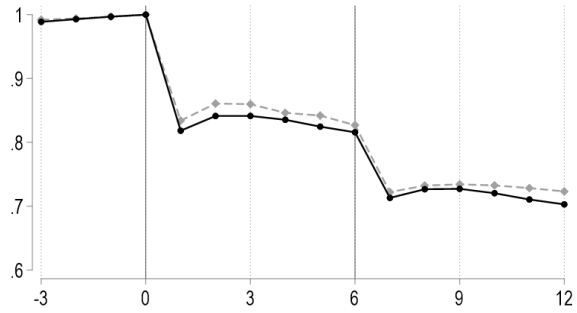


(e) SNAP Receipt

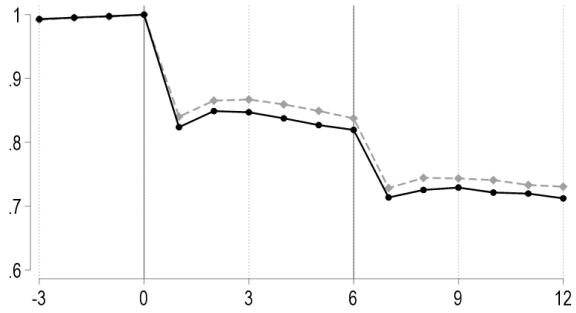


Notes: Figure displays simple averages of the given outcome for cases with a youngest child narrowly older than 6 at recertification (the solid black line) and younger than 6 (the dashed grey line). These lines use no regression adjustment for neither covariates, nor the placebo age-5 comparison group. The x axis is months relative to the focal recertification in period 0. For cases still on SNAP, the subsequent recertification occurs in period 6. The full sample is restricted to case-recertification combinations between 2012 and 2020, to cases with a single adult where the head of the case is receiving benefits at baseline, we can observe age-in-months for all children on the case, and the head of the case is not exempt from General Work Requirements by being too old/young, having a disability or caring for someone with a disability, or receiving TANF at baseline.

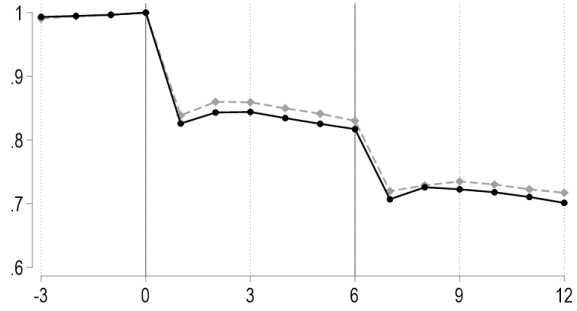
Figure B2: Effects of Narrowly Passing Various Age Cutoffs on Whether Head is Receiving SNAP – **Full Sample**



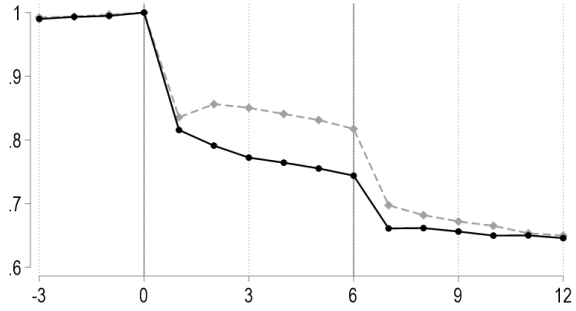
(a) Age-3 Cutoff



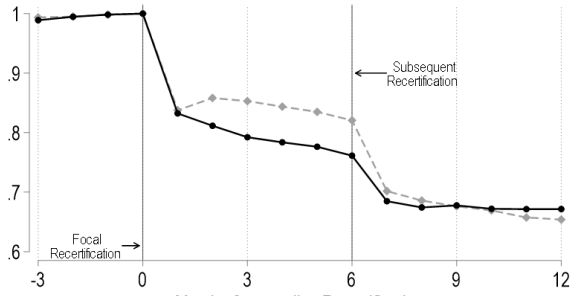
(b) Age-4 Cutoff



(c) Age-5 Cutoff



(d) Age-6 Cutoff



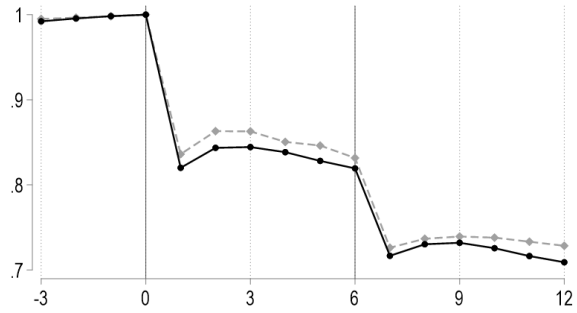
(e) DD-corrected Averages (using age-5 counterfactual)

