

A Helping Hand Goes a Long Way:
Long-Term Effects of Counselling and Support to Workfare Program Participants**

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Abstract: There is a growing realization that in order to help low-income households achieve self-sufficiency it is necessary to address both economic disincentives to work as well as behavioral barriers that prevent the poor from finding and retaining employment. To explore this empirically, we study the long-run impacts of the Self-Sufficiency Project (SSP) Plus experiment, which randomly assigned chronic welfare recipients to receive temporary work subsidies and intensive employment support services. We examine whether this intervention lead to permanent changes in individuals' socioeconomic trajectories. We link study participants to their federal tax records to follow them up to 20 years after random assignment. Compared to those receiving only the temporary work subsidies or no intervention, we find that the added support services of the SSP Plus program led to a large increase in full-time employment and an analogous decrease in the receipt of Social Assistance throughout the first decade post-intervention. We also find a permanent 20-27 percent increase in participants' annual earnings over the 20-year period. We show evidence consistent with the retention of jobs that are of higher quality as an important pathway of these long-term effects. Taken together, the results indicate that the intensive support services offered through the program significantly transformed the lives of these individuals.

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1. Introduction

In recent years, there has been a growing realization that in order to help low-income households achieve self-sufficiency it is necessary to address both economic disincentives to work—such as the high marginal effective tax rate imposed on welfare recipients’ employment earnings—as well as the psychosocial barriers that prevent the poor from finding and retaining employment.⁶ Practitioners who work with disadvantaged populations argue that for interventions to succeed they must take into consideration the stress and trauma caused by poverty, which in turn can affect individuals’ focus and persistence, as well as their ability to set and achieve goals and their engagement in job seeking (Babcock 2018). In other words, it is necessary to address both economic and behavioral barriers to address chronic unemployment.

Previous research finds that disadvantaged individuals’ access to intensive job search assistance and support services can substantially improve a host of labor market outcomes, notably employment and earnings (Kahn 2012; Crépon and van der Berg 2016; Card, Kluve, and Weber 2018). However, we have a limited understanding of how quality intensive support for participants of social assistance programs affect individuals’ lives in the long run, and whether these types of interventions lead to permanent changes in individuals’ socioeconomic trajectories. To the extent that intensive case management improves individuals’ attitudes, behaviour, and decision-making, which in turn increases the rates of job-finding and retention, it may help induce sustained long-term gains for disadvantaged participants in welfare-to-work settings.⁷

This paper examines the long-run impacts of the Self-Sufficiency Project (SSP) Plus program, one of the randomized controlled trials implemented as part of the Canadian federal government’s Self-Sufficiency Project, an innovative experimental demonstration conducted in the 1990s to test whether time-limited financial incentives for work and other supports could help long-term income assistance recipients achieve a permanent break from welfare.⁸ The SSP Plus study was carried out in the province of New Brunswick and assigned single

⁶ The financial (dis)incentives for work faced by low-income households are well-studied. See for instance the U.S. Negative Income Tax experiments of the 1970s, the large literature examining supplements delivered through the personal income tax system as refundable tax credits, such as the United States’ Earned Income Tax Credit (EITC) (e.g., Eissa and Liebman 1996; Meyer and Rosenbaum 2001; Hotz and Scholz 2006; Chetty, Friedman and Saez 2013; Hoynes and Patel 2018; Bastian 2020; Schanzenbach and Strain 2020), as well as demonstration projects implemented in the U.S. throughout the 1990s to test the employment effects of changes to the treatment of earnings within welfare systems and the offer of time-limited earnings supplements to low-income households (e.g., Blank, Card and Robins 1999; Michalopoulos 2005; Bitler, Gelbach, and Hoynes 2006; Kline and Tartari 2016).

⁷ There are some indications that behavioral and labor market interventions such as cognitive behavioral theory (CBT) can lead to short-term changes in behavior (e.g., Heller 2014; Heller et al. 2017; Blattman, Jamison, and Sheridan 2017). CBT explicitly seeks to influence the meta-cognition of individuals—the way they “think about thinking”—in order to manage learned, automatic behaviors that may be suitable to avoid victimization in a high-violence environment but are maladaptive in settings such as a school or a workplace (Heller et al. 2017; Blattman, Jamison, and Sheridan 2017). Heller (2014) finds that participation in a youth summer jobs program in Chicago led to short-term reductions in violent crime arrests among participants. A hypothesis for this finding is that the holding a summer job improved participants’ self-control, confidence, and ability to manage interpersonal conflicts.

⁸ Welfare programs are typically referred to as Income Assistance or Social Assistance in Canada. We use all terms synonymously.

parents who were long-term welfare recipients to one of three experimental groups: the “Plus” treatment arm, who were offered a generous—but time-limited—earnings supplement and intensive employment services; the “Regular” treatment arm, who were offered the same earnings supplement but did not have access to intensive employment services; or a control arm, who remained subject to the provincial Social Assistance system’s rules regarding the treatment of earnings and did not have access to intensive services. SSP Plus was designed to test the incremental impact of adding intensive employment services to the offer of an earnings supplement.⁹

In order to measure individuals’ socioeconomic trajectories over a long time horizon, we link the study participants to their federal tax records for the period 1992 to 2016 using individuals’ Social Insurance Numbers. This allows us to measure employment, earnings, and Social Assistance benefits receipt from two years before random assignment to 20 years afterwards, along with a rich set of additional socioeconomic information for each participant. To estimate long-run effects of the intensive employment support services offered through the SSP Plus program, we compare these outcomes between the SSP “Plus” and SSP “Regular” treatment arms; comparisons between these two groups, both of which were eligible to receive the earnings supplement, allows us to isolate the effect of employment services on our outcomes of interest.¹⁰

The employment and support services of the SSP Plus program led to a large 4.5 to 7.4 percentage point increase in the full-time employment rate of SSP Plus participants relative to the employment supplement-only eligible population up to 12 years following the start of the intervention. Most importantly, we find substantial and long-lasting average impacts of the program on participants’ earnings over the 20-year period following the intervention: participants’ earnings’ increase between 21 to 27 percent in proportional terms; in levels, the increase ranges from \$1,638 to 2,634 (2010 constant CAD) in the first decade following random assignment and these effects actually increase to \$2,816 well into the second decade. Finally, the improved economic trajectories of the SSP Plus program participants are mirrored by a 4.8 to 11.0 percentage points decrease in their receipt of Social Assistance throughout the first decade following random assignment. Taken together, the increase in full-time employment and earnings, along with the decrease in welfare receipt, indicate that the intensive employment services offered through the program considerably transformed the lives of these individuals.

To understand these long-lasting impacts, we explore whether the support services helped individuals obtain more desirable employment and jobs with greater career opportunities. First, we estimate a substantial increase in the number of jobs held by participants during the first four years of the intervention, consistent with the program’s ability to aid individuals in moving to “better” jobs over time or to find employment more

⁹ The other trials estimated the impact of the earnings supplement alone on long-term welfare recipients and recent applicants to welfare, respectively. These demonstration projects have been the subject of multiple studies. See e.g., Blank and Card (2000); Blank, Card, and Robins (2000); Robins and Michalopoulos (2001); Blundell (2002; 2006); Blundell and Hoynes (2004); Card and Hyslop (2005).

¹⁰ Comparisons between the Plus group and the control group generate estimates of the combined effects of the offer of the earnings supplement and the offer of employment services; these estimates are included in the appendix.

quickly after experiencing job loss. Second, in work currently in progress, we estimate whether SSP Plus program participants gain employment in larger firms and in firms with higher average pay; these results will inform whether the program induces participants land jobs at higher quality firms, that tend to offer more career opportunities and larger wage trajectories.¹¹ We do not, however, find evidence of effects on unionization coverage. Finally, we show suggestive evidence of moderately higher marriage rates among program participants relative to those in the other treatment arms. This outcome is consistent with the argument that, due to either improved relationship skills or ameliorated socioeconomic conditions, individuals were able to maintain more stable marital relationships (Kambourov, Siow, and Turner 2015).

This paper’s findings offer several important contributions to the literature. To our knowledge, our estimates of the impacts of employment services are for a longer period of time post-intervention than any previously reported in the literature.¹² A consensus of prior studies summarized in Kahn (2012), Crépon and van der Berg (2016), and Card, Kluve, and Weber (2018), is that job search assistance and other employment services are effective at increasing employment rates and earnings in the first three years following program participation; due to data limitations there is very limited evidence on earnings, employment, and other dimensions of individuals’ socioeconomic trajectories more than five years after services are delivered.¹³ Our study provides compelling evidence that intensive employment support services offered to long-term welfare recipients can have substantial effects on individuals’ employment and earnings up to two decades following the start of the intervention. The positive long-term impacts of SSP Plus services on employment and earnings suggest that relatively short-lived interventions may have long-lasting impacts by affecting the quality of employment throughout the post-intervention period. These results are in line with Price and Song (2018)’s assessment of the long-term impacts of the Seattle/Denver Negative Income Tax experiment in the US. They find that individuals reduced their work effort while the experiments were ongoing and subsequently went back to work in jobs that were worse in terms of non-pecuniary amenities and possibly were less cognitively demanding but more physically taxing. Working in “worse” jobs ultimately resulted in higher rates of disability applications and earlier retirement.

Our findings also contribute to the literature regarding the role of caseworkers in the provision of services to low-income households. Many government agencies rely on the caseworkers to support the labor

¹¹ Robins, Michalopoulos, and Foley (2008) show in the four-year follow-up of the SSP Plus demonstration that SSP Plus participants were 9.4 percentage points more likely to have jobs with wage rates above two (2) dollars above the minimum wage than regular SSP participants, a 42 percent difference in proportional terms.

¹² Card, Kluve, and Weber (2018) undertake a meta-analysis of estimates of the impacts of active labor market programs (ALMPs) on employment drawn from more than 200 studies using experimental and observational methods, although only a handful of these studies report impacts from more than five years after program completion. A takeaway from studies assessing the long-term effects of employment services is that program impacts may change in magnitude and significance over time, which in turn has important implications for assessments of programs’ benefits and cost-effectiveness. See Manoli and Patel (2019) for a summary of recent evidence for the U.S.