Months Surrounding Focal Recertification

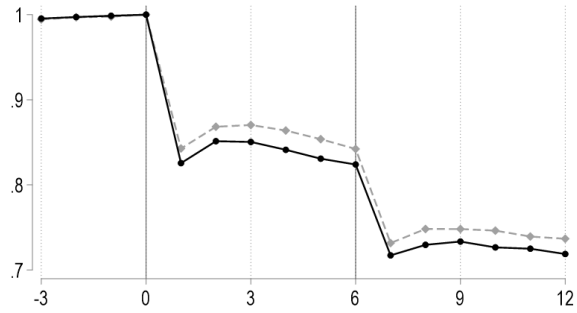
Just above cutoff Just below cutoff

Notes: Panels (a) through (d) display raw averages of the given outcome for cases with a youngest child narrowly older than the given age cutoff at recertification (the solid black line) and younger than the given age cutoff (the dashed grey line). The x axis is months relative to the focal recertification in period 0. For cases still on SNAP, the subsequent recertification occurs in period 6. Panel (e) displays regression-adjusted averages of the given outcome for cases with a youngest child narrowly older than 6 at recertification (the solid black line) and younger than 6 (the dashed grey line). Panel (e) averages remove placebo estimates for cases with the youngest child narrowly turning 5 at recertification using the method described in Section 4. The full sample is restricted to case-recertification combinations between 2012 and 2020, to cases with a single adult where the head of the case is receiving benefits at baseline, we can observe age-in-months for all children on the case, and the head of the case is not exempt from General Work Requirements by being too old/young, having a disability or caring for someone with a disability, or receiving TANF at baseline.

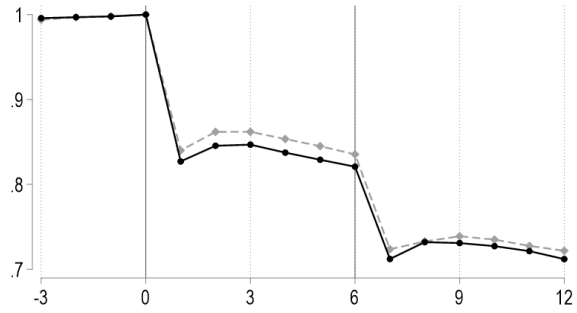
Figure B3: Effects of Narrowly Passing Various Age Cutoffs on SNAP Receipt – **Full Sample**