¹³ Couch (1992), Hotz et al. (2006), Schochet et al. (2006), and Manoli et al. (2018) assess the impacts of active labour market programs up to 10 years following program participation.

market reintegration of out-of-work individuals; these caseworkers play an important role in shortening the duration of joblessness (e.g., Huber, Lechner, and Mellace 2017; Michaelides and Mueser 2020; Schiprowski 2020; Schneider and Trenkle 2020). There are relatively few studies, however, that consider whether certain caseworker practices produce better outcomes for individuals receiving services.¹⁴ Our study points to the role of intensive case management provided both during and after job search in sustaining positive employment and earnings effects that might otherwise have faded, confirming earlier findings of the SSP Plus demonstration's impacts in the short- and medium-term (Quets et al 1999; Robins, Michalopoulos, and Foley 2008).¹⁵

Our work also informs the literature on welfare reform and the financial (dis)incentives for work faced by low-income households. A large literature examines earnings supplements delivered through the personal income tax system as refundable tax credits, the archetypal example of which is the United States' Earned Income Tax Credit (EITC) (e.g., Eissa and Liebman 1996; Meyer and Rosenbaum 2001; Hotz and Scholz 2006; Chetty, Friedman and Saez 2013; Hoynes and Patel 2018; Bastian 2020; Schanzenbach and Strain 2020). The consensus from this literature is that the EITC has large extensive margin effects—inducing single mothers to enter the labour force—but small intensive margin responses due to information or adjustment frictions.¹⁶ Our findings indicate that intensive case management provided both during and after job search are influential in addressing these information and adjustment frictions in a sustained manner, consistent with the earlier literature examining the SSP Plus program. The article is organized as follows. Section 2 provides contextual information of the study population and describes the intervention. We follow with a description of our data sources in Section 3. Section 4 discusses the experimental design and empirical methodology. Section 5 presents the central empirical results of our study. Finally, Section 6 concludes with a discussion of findings and their broader implications.

2. Context and Program

The Self-Sufficiency Project (SSP) was a welfare-to-work demonstration project implemented by the Canadian government starting in the early 1990s, a period which saw sharp increases in welfare caseloads, which peaked in 1994 with 14% of all Canadians receiving welfare (Kneebone and White, 2014). Budget deficits at both the federal and provincial levels of government grew starkly as a result. The Self-Sufficiency Project was devised by federal policymakers to test whether changes to financial incentives could help single parents on welfare find work and reduce their reliance on Social Assistance. Policymakers assumed that most long-term welfare recipients had low earnings potential because of extended absences from the workforce and limited

¹⁴ Riccio et al. (1994) and Schrivener et al. (2001) are exceptions. Both study experiments that vary inputs into the case management production function (namely the caseworker-to-client ratio and the degree of caseworker specialization).

¹⁵ Riddell and Riddell (2020) also show that the experimental evidence of the broader SSP demonstration should be reassessed as Social Assistance policy changes implemented during the SSP evaluation period implied that the control group's behavior did not provide an appropriate counterfactual.

¹⁶ Kleven (2019) challenges this consensus, arguing that welfare reforms implemented in the 1990s are responsible for the increases in single mothers' employment rates that have been incorrectly attributed to the effects of EITC.

educational attainment. For many single parents, leaving welfare for a minimum wage job would not result in any meaningful increase in their net household income since welfare benefits were reduced dollar-for-dollar with employment earnings beyond a small monthly exemption; leaving welfare for work also meant having to pay for childcare and transportation, which further reduced any increase in net income resulting from employment.

To overcome the disincentives facing long-term welfare recipients, the Self-Sufficiency Project would offer a generous, time-limited earnings supplement to randomly selected single parents in the provinces of British Columbia and New Brunswick who entered the workforce and stopped participating in Social Assistance. It was hoped that welfare leavers' wages would increase over time, thereby making work more attractive than welfare even after the supplement had ended. The Self-Sufficiency Project featured three distinct studies: the "Recipient" study carried out in New Brunswick and British Columbia, which examined the impact of the supplement offer on long-term welfare recipients; the "Applicant" study, which took place in British Columbia only and assessed whether a supplement for long-term recipients would incentivize new welfare applicants to stay in the caseload for longer in order to become eligible for it; and the "Plus" study in New Brunswick, which estimated the incremental effects of adding intensive employment support services to the offer of the earnings supplement.

Recruitment into the SSP Plus experiment began in November 1994 and ended in March 1995. A total of 892 single parents who were long-term welfare recipients (defined as receiving Social Assistance benefits for at least 11 of the 12 preceding months at the time of the baseline survey) were recruited into the experiment: 293 were randomly assigned to the Plus treatment group, 296 to the Regular treatment group, and the remaining 303 to the control group. The offer of the supplement was made following random assignment, after which time Plus and Regular group members had 12 months to initiate the supplement by finding full-time work and leaving welfare. Once the supplement payments had started, "initiators" in the Plus and Regular groups were eligible to receive the earnings supplement in any of the subsequent 36 months in which they worked full-time.¹⁷ The SSP earnings supplement was calculated on a monthly basis to be equal to half the difference between actual earnings and a targeted level of earnings. For the SSP Plus study, the targeted level of earnings was equivalent to \$30,600 (current CAD) per year in 1994; an individual working 35 hours a week for 52 weeks at the then-minimum wage of \$5 per hour would receive an earnings supplement of \$10,750, which added to the actual earnings of \$9,100 would result in a gross annual income of \$19,850. "Non-initiators"—those Plus or Regular group members who were unable to find full-time work within 12 months following random assignment—became ineligible to receive the supplement and reverted to the standard treatment of earnings within Social Assistance.

¹⁷ Full-time work is defined as an average of 30 hours per week during a month. In any 12-month period, supplement initiators could work less than full-time in up to two months and have their supplement reduced proportionately.

SSP Plus services were delivered by a non-profit organization, Family Services Saint John, Inc., that had been contracted to run both the Recipients and Plus studies in the province of New Brunswick. Shortly after random assignment, Plus and Regular group members were invited to separate information sessions held at the SSP offices that had been opened in the cities of Saint John and Moncton and were staffed by employees of Family Services Saint John, Inc. The purpose of the information sessions was to explain how the earnings supplement worked and to encourage attendees to take advantage of the supplement offer by finding a full-time job and leaving welfare within one year of random assignment. SSP office staff followed up separately with study participants who did not attend the information sessions to provide information one-on-one at home or over the phone. The designers of the SSP experiment wanted to ensure that individuals who were offered the earnings supplement correctly understood the incentives they faced and that labour supply responses were not attenuated by information frictions. To that end, study participants were surveyed to assess their knowledge of the supplement: 90.5% of Plus group members and 87.5% of Regular group members understood that with the earnings supplement they would be better off financially leaving welfare for full-time work (Quets et al. 1999), at least during the three years of subsidy eligibility.

During the first year following random assignment, SSP staff occasionally contacted Regular group members over the telephone to encourage them to take advantage of the supplement offer. SSP staff could and did refer Regular group members to employment services offered by government agencies and community organizations that were available to all welfare recipients; many of these referrals happened following supplement information sessions. Provincial caseworkers could also refer study participants on welfare to services available in the community. Plus and Regular group members who found a full-time job within a year of random assignment would visit the SSP offices and meet with a staff person to confirm their eligibility and initiate the supplement. Ongoing payments of the earnings supplement was handled by an out-of-province contractor that processed paystubs mailed in by study participants.

Plus group members received employment support services directly from SSP staff at the SSP offices, as well as at home, and over the phone. Participation in these employment services was voluntary, and Plus group members could choose to participate in all, some, or none of the activities. The employment services on offer for Plus recipients included group activities, such as job club workshops, and personalized offerings, such as employment planning and resume drafting. Individuals' participation in activities was recorded in the SSP

case management IT system. Table 1, which is reproduced from Quets et al. (1999), details the share of Plus group members who participated in different SSP Plus service offerings: nearly all Plus group members completed an employment plan, and approximately two-thirds received resume help, job coaching, and job leads; only one-quarter of Plus group members participated in a job club workshop. In the first year after random assignment, all Plus group members could access the employment services through the SSP offices. Plus group members who initiated the earnings supplement could continue to receive services for the duration of the 36 months for which they were eligible to receive the supplement, even after obtaining a full-time job. Those who did not initiate the supplement stopped receiving SSP Plus services 12 months after random assignment and thereafter could only access services available to all welfare recipients in the community.

Because of the availability of other employment services delivered by government agencies and other organizations in the community, SSP staff undertook considerable effort to encourage Plus group members to participate in the SSP Plus services available to them and to ensure that those services were qualitatively superior to offerings available elsewhere. One service uniquely available to Plus group members was the one-on-one “job coaching” provided by SSP staff; every Plus group member was assigned a job coach following the first information session. In program documents, the role of the job coach was described as serving as a “counsellor, advisor, advocate, and motivator” (Price 1995, p.3) who provided proactive intensive case management to those SSP Plus members. When Plus group members were looking for work, job coaches could help prepare them for interviews, update their resumes, and provide encouragement and feedback before and after meetings with prospective employers. Once full-time work was secured and the earnings supplement initiated, job coaches continued to reach out to Plus group members, offering assistance and advice for retaining employment and advancing careers. Job coaches helped supplement initiators to navigate conflicts with coworkers or bosses and

Table 1: Participation in SSP Plus Activities

Activity	Percentage	Number
Completed employment plan	94.2	276
Used resume service	68.6	201
Attended job club	25.3	74
Received job coaching	71.3	209
In person	31.7	93
By phone	63.8	187
Received job leads	61.4	80
In person	10.6	31
By phone	57.3	168
By mail	22.5	66
N		293

provided encouragement to ask for promotions or raises. Job coaches also sought out better employment opportunities by canvassing business owners and managers in the community; leads were shared with all Plus group members. Although job coaches provided emotional support and informal counselling to help boost Plus group members' self-esteem and confidence, they did not formally provide mental or behavioural health services; Plus group members who reported serious issues involving mental illness, domestic violence, or substance use were referred to specialized providers in the community.

A survey administered 18 months after random assignment confirmed that SSP staff had been successful in creating a "service differential" between Plus group members on the one hand and Regular members on the other: 47.9% of Plus group members reported participating in job search activities, compared to 31.9% of Regular group members (Quets et al. 1999; Robins, Michalopoulos, and Foley 2008). In focus group sessions held in 1996 and 1997, Plus group members spoke highly of Plus services and praised the dedication and empathy of SSP office staff. Regular group members, in contrast, described difficulties in accessing services in the community and commented on the indifference of provincial Social Assistance caseworkers who in some instances failed to respond to requests for referrals to services (Bancroft and Taylor-Lewis 1997).

3. Data

3.A. Data Sources and Construction

To estimate the long-run effects of SSP Plus service, the baseline survey of study participants was linked using Social Insurance Numbers to federal tax records. These records include T1 income tax filings submitted by study participants or their spouses or common-law partners (when such relationships exist), T4 forms submitted by firms on behalf of employees, and T5007 statement of benefit forms submitted by provincial governments to the federal government on behalf of welfare recipients. Whenever possible, linkages are made for the two calendar years preceding random assignment and up to 20 years afterwards. The baseline survey, which was administered by Statistics Canada enumerators prior to random assignment, collected information about respondents' demographics, family backgrounds, employment histories, use of childcare, and attitudes towards work and welfare. The baseline survey was completed by all study participants. Further information about the administrative data and the linkage process can be found in the data appendix.

Table 2: Data Linkage Rates

	SSP Plus (1)	Regular SSP (2)	Control (3)	SSP Plus – Control [(1)-(3)] (4)	Reg. SSP– Control [(2)-(3)] (5)	SSP Plus – Reg. SSP [(1)-(2)] (6)
Years 1-4	0.987	0.987	0.993	-0.006 (0.006)	-0.006 (0.007)	0.000 (0.007)
Years 5-8	0.964	0.972	0.976	-0.012 (0.012)	-0.004 (0.012)	-0.008 (0.013)
Years 9-12	0.946	0.947	0.949	-0.003 (0.015)	-0.002 (0.016)	-0.001 (0.016)
Years 13-16	0.892	0.914	0.903	-0.012 (0.022)	0.010 (0.021)	-0.022 (0.022)
Years 17-20	0.871	0.873	0.893	-0.022 (0.024)	-0.021 (0.024)	-0.001 (0.026)
N	293	296	303			

Notes: Standard deviation in brackets; cluster robust standard errors in parentheses. Share of baseline sample linked to T1H by calendar year relative to year of random assignment (year=1).

A concern with linking study participants to their tax filings is the possibility of bias arising from differential rates of tax filing across the Plus, Regular, and control groups, particularly if tax filing is correlated with employment status or earnings. Table 2 lists the linkage rates for study participants to records in Statistics Canada’s T1H historical personal master file, which includes all T1 income tax forms filed by study participants: each estimate represents the average annual filing rate over four-year time periods. The average annual matching in the first four years following random assignment is above 98% for the Plus, Regular, and control groups. The high rates of tax filing among lone parent welfare recipients is likely attributable to the fact that tax filing is required to receive generous federal child benefits and other refundable tax credits. The average annual match rate declines over time for all three groups, although the rate remains high—between 87% and 90%—even 17 to 20 years after random assignment. There are no statistically significant differences in the match rates between the Plus, Regular, and control group members during any four-year period following random assignment.

Table 3: Balance Tests

	SSP Plus	Regular SSP	Control	SSP Plus – Control [(1)-(3)]	Reg. SSP– Control [(2)-(3)]	SSP Plus – Reg. SSP [(1)-(2)]
	(1)	(2)	(3)	(4)	(5)	(6)
Share on social assistance	0.997	1.000	0.997	0.000 (0.985)	0.003 (0.318)	n/a (0.318)
Earnings (constant 2010 CAD)	1,100	1,400	1,500	-321 (0.142)	-51 (0.831)	n/a (0.228)
N	293	296	303			

Notes: Standard deviation in brackets; cluster robust standard errors in parentheses. Although baseline survey responses are available for all study participants and held by Statistics Canada, certain summary statistics cannot be reported due to Statistics Canada's rules for small cell suppression. n/a = summary statistics suppressed by Statistics Canada.

To investigate whether the services offered through SSP Plus affected the quality of employment found by Plus group members, additional variables were constructed either from T1 filings or from Statistics Canada's Longitudinal Worker File, a linked employee-employer database. The first employment quality variable under consideration is an indicator for paying union dues, which is equal to one if study participants deduct annual fees paid to a union or a professional membership organization from the income on their T1 filing. The second is a variable that records the number of firms that a study participant works for over the course of a calendar year; this variable is derived from summing the number of unique firm identifiers associated with a study participant each year in the Longitudinal Workers File. Finally, the length of job tenure is a variable that records the number of calendar years that a study participant is employed by a firm; in instances where there are more than one firm, the length of job tenure reported is for the firm with which the study participant has been employed for the greatest number of calendar years.

3.B. Baseline and Post-Intervention Descriptive Statistics

Baseline balance is presented in Appendix Table A1. Mean values for the Plus, Regular, and Control groups are shown, as well as differences in means and standard errors of these differences.¹⁸ Over 95% of study participants were women; all participants were parents, with 61% having 1 child, 29% having two children, and the remainder having 3 or more children. Close to half of study participants were between the ages of 19 and 29 at the time of random assignment, another third were 30-39 years old, 14% were 40-49 years old, and the

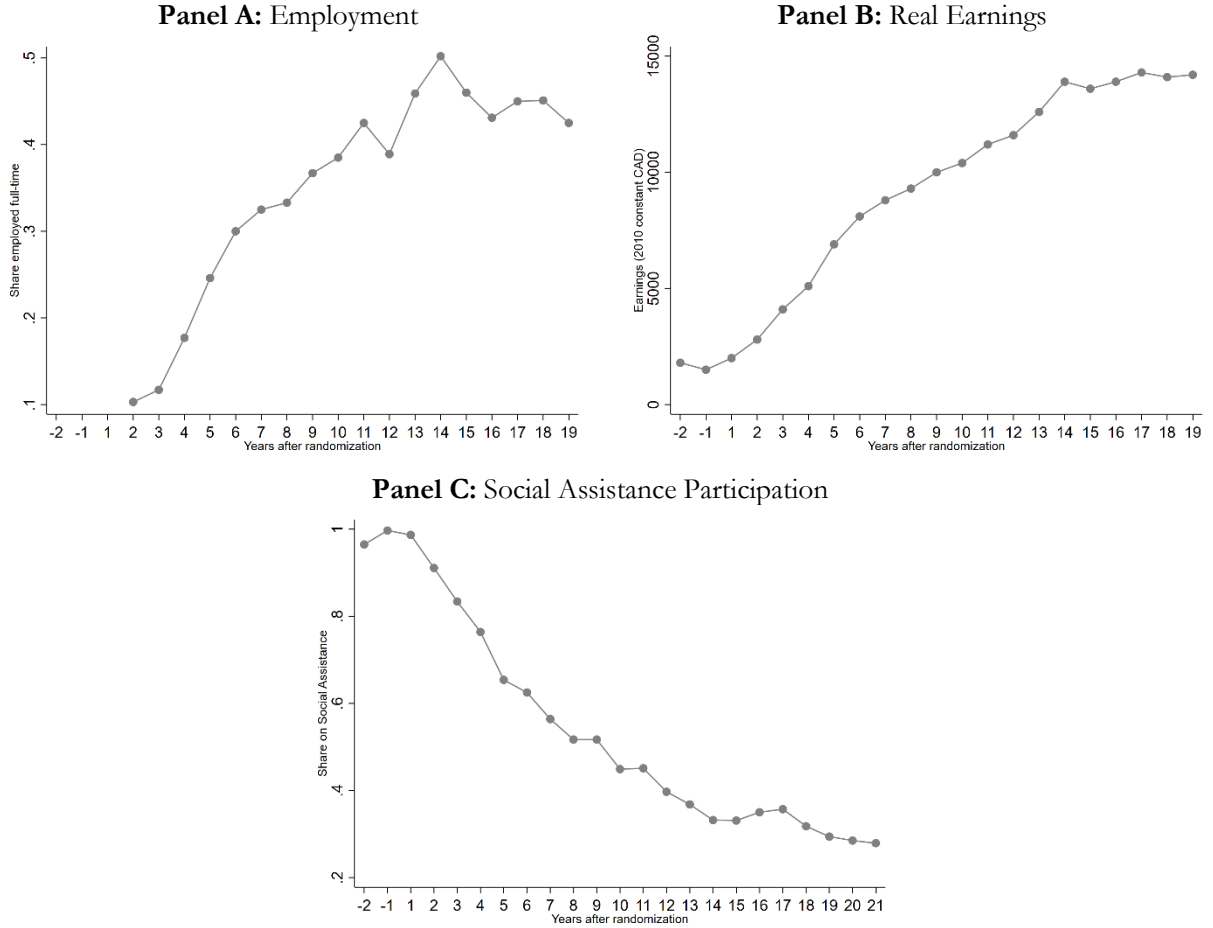
¹⁸ Although baseline survey responses are available for all study participants and held by Statistics Canada, many averages cannot be reported due to Statistics Canada's rules for small cell suppression. Accordingly, we reproduce the summary statistics table from Quets et al. (1999). 286 of 293 Plus group members, 288 of 296 Regular group members, and 288 of 303 control group members responded to the 18-month survey.

small remainder were 50 or older. 55% of participants had never been married; another 42% reported being separated, divorced, or widowed; a small number of study participants, around 2%, responded they were married or in a common-law relationship although they reported being single to the welfare authorities and were thus included in the SSP study. More than 90% of study participants had no more than a high school education, and two-thirds reported having a mother or a father who did not finish high school. With respect to participation in Social Assistance, approximately 20% of respondents had received welfare for 10-23 of the previous 36 months; 25% had received welfare in 24-35 of the previous 36 months, and 44% had received welfare in each of the 36 months prior. More than 90% of study participants reported they had ever held a paid job, with an average of almost 7 years worked. Around a quarter of study participants reported working at baseline, with 8% working 30 hours per week or more.