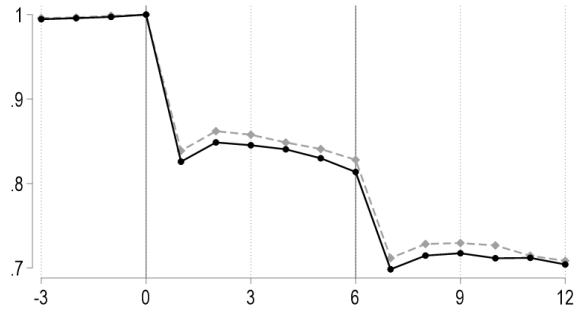
(a) Age-3 Cutoff



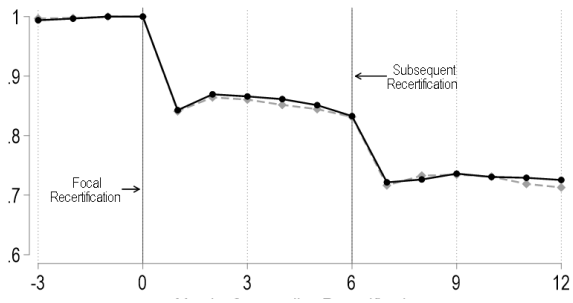
(b) Age-4 Cutoff



(c) Age-5 Cutoff



(d) Age-6 Cutoff



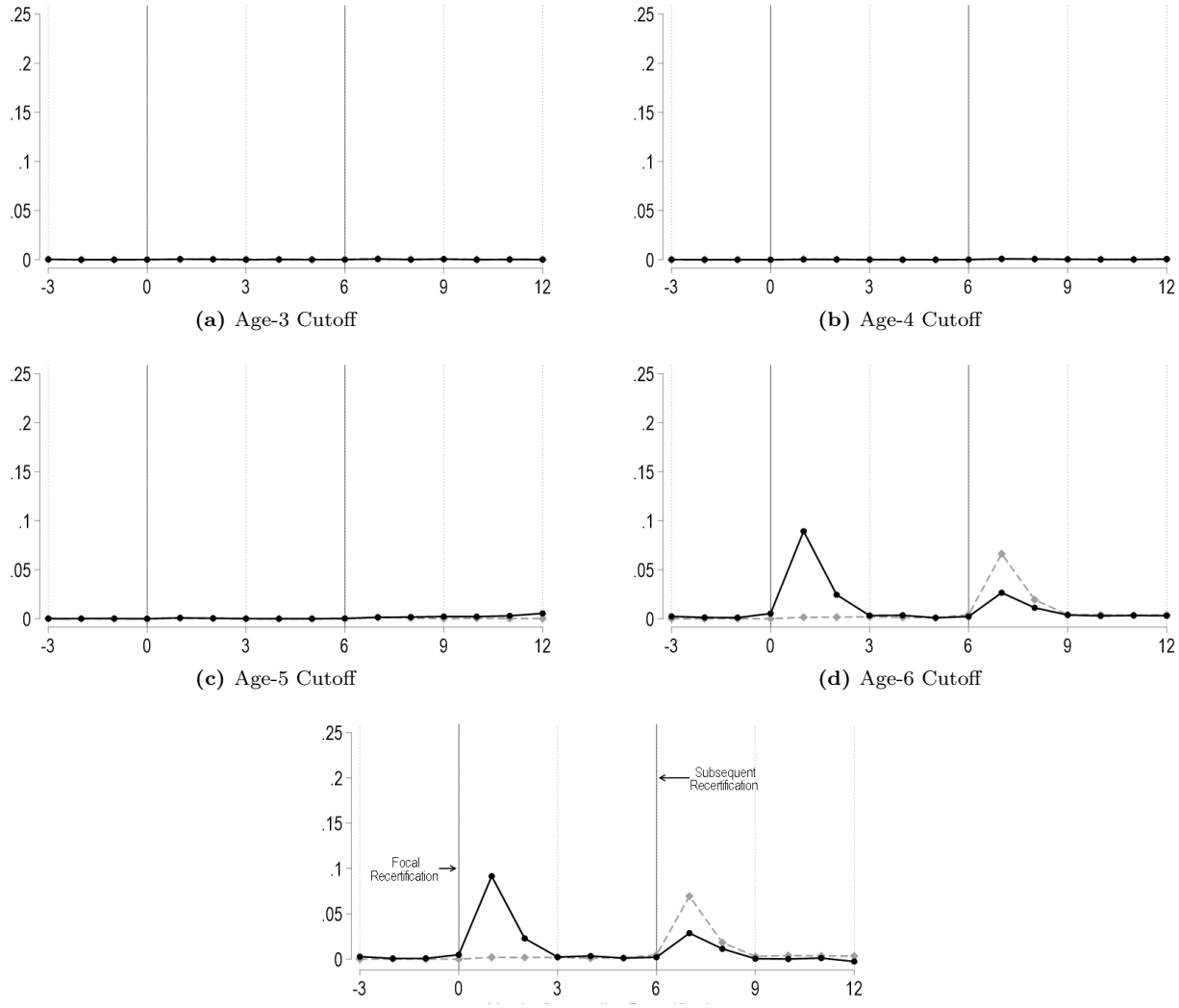
(e) DD-corrected Averages (using age-5 counterfactual)

Months Surrounding Focal Recertification

Just above cutoff Just below cutoff

Notes: Panels (a) through (d) display raw averages of the given outcome for cases with a youngest child narrowly older than the given age cutoff at recertification (the solid black line) and younger than the given age cutoff (the dashed grey line). The x axis is months relative to the focal recertification in period 0. For cases still on SNAP, the subsequent recertification occurs in period 6. Panel (e) displays regression-adjusted averages of the given outcome for cases with a youngest child narrowly older than 6 at recertification (the solid black line) and younger than 6 (the dashed grey line). Panel (e) averages remove placebo estimates for cases with the youngest child narrowly turning 5 at recertification using the method described in Section 4. The full sample is restricted to case-recertification combinations between 2012 and 2020, to cases with a single adult where the head of the case is receiving benefits at baseline, we can observe age-in-months for all children on the case, and the head of the case is not exempt from General Work Requirements by being too old/young, having a disability or caring for someone with a disability, or receiving TANF at baseline.