The table also shows balance between the two groups for multiple indicators. Consistent with the evidence reported on the short-run effects of the SSP program (e.g., Robins, Michalopoulos, and Foley 2008), there are some statistically significant differences in baseline characteristics across the Plus and Regular groups. Plus group members were less likely to have grown up in single family households or in households that received welfare. They were less likely to report not being able to find work because of limited educational attainment, and were more likely to be confident about finding trustworthy childcare. In some instances, these differences might imply that Plus group members were less disadvantaged than Regular group members. Other statistically significant differences in baseline characteristics pointed in the direction of being less able to take advantage of the supplement offer: Plus group members were more likely to have three or more children and to have children of younger ages compared to Regular group members. An F-test of the joint hypotheses of significance fails to reject the null hypothesis that all differences are zero. This test implies that randomization was successful at achieving statistically similar treatment and control groups at baseline.

For the purposes of illustrating the typical employment, earnings, and Social Assistance trajectories of individuals who were single parents on welfare in the early 1990s, Figure 1 shows the average rates of full-time employment, real earnings, and welfare receipt in the control group over the approximately 20-year time period in our study. Consistent with the conditions for participation in the program, the population of long-term welfare recipients (defined as receiving Social Assistance benefits for at least 11 of the 12 preceding months at the time of the baseline survey) had very low full-time employment rates even two years following the start of the intervention, but their employment trajectories improved considerably over the following years: the full-time employment rates of these long-term welfare participants were already 38 percent ten years later, and increased moderately in subsequent years (Figure 1, Panel A). Similarly, we observe substantial increases in the average earnings of these individuals over this long-term period (Panel B), as well as a large reduction in their Social Assistance participation rate (Panel C).

Figure 1: Employment, Earnings, and Social Assistance Participation Rate among SA Participants at Baseline



Notes: Fraction Employed, SSP+ Control Group, earned over 3*30*4.33*minwage). Long Term IA Reciprocity Rates, SSP Participants and Spouses: SSP and SSP+ Reciprocity Experiments – New Brunswick T1FF-T5007 Linked Data, Observations Unambiguously On Or Off IA.

4. Empirical Methodology

We estimate the average effects of the offer of employment support services on individuals' short and long-term socioeconomic outcomes. First, we graph means for every treatment arm in each year post-randomization to compare outcomes and describe patterns in the data. In line with previous studies, we show that the impacts for the SSP Regular group fade out after about five years, as labor market outcomes for the control group catch up. Second, in order to focus on the additional impact of the intensive support services, we estimate intent-to-treat (ITT) impacts of the SSP Plus group relative to the Regular SSP group offered the time-limited financial incentives only. These effects are estimated using the linear specification:

$$y_{it} = \beta_{P,\tau} T_{Plus,\tau} + \beta_{R,\tau} T_{Reg,\tau} + \delta_t + \varepsilon_{it} \quad (1)$$

where y_{it} is the outcome of interest for study participant i in year t ; $\beta_{P,\tau}$ is the coefficient on an indicator variable ($\Gamma_{Plus,\tau}$) for whether the participant is assigned to the Plus group in post-randomization year t belonging to a year group τ ; $\beta_{R,\tau}$ is the analogously defined coefficient on an indicator variable for assignment to the Regular group ($\Gamma_{Reg,\tau}$); and δ_t are year fixed effects. We report estimates for 4-year intervals τ post-treatment (i.e., years 1-4, 5-8, 9-12, 13-16, and 17-20); this allows us to effectively summarize the longitudinal patterns in the data and increase statistical precision.¹⁹ We cluster standard errors at the individual level.

The specification above is estimated using observations from all three treatment arms, such that $\beta_{P,\tau}$ and $\beta_{R,\tau}$ respectively represent the impacts of the SSP Plus and Regular treatments relative to the control group over each four-year period. The incremental impact of access to SSP Plus services is calculated by subtracting the impact of receiving only the offer of the earnings supplement from the impact of receiving both the offers of services and the supplement: $\beta_{Services,\tau} = \beta_{P,\tau} - \beta_{R,\tau}$. We compute standard errors for the difference based on the estimated coefficients and covariance matrix.

For the main outcome variables considered in this paper, there are no statistically significant pre-treatment differences between study groups in the unadjusted averages in the two years preceding random assignment. Recognizing the degree of imbalance in other baseline characteristics (see Section 3.B), we test whether regression adjustment affects the balance in pre-treatment employment and earnings outcomes.²⁰ Conditioning on baseline characteristics actually leads to an increase in baseline differences in the main outcomes of interest. As a result of this analysis, our preferred specification is one without regression adjustment for baseline differences; we report estimates from the adjusted specification in the online appendix.

5. Results

A central objective of the SSP Plus demonstration was to determine whether combining the offer of a time-limited earnings supplement with intensive employment support services would do more to help lone parents on Social Assistance find and keep jobs than offering the supplement alone. To that end, this section considers the long-term incremental impacts of SSP Plus support services on employment, full-time employment, and real earnings.

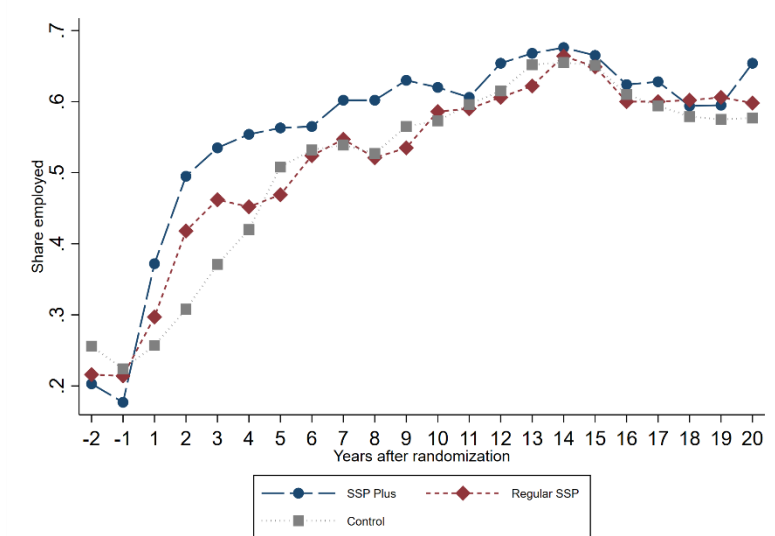
¹⁹ The grouping of years 1 through 4 following random assignment covers the 12-month supplement initiation window and most of the 36-months for which the supplement was available to initiators in the Plus and Regular groups.

²⁰ In the original SSP Plus reports published by the Social Research and Demonstration Corporation, estimates were adjusted using a linear regression specification that included as covariates study participants' average monthly earnings in the four quarters prior to random assignment, average monthly welfare payments in the four prior quarters, age, age squared, and indicators for being female, having less than a high school education, working at baseline, whether liking work, whether expected to be married in a year, and indicators for missing responses for any of the preceding variables.

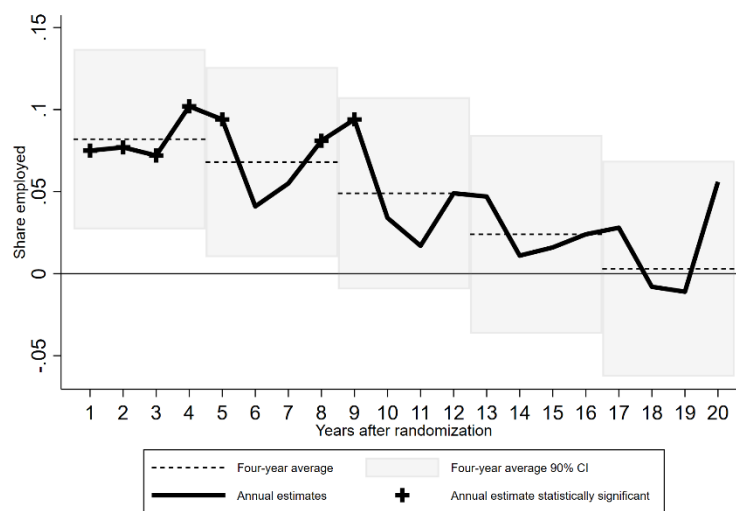
5.A. Effects of SSP Plus on Employment

Figure 2: Effects of the Self-Sufficiency Plus Program on Any Employment

Panel A: Trends by Experimental Arm



Panel B: Treatment Effect Estimates



Unadjusted specification, comparison of SSP Plus to Regular SSP

Notes: Panel A reports means for every treatment arm in each year pre and post-randomization. Panel B reports annual (solid line) and 4-year group-specific (horizontal dashed line segments) intent-to-treat (ITT) impact estimates of the SSP Plus program relative to the Regular SSP group based on estimates of equation (1). The difference in the annual rates of employment are overlaid as a solid black line with statistically significant annual differences at the 90% level denoted by a cross marker; 90% confidence intervals for four-year group specific estimates are represented by transparent grey bars.

Figure 2 provides an illustration of the trends in the annual rates at which Plus, Regular, and control group members were employed (defined as having total employment income equivalent to at least three months' earnings from full-time work at minimum wage). As shown in Panel A, individuals in both Plus and Regular groups were employed at higher rates than those in the control group in the first two calendar years after random assignment, which corresponds to the 12 month period during which time it was necessary to secure a full-time job in order to become eligible to receive supplement payments over the subsequent 36 months.²¹ Throughout the first decade post-randomization, the Plus group's employment rate is higher than the Regular group's; by the second decade post-randomization, the rates of employment for both the Regular and control groups catch up to the Plus group such that the employment rates for all three groups overlap from year 14 onward.

Panel B of Figure 2 presents the four-year average estimates of the incremental impact of SSP Plus services as horizontal dashed line segments spanning four-year periods; 90% confidence intervals for these estimates are represented by transparent grey bars, and the difference in the annual rates of employment are overlaid as a solid black line with statistically significant annual differences at the 90% level denoted by a cross marker. In years 1-4, Plus group members are on average 8.2 percentage points more likely to be employed (a 20% increase relative to Regular group members, of whom an average of 40% are employed over the four-year period). For years 5-8, Plus group members are 6.8 percentage points more likely to be employed (a 13% increase over the Regular group average of 52%). For years 9-12, 13-16, and 17-20, the estimates of the incremental employment impacts of SSP Plus services are positive in sign but smaller in magnitude and not statistically significant.

Instead of any employment, trends in the rates of annual full-time employment in the Plus, Regular and control groups are depicted in Panel A of Figure 3. In the first four years following random assignment, Plus and Regular group members are more likely to be employed full-time than are control group members, consistent with the effects of the incentive for full-time work provided by the earnings supplement.²² In the fifth year after random assignment, the rates of annual full-time employment drop steeply for both Plus and Regular groups but not for the control group: the timing of the decline corresponds to the termination of the earnings supplement and the reversion to the status quo treatment of earnings within the federal and provincial tax-and-transfer systems. From year 6 until year 15, the trend in the rates of full-time employment is increasing for all three groups, although there is little difference in the level of full-time employment between the Regular

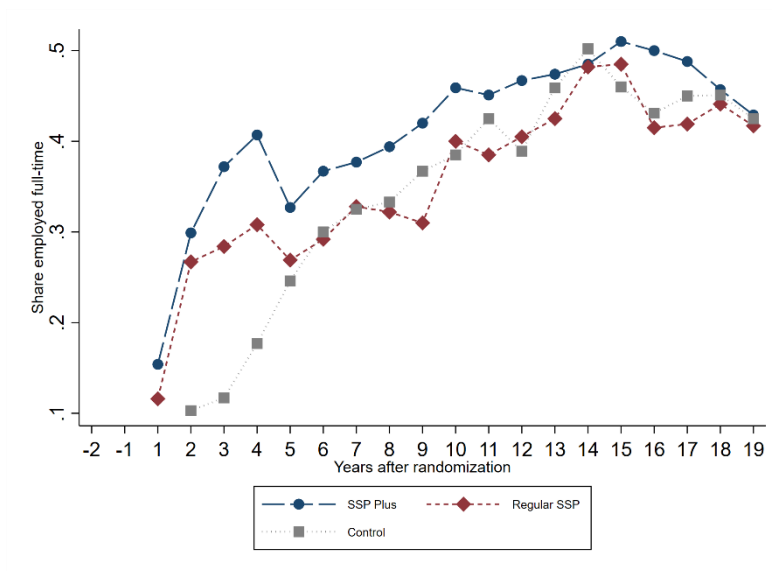
²¹ For most SSP Plus study participants, the 12-month window for initiating the earnings supplement spans part of year 1 and part of year 2 in our data. This is because our years after random assignment variable uses calendar years and most study participants' 12-month initiation windows spanned two calendar years. For study participants randomized in the last two months of 1994, 1994 is designated year 1 and 1995 is year 2; for study participants randomized in the first three months of 1995, 1995 is year 1 and 1996 is year 2.

²² Annual estimates are suppressed in cases where the number of study participants is small enough such that Statistics Canada's privacy policies prohibit the disclosure of estimates.

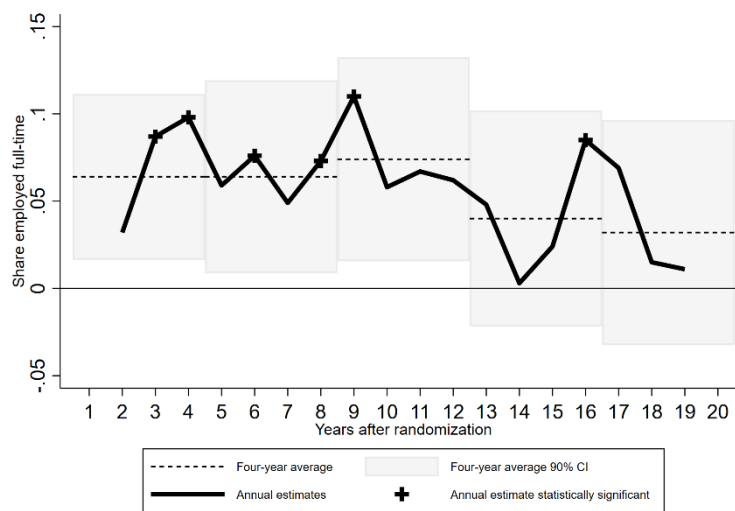
and control groups. The SSP Plus group experiences consistently greater full-time employment rates throughout most of this period.

Figure 3: Effects of the Self-Sufficiency Plus Program on Full-Time Employment

Panel A: Trends by Experimental Arm



Panel B: Treatment Effect Estimates



Unadjusted specification, comparison of SSP Plus to Regular SSP

Notes: Panel A reports means for every treatment arm in each year pre and post-randomization. Panel B reports annual (solid line) and 4-year group-specific (horizontal dashed line segments) intent-to-treat (ITT) impact estimates of the SSP Plus program relative to the Regular SSP group based on estimates of equation (1). The difference in the annual rates of employment are overlaid as a solid black line with statistically significant annual differences at the 90% level denoted by a cross marker; 90% confidence intervals for four-year group specific estimates are represented by transparent grey bars.

Table 4: Effects of the SSP Plus Program on Job Quality and Labour Mobility

	Dependent variables:			
	Employment	Full-Time Employment	Earnings (2010 \$)	Welfare Receipt
	(1)	(2)	(3)	(4)
Incremental impacts of SSP Plus services in:				
Years 1-4	0.082** (0.033)	0.064** (0.029)	1,683*** (651)	-0.059*** (0.023)
Years 5-8	0.068* (0.035)	0.064* (0.034)	2,010** (845)	-0.110*** (0.036)
Years 9-12	0.049 (0.036)	0.074** (0.036)	2,634** (1,048)	-0.059 (0.037)
Years 13-16	0.024 (0.037)	0.040 (0.038)	2,998** (1,358)	-0.022 (0.035)
Years 17-20	0.003 (0.040)	0.032 (0.039)	2,816* (1,494)	-0.003 (0.037)

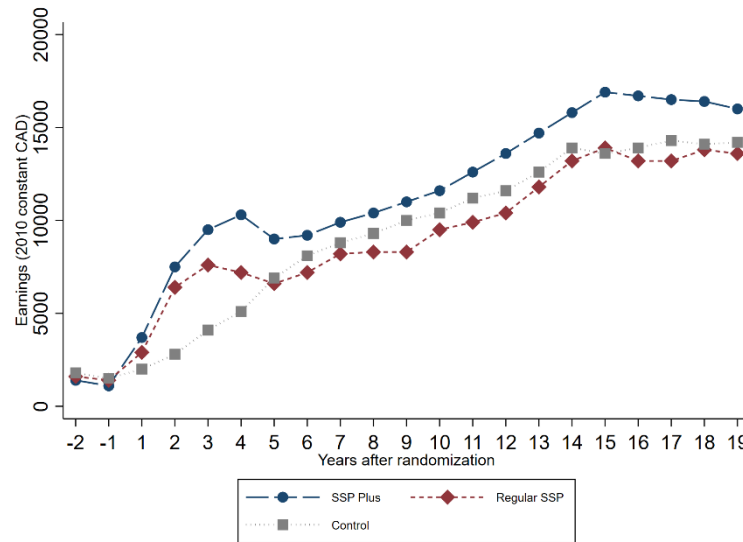
Notes: Intent-to-treat (ITT) impact estimates of the SSP Plus program relative to the Regular SSP group based on equation (1); standard errors clustered at the individual level. Statistically significant at *** 99 percent, ** 95 percent, and * 90 percent confidence levels, respectively.

Table 4, column 1 reports the point estimates and standard errors for the four-year impacts of SSP Plus services on the rates of full-time employment. The point estimates indicate that the full-time employment rate in the Plus group is higher than the Regular group's by 6.4 percentage points in years 1-4 (a 27% increase relative to the Regular group's four-year average of 24%), by 6.4 percentage points in years 5-8 (a 21% increase relative to the Regular group's four-year average of 30%), and by 7.4 percentage points in years 9-12 (a 19% increase relative to the Regular group's four-year average of 38%). The year-specific estimates show robust evidence of differential increases in employment between the third and ninth years post-randomization (Figure 3, Panel B). Point estimates of the incremental effects of SSP Plus services for years 13-16 and 17-20 post-random assignment are positive in sign but not statistically significant.

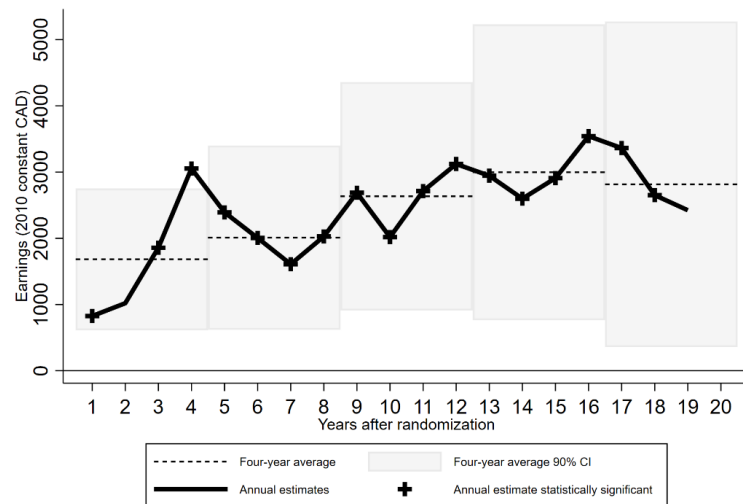
Panel A of Figure 4 depicts trends in the level of earnings for the SSP Plus, Regular, and control groups. During the time that the SSP demonstration was ongoing, average earnings for the Plus group were higher than the Regular group, and average earnings for both the Plus and Regular groups were higher than for the control group. Both the Plus and Regular groups experience a decline in average earnings between years 4 and 5, which as noted above corresponds to declines in employment and the termination of the SSP earnings supplement. After year 5, average earnings for the Regular group are no higher than the average earnings in the control

Figure 4: Effects of the Self-Sufficiency Plus Program on Individual Earnings

Panel A: Trends by Experimental Arm



Panel B: Treatment Effect Estimates



Unadjusted specification, comparison of SSP Plus to Regular SSP

Notes: Panel A reports means for every treatment arm in each year pre and post-randomization. Panel B reports annual (solid line) and 4-year group-specific (horizontal dashed line segments) intent-to-treat (ITT) impact estimates of the SSP Plus program relative to the Regular SSP group based on estimates of equation (1). The difference in the annual rates of employment are overlaid as a solid black line with statistically significant annual differences at the 90% level denoted by a cross marker; 90% confidence intervals for four-year group specific estimates are represented by transparent grey bars.

group; the Plus group, however, continues to have robust higher average earnings compared to both the Regular and control groups throughout the 20-year follow-up period.