Figure B4: Effects of Narrowly Passing Various Age Cutoffs on Whether Head is Referred to E&T – **Full Sample**



(a) Age-3 Cutoff

(b) Age-4 Cutoff

(c) Age-5 Cutoff

(d) Age-6 Cutoff

(e) DD-corrected Averages (using age-5 counterfactual)

Notes: Panels (a) through (d) display raw averages of the given outcome for cases with a youngest child narrowly older than the given age cutoff at recertification (the solid black line) and younger than the given age cutoff (the dashed grey line). The x axis is months relative to the focal recertification in period 0. For cases still on SNAP, the subsequent recertification occurs in period 6. Panel (e) displays regression-adjusted averages of the given outcome for cases with a youngest child narrowly older than 6 at recertification (the solid black line) and younger than 6 (the dashed grey line). Panel (e) averages remove placebo estimates for cases with the youngest child narrowly turning 5 at recertification using the method described in Section 4. The full sample is restricted to case-recertification combinations between 2012 and 2020, to cases with a single adult where the head of the case is receiving benefits at baseline, we can observe age-in-months for all children on the case, and the head of the case is not exempt from General Work Requirements by being too old/young, having a disability or caring for someone with a disability, or receiving TANF at baseline.

Table B1: Estimates of Narrowly being Above Given Age Cutoff on Labor Supply One Quarter Later

	Placebo Cutoffs			Treatment Cutoff
	Age 3	Age 4	Age 5	Age 6
Employed	-0.000	0.010*	0.006	0.004
	(0.006)	(0.006)	(0.006)	(0.006)
	[0.404]	[0.407]	[0.407]	[0.412]
Real Quarterly Earnings	33.0	48.2*	-18.5	7.1
	(26.8)	(28.9)	(30.0)	(31.6)
	[1,419.8]	[1,489.6]	[1,505.5]	[1,506.1]
N	16,443	15,398	14,198	12,849

Notes: Each cell in this table reports estimates from separate regressions of the outcome variable specified in the row label onto an indicator equal to one if the youngest in the case is older than the age in the column header. Standard errors (in parentheses) are clustered by case. Baseline averages of the outcome for cases below the given cutoff are in brackets. The full sample is restricted to case-recertification combinations between 2012 and 2020, to cases with a single adult where the head of the case is receiving benefits at baseline, we can observe age-in-months for all children on the case, and the head of the case is not exempt from General Work Requirements by being too old/young, having a disability or caring for someone with a disability, or receiving TANF at baseline. * p<0.10, ** p<0.05, *** p<0.01

C Details of MVPF Calculation

The MVPF of eliminating the E&T Program is given by the formula $MVPF = \frac{WTP}{C+FE}$, where WTP is the willingness to pay, C is the cost of operating the program (including benefits), and FE is any fiscal externalities resulting from changes in behavior of marginal recipients. An MVPF value of greater than 1 indicates that the benefit of eliminating E&T to beneficiaries is greater than the cost of eliminating the program to the government; and, conversely, an MVPF value of less than 1 indicates that the cost of eliminating the requirement outweighs the benefits.

Starting with the numerator, WTP is the change in SNAP benefit amounts due to eliminating the E&T Program. Here, we use the IV-estimated change in benefit amounts resulting from being referred to E&T requirements. This is a $669 decrease over a 6-month period, or $111.50 per month on average.

To calculate the denominator, we need to estimate the change in government costs associated with eliminating the E&T Program. This will include the increase in cost because of more SNAP benefits paid out, the decrease in administrative costs from the costs of operating E&T, and any fiscal externalities. Starting with the cost of benefits themselves, we use the change in SNAP benefits paid due to E&T, which is $111.50, as described above.

Next, we estimate how administrative costs would change if the E&T Program were to be eliminated. Each year states are required to submit a state plan to the Food and Nutrition Service, which lays out what E&T Program components they plan to provide, whether the program will be mandatory or voluntary, how many participants they expect to have, how much various components of the program are estimated to cost, and other details about the program. While this plan is an estimate of what the state expects the program to look like over the coming year, we believe it is the best, state specific, source for estimating administrative costs of E&T. However, we provide alterative estimates from alternative sources below as well.

We use the mountain-plains state's plan from 2024. The state estimates $315,000 for the supervised job search component and $63,600 for participant reimbursements. For the projected 2,478 E&T participants, this comes out to $12.73 per E&T participant per month, or $11.32 after adjusting to 2021 dollars. We note that this estimate does not include other costs that might be associated with running an E&T Program, such as some staffing, so this is likely an underestimate.[29]

We lastly consider any fiscal externalities of eliminating the E&T Program. This includes any changes in income taxes paid as a result of labor supply changes. For those likely subject to E&T, we estimated an insignificant $37 dollar increase in real quarterly earnings (in Table 3), and the IV estimate is similarly insignificant. Thus, we argue that there will be no substantial change in government revenue.

Putting this all together, the monthly MVPF of eliminating E&T is $MVPF = 111.50/(111.50 - 11.32) = 1.11$.

[29] Furthermore, using national E&T spending and participation numbers from (U.S. Government Accountability Office, 2018), we estimate that the cost of running an E&T Program is $140.41 per month per E&T participant nationwide. We thus treat our estimate of $11.32 per E&T participant per month as a conservative estimate.