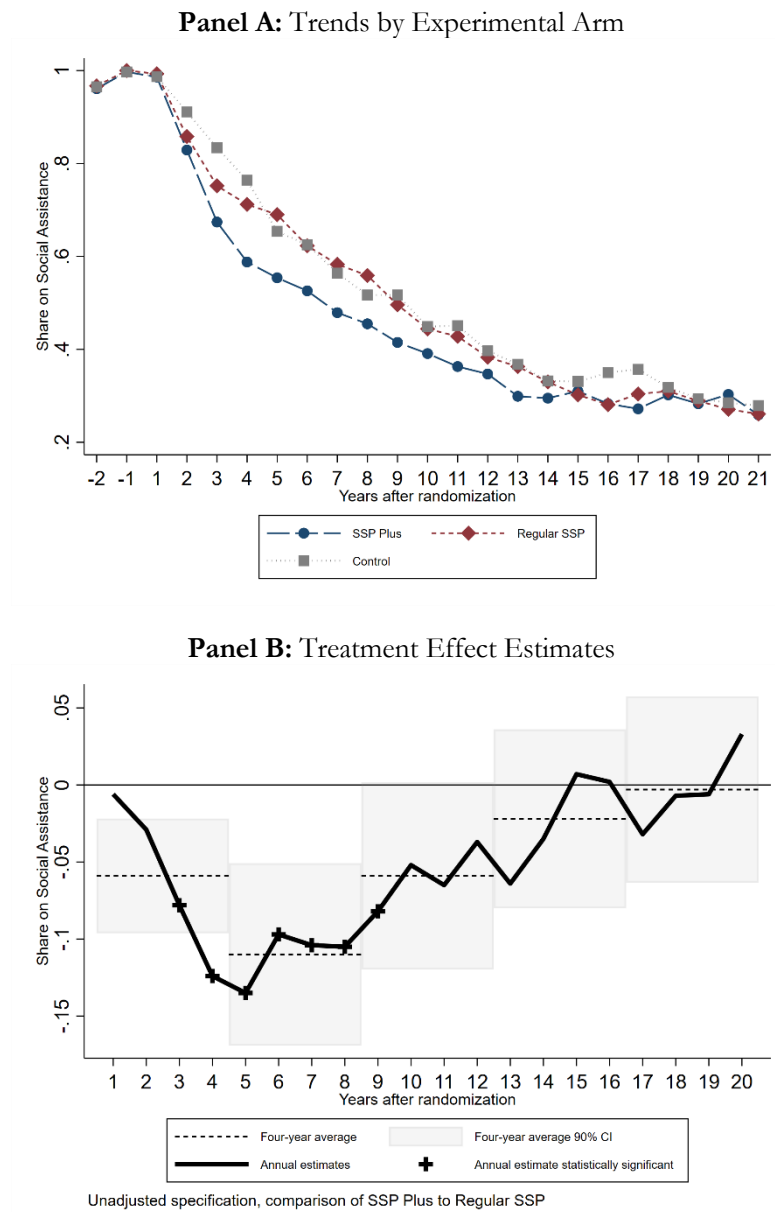
Turning to the estimates of the incremental impact of services presented in Table 4, the average effect of SSP Plus services leads to an increase in real annual earnings in years 1-4 by \$1,638 compared to the Regular group annual average of \$6,025, or a 27% relative increase. For years 5-8, Plus group members earn on average \$2,010 more per year than Regular group members who have average annual earnings of \$7,575, again a 27% relative increase. And for years 9-12, 13-16, and 17-20, the estimates of the average earnings effects are \$2,634, \$2,998, and \$2,816, respectively, representing increases of approximately 27%, 23%, and 21% relative to the average annual earnings of Regular group members.

5.C. Effects of SSP Plus on Welfare Receipt

The increase in Plus group members' rates of employment and earnings relative to Regular group members is mirrored by a decrease in welfare receipt. Annual trends in welfare receipt by experimental group are presented in Panel A of Figure 5: from year 1 through year 4 post-randomization, the rate of welfare receipt declines for the Plus and Regular groups relative to the control group, with the decline being greatest for the Plus group. After year 5, there is little difference in the rates of receipt between Regular and control groups, although Plus group members continue to receive Social Assistance at lower rates. Over time the rate of decrease in welfare participation for the Regular and control groups overtake the rate of decrease for the Plus group, resulting in convergence in the rate of welfare participation in the second decade post-randomization.

Estimates of the four-year average treatment effects associated with the incremental effects of SSP Plus services, with annual differences in welfare participation between the Plus and Regular groups overlaid, are presented in Panel B, and point estimates and standard errors are presented in column 4 of Table 4. In years 1-4, Plus group members are 5.9 percentage points less likely to participate in Social Assistance than Regular group members (of whom approximately 83% receive welfare, a relative difference of 7%); in years 5-8, Plus group members are 11 percentage points less likely to be on Social Assistance (relative to an average of 61% in the Regular group, or a difference of 18%). Estimates of the average annual incremental effects of SSP Plus employment services on welfare receipt in years 9-12, 13-16, and 17-20, respectively, are all negative in sign but are smaller in magnitude and not statistically significant.

Figure 5: Effects of the Self-Sufficiency Plus Program on Welfare Receipt



Notes: Long Term IA Recipency Rates, SSP Participants And Spouses: SSP and SSP+ Recipency Experiments – New Brunswick; T1FF-T5007 Linked Data, Observations Unambiguously On Or Off IA. Panel A reports means for every treatment arm in each year pre and post-randomization. Panel B reports annual (solid line) and 4-year group-specific (horizontal dashed line segments) intent-to-treat (ITT) impact estimates of the SSP Plus program relative to the Regular SSP group based on estimates of equation (1). The difference in the annual rates of employment are overlaid as a solid black line with statistically significant annual differences at the 90% level denoted by a cross marker; 90% confidence intervals for four-year group specific estimates are represented by transparent grey bars.

Taken together, the increases in any employment, full-time employment, and earnings, along with the decrease in welfare receipt, show that the intensive employment support services offered to the Plus group through SSP offices had impressive short and long-term impacts on the labour force outcomes. That the SSP Plus treatment would produce sustained impacts was not a foregone conclusion while the study and earnings supplement payments were ongoing: official reports detailing results at 18 and 36 months post-random assignment noted that the difference in the monthly rate of full-time employment between the Plus and Regular groups was not statistically significant even though Plus group members had initiated the earnings supplement at a higher rate (52% of Plus group members initiated the supplement by finding full-time employment within 12 months after randomization and; only 35% of Regular group members did so) (Quets et al. 1999; Lei and Michalopoulos 2001). These initial results suggested that Plus employment services may have pushed less work-ready welfare recipients into full-time jobs that they could not hold on to. It was only towards the end of the SSP Plus study that there began to emerge differences between the Plus and Regular groups: using survey data at 54 months following random assignment Michalopoulos et al. (2002) and Robins et al. (2008) find that the Plus group had significantly higher rates of full-time employment, higher average earnings, and lower welfare receipt than the Regular group towards the end of the study as the earnings supplement payments drew to a close. The persistence of treatment effects for the Plus group stands in contrast to the rapid fade-out of impacts for the Regular group, whose rates of full-time employment and earnings converged to the control group's shortly after the termination of the earnings supplement.

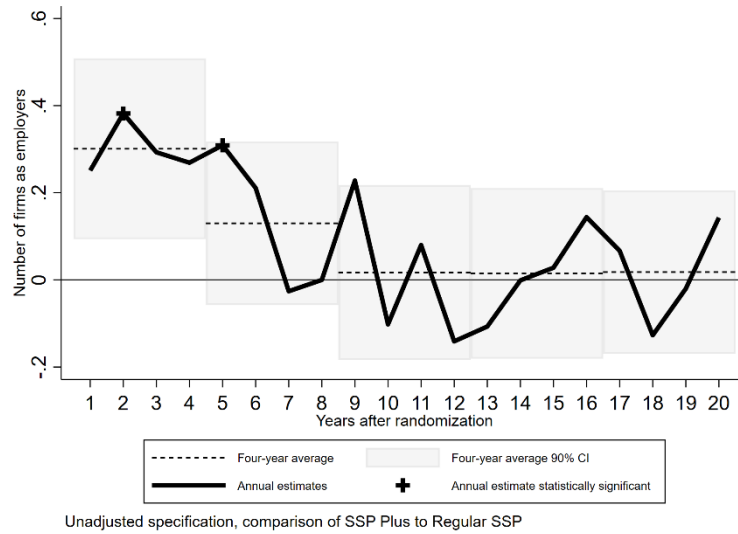
5.D. Possible Mechanisms

The long-term increase in average earnings for Plus group members may be attributable to a combination of extensive and intensive margin labour supply effects and to impacts on wages earned. In earlier years post-random assignment, the incremental impacts of Plus services on the probability of having any employment are larger in magnitude than the impacts on the probability of full-time employment, which implies that extensive margin responses may explain at least some of the higher average earnings for the Plus group, at least early on. Later in the post-randomization period, Plus group members are no more likely than Regular group members to have any employment but are still significantly more likely to be employed full-time; this implies that a combination of additional hours worked and higher wages—but not higher rates of labour force participation—may explain the observed earnings differential over most of the follow-up period.

To explore whether SSP Plus services helped individuals find higher-quality, better-paying jobs, we first consider whether there are differences between the Plus and Regular groups in terms of job tenure and number of employers. Although a long-standing literature documents a positive association between longer job tenure and wages (Abraham and Farber 1987, Topel 1991), it may be the case, however, that more frequent job-changing can improve the quality of worker-firm matches, leading to more output and higher wages

(Menzio and Shi 2011). To wit, SSP staff both encouraged working Plus group members to seek out raises and promotions with their current employers, consider new and better job opportunities as members gained experience and confidence, and provided leads for better paying positions at different firms. Quets et al. (1999) note that, among supplement initiators, Plus group members were less likely than Regular group members to be working in the same job as the one in which they started receiving the supplement and were more likely to leave a job for a better employment opportunity elsewhere.²³

Figure 6: Effects of the Self-Sufficiency Plus Program on the Number of Employers

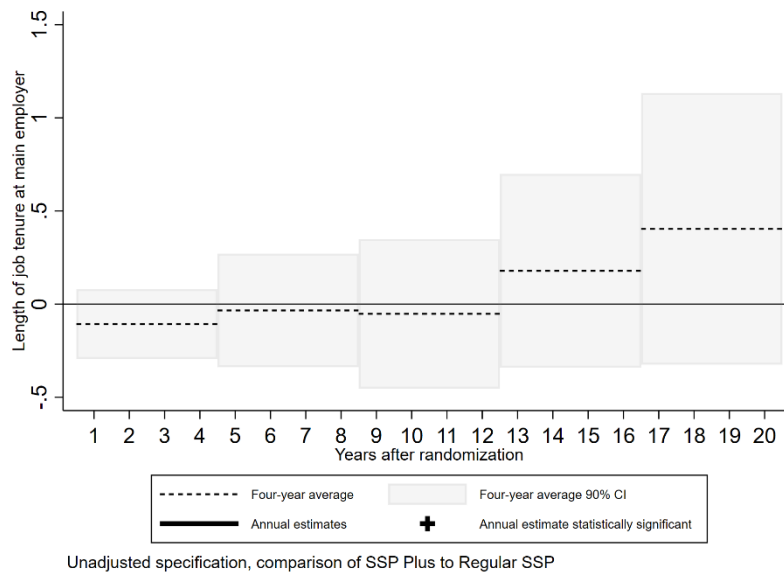


Notes: The figure reports annual (solid line) and 4-year group-specific (horizontal dashed line segments) intent-to-treat (ITT) impact estimates of the SSP Plus program relative to the Regular SSP group based on estimates of equation (1). The difference in the annual rates of employment are overlaid as a solid black line with statistically significant annual differences at the 90% level denoted by a cross marker; 90% confidence intervals for four-year group specific estimates are represented by transparent grey bars.

Figures 6 and 7 illustrate the four-year averages for number of employers and job tenure, respectively. Corresponding point estimates and standard errors are presented in Table 5. With respect to job tenure, there is no statistically significant difference between the Plus and Regular groups. Plus group members do, however, work for an additional 0.3 firms per year over the first four years post-randomization relative to the Regular group's four-year average of 1.7 firms per year. Since the average number of employers is calculated using all study participants, including those who are not employed and therefore have zero employers, the higher number of employers per year among Plus group members may be attributable to the fact that more Plus group members had any employment compared to the Regular group. Ongoing work will use Lee bounds to explore whether, conditional on being employed, Plus group members worked for more firms than Regular groups, which would point towards SSP Plus having an effect on the rates of job-changing.

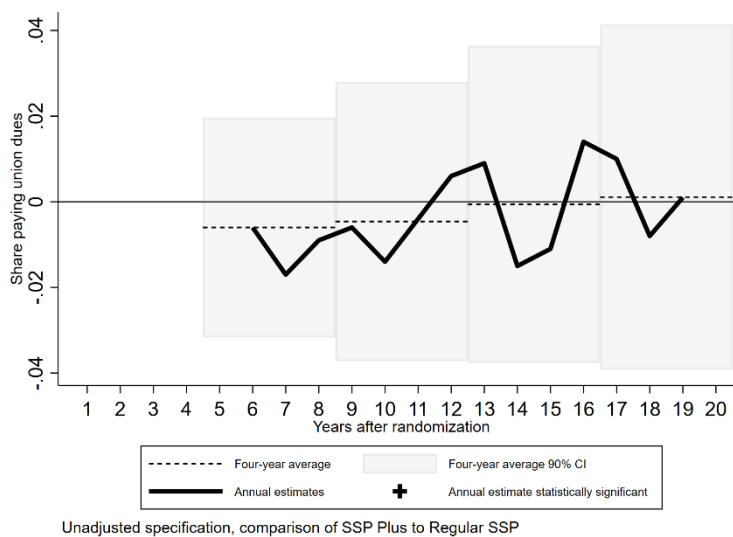
²³ Because the share of supplement initiators within the Plus group was higher than the share within the Regular group, differences across the two groups of initiators may reflect both treatment effects and differences in group composition.

Figure 7: Effects of the Self-Sufficiency Plus Program on Job Tenure



Notes: The figure reports annual (solid line) and 4-year group-specific (horizontal dashed line segments) intent-to-treat (ITT) impact estimates of the SSP Plus program relative to the Regular SSP group based on estimates of equation (1). The difference in the annual rates of employment are overlaid as a solid black line with statistically significant annual differences at the 90% level denoted by a cross marker; 90% confidence intervals for four-year group specific estimates are represented by transparent grey bars.

Figure 8: Effects of the Self-Sufficiency Plus Program on Individuals in Jobs Paying Union Dues



Notes: The figure reports annual (solid line) and 4-year group-specific (horizontal dashed line segments) intent-to-treat (ITT) impact estimates of the SSP Plus program relative to the Regular SSP group based on estimates of equation (1). The difference in the annual rates of employment are overlaid as a solid black line with statistically significant annual differences at the 90% level denoted by a cross marker; 90% confidence intervals for four-year group specific estimates are represented by transparent grey bars.

Table 5: Effects of the SSP Plus Program on Job Quality and Labour Mobility

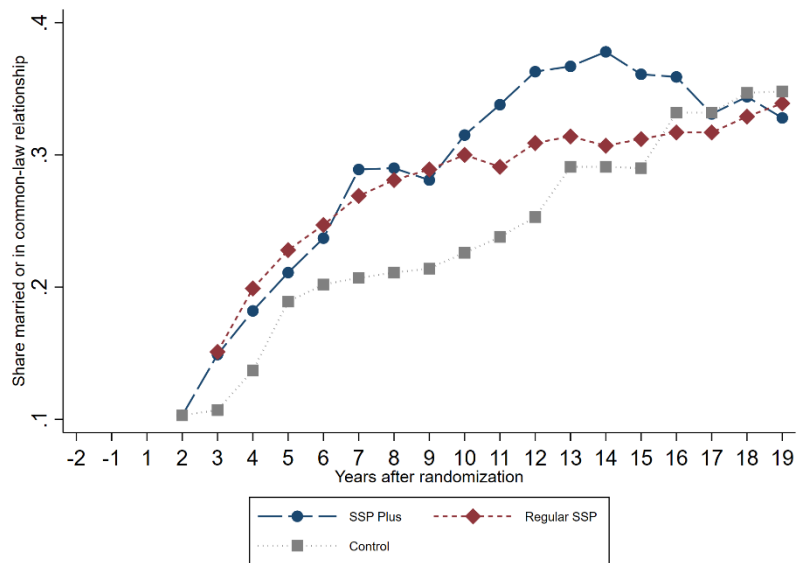
	Dependent variables:		
	Union Dues (1)	Job Tenure (2)	Number of Employers (3)
Incremental impacts of SSP Plus services in:			
Years 1-4	- -	-0.107 (0.114)	0.301** (0.126)
Years 5-8	-0.006 (0.016)	-0.034 (0.185)	0.130 (0.114)
Years 9-12	-0.005 (0.020)	-0.052 (0.244)	0.017 (0.122)
Years 13-16	-0.001 (0.023)	0.179 (0.316)	0.015 (0.119)
Years 17-20	0.001 (0.024)	0.404 (0.443)	0.018 (0.114)
Regular SSP $\times$ Year Grp. Interactions	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes

Notes: Intent-to-treat (ITT) impact estimates of the SSP Plus program relative to the Regular SSP group based on equation (1); standard errors clustered at the individual level. Statistically significant at *** 99 percent, ** 95 percent, and * 90 percent confidence levels, respectively. Missing estimates are due to data suppression for privacy protection.

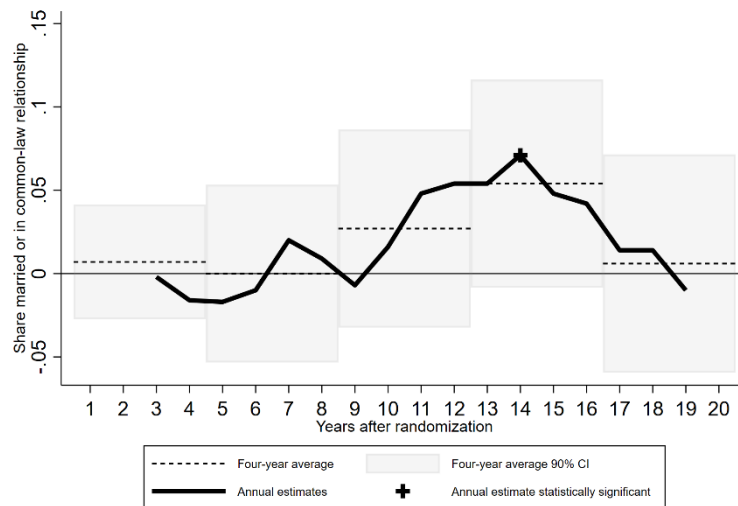
Finally, we show suggestive evidence of moderately higher marriage rates among program participants relative to those in the other treatment arms. This outcome is consistent with the argument that, due to either improved relationship skills or ameliorated socioeconomic conditions, individuals were able to maintain more stable marital relationships (Kambourov, Siow, and Turner 2015).

Figure 9: Effects of the Self-Sufficiency Plus Program on Marriage Rates

Panel A: Trends by Experimental Arm



Panel B: Treatment Effects Estimates



Unadjusted specification, comparison of SSP Plus to Regular SSP

Notes: Panel A reports means for every treatment arm in each year pre and post-randomization. Panel B reports annual (solid line) and 4-year group-specific (horizontal dashed line segments) intent-to-treat (ITT) impact estimates of the SSP Plus program relative to the Regular SSP group based on estimates of equation (1). The difference in the annual rates of employment are overlaid as a solid black line with statistically significant annual differences at the 90% level denoted by a cross marker; 90% confidence intervals for four-year group specific estimates are represented by transparent grey bars.

6. Conclusion

The Self-Sufficiency Project (SSP) was the Government of Canada's largest field experiment ever funded. Policy makers wanted to test whether offering temporary but significant financial incentives could spur

single parents reliant on welfare back to fulltime work, and even get them to stay working after the three-year supplement eligibility period. The official report concluded that a significant fraction of program group members responded to the incentives by finding work sooner than the control group members, but the labor market effects faded to zero after parents were no longer eligible for the supplement. By the fifth and sixth year of receiving the intervention, members of the program group were equally likely to be employed, on welfare, and earnings were, on average, the same. Anticipating that many of those offered the supplement may have difficulty finding work, a smaller experiment in the province of New Brunswick was conducted to explore whether adding additional intensive employment support services could help. Those offered the SSP Plus treatment were eligible for a range of employment services that were designed to help them find work, maintain that work, and advance in a career. Those that wanted it were matched to a caseworker who proactively connected on-on-one to offer practice advice and emotional support throughout the three-year period of subsidy eligibility, even after a parent began working full-time. The final report noted that the SSP Plus group had higher take-up of fulltime work within the first 12 months, which was required to become eligible for the longer-term subsidy, but the overall employment and earnings effects for the subsequent three years were small. It was not until near the end of the official analysis that there become hints that those in the SSP Plus group were faring better than the SSP Regular group that had not received the support services. The results were encouraging but inconclusive.

We provide a more definitive picture of the impact of the SSP Plus program by matching participants to subsequent administrative tax records and following them for twenty years. The results point to the importance of the proactive and sustained empathetic support caseworkers in the Plus program provided that those in the Regular program did not receive. Full-time employment increased steadily by 4.5 to 7.4 percentage points relative to the SSP Regular group and these effects did not fade until after ten years. We find even longer lasting earning effects. While average earnings differences for the SSP Regular group drifted to zero shortly after the incentives ended, earnings among the SSP Plus group remained about 21 to 27 percent higher each year over the twenty-year period examined. The improved economic trajectories of the SSP Plus program participants are mirrored by a 4.8 to 11.0 percentage points decrease in their receipt of Social Assistance throughout the first decade following random assignment. Taken together, the increase in full-time employment and earnings, along with the decrease in welfare receipt, indicate that the intensive employment services offered through the program considerably transformed the lives of these individuals.

A longstanding debate in program evaluation revolves around the generalizability of findings from randomized control trials due to challenges associated with adapting and scaling pilot projects to serve a broader population (Rossi 1987; Davis et al. 2017). While we acknowledge that the SSP Plus study comprised a relatively small number of participants served by highly motivated and capable caseworkers, the potential for intensive case management to significantly improve the socioeconomic trajectories of low-income households merits

further consideration by researchers and policymakers alike. Future studies might consider different approaches to scaling intensive case management to effectively serve the greatest number of low-income households.²⁴

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²⁴ Bergman et al. (2020) analyze a program featuring caseworkers—referred to as navigators—providing intensive assistance to help families use housing rental vouchers to rent units in low-poverty, high-mobility "opportunity" neighborhoods. Qualitative evidence suggests that families relied particularly heavily on navigators to find suitable shelter and to negotiate leases with landlords. Follow-up studies have found that reducing the intensity of navigator services halves the effectiveness of the program in encouraging households to move to opportunity.

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Data Appendix

Information about study participants' annual earnings and employment status is primarily derived from Statistics Canada's T1 historical personal master file, which includes all T1 personal income tax forms filed by study participants, including prior-year tax returns filed several years later. Whenever T1 files are available, study participants' annual earnings from employment is set equal to the amount of T4 income reported on line 101 of the T1 form. In years for which a study participant's T1 is missing, annual employment earnings are calculated by summing the earnings reported by employers on all T4 slips issued on behalf of the participant. Nominal employment earnings in each year are converted to constant 2010 Canadian dollars using Statistics Canada's Consumer Price Index.

Because neither T1 forms nor T4 slips report hours worked, annual employment status is inferred based on study participants' total employment income. Total employment income is equal to the sum of all T4 earnings, net self-employment income, and income from tips and commissions, all of which are available on the T1 form. If a T1 form is not available for a study participant in a given year, total employment income is set equal to the sum of earnings reported on all T4 slips filed on behalf of the individual by employers. Two annual employment status variables are derived using this definition of total employment income: one variable is an indicator for having total employment income equal to or greater than the amount of gross earnings from working for three months full-time at the minimum wage. The other is an indicator for having a total employment equal to or greater than the amount of gross earnings from working twelve months full-time at the minimum wage. The statutory minimum wage used in this calculation is for the province of residence listed on each year's tax filing.

Marriage or common-law status is determined based on whether study participants list or are listed as a spouse or common-law partner on their T1 forms. Study participants are considered to have received welfare during the year if they or their spouses or common-law partners report income from Social Assistance on their respective T1 tax forms or if study participants or their spouses or common-law partners are linked to T5007 statement of benefit slips issued by a provincial government. Linkages to the T5007 are possible only from 1994, meaning that participation in welfare in the one to two years prior to random assignment into the SSP Plus study (which took place between November 1994 and March 1995) is based solely on T1 filings. Although Social Assistance benefits are not considered taxable income they do affect the amount of refundable tax credits received.

Online Appendix – Not for Publication

Table A1: Balance Tests – Extended Set

	SSP Plus	Regular SSP	Control	SSP Plus- Control	Reg. SSP- Control	SSP Plus- Reg. SSP
	(1)	(2)	(3)	(4)	(5)	(6)
Gender						
Share female (%)	97.2	96.9	95.1	2.06	1.74	0.33
Age (%)						
19-24	28.3	26.1	22.6	5.75	3.56	2.19
25-29	23.1	17.4	21.2	1.90	-3.76	5.66*
30-39	37.1	36.9	35.8	1.30	1.17	0.13
40-49	8.7	16.0	19.4	-10.70***	-3.42	-7.29**
50 or older	2.8	3.5	1.0	1.76	2.44*	-0.69
Marital status (%)						
Married or living common-law	1.4	2.4	2.4	-1.03	0.00	-1.03
Never married	57.0	54.5	55.6	1.44	-1.04	2.48
Divorced, separated, or widowed	41.6	43.1	42.0	-0.41	1.04	-1.45
Education						
Completed education (%)						
Less than high school education	50.0	55.2	51.7	-1.74	3.47	-5.21
Completed high school, no post-secondary education	40.2	36.8	37.5	2.71	-0.69	3.40
Some post-secondary education	9.8	8.0	10.8	-0.97	-2.78	1.80
Enrolled in school at random assignment (%)	16.1	9.7	9.0	7.06***	0.69	6.36**
Family background						
Mother did not finish high school (%)	69.9	72.5	70.8	-0.92	1.68	-2.60
Father did not finish high school (%)	64.7	70.1	66.1	-1.40	3.99	-5.38
One or both parents absent when growing up (%)	31.5	41.3	35.4	-3.95	5.90	-9.85**

	SSP Plus	Regular SSP	Control	SSP Plus- Control	Reg. SSP- Control	SSP Plus- Reg. SSP
	(1)	(2)	(3)	(4)	(5)	(6)
Family received welfare when growing up (%)	26.9	34.8	30.4	-3.45	4.39	-7.84**
Recent welfare history						
Number of months on SA in prior 3 years (%)						
10-23	21.3	19.4	21.2	0.15	-1.74	1.88
24-25	36.4	35.8	33.0	3.38	2.78	0.60
All 36	42.3	44.8	45.8	-3.53	-1.04	-2.48
Average SA payments in prior month (\$)	725	707	698	27.01*	9.74	17.27
Work history and labour force status						
Ever had a paid job (%)	92.0	95.1	91.3	0.64	3.82*	-3.18
Average years worked	6.5	6.9	7.0	-0.54	-0.05	-0.49
Labour force status at random assignment (%)						
Employed 30 hours/week or more	8.4	6.6	9.0	-0.64	-2.38	1.75
Employed less than 30 hours/week	13.3	14.0	17.0	-3.73	-3.03	-0.70
Looking for work, not employed	25.9	22.0	21.5	4.35	0.50	3.85
Neither employed nor looking for work	52.4	57.3	52.4	0.02	4.91	-4.90
Activity-limiting conditions (%)						
Reported physical problem	24.8	25.1	25.8	-0.96	-0.70	-0.26
Reported emotional problem	7.3	9.1	6.6	0.72	2.47	-1.75
Children						
Number of children under age 19 (%)						
1	59.8	62.0	61.8	-2.02	0.22	-2.23
2	28.3	31.7	27.4	0.89	4.28	-3.39
3 or more	11.9	6.3	10.8	1.12	-4.49*	5.62**
Age of youngest child (%)						

	SSP Plus	Regular SSP	Control	SSP Plus- Control	Reg. SSP- Control	SSP Plus- Reg. SSP
	(1)	(2)	(3)	(4)	(5)	(6)
0-2	30.9	31.2	25.8	5.07	5.44	-0.38
3-5	24.8	19.3	24.7	0.08	-5.44	5.52
6-11	29.1	25.6	26.8	2.25	-1.22	3.46
12 or older	15.2	23.9	22.6	-7.40**	1.21	-8.61**
Opinions and expectations						
Said greatest need was (%)						
Immediate full-time employment	36.8	37.5	42.0	-5.17	-4.51	-0.66
Immediate part-time employment	9.8	8.0	9.4	0.45	-1.39	1.84
Education or training	43.5	39.2	35.4	8.09**	3.82	4.27
Something else	8.4	12.8	11.8	-3.38	1.04	-4.43
Don't know	1.4	2.4	1.4	0.01	1.04	-1.03
"If I got a job, I could find someone I trust to take care of my children"						
Agree	69.8	64.6	61.3	8.50**	3.26	5.24
Disagree	13.7	12.8	17.1	-3.39	-4.23	0.84
No care required	16.5	22.6	21.6	-5.11	0.97	-6.08*
Urban residence (%)	67.8	70.5	69.4	-1.61	1.04	-2.65
Ethnic background						
First Nations ancestry (%)	5.2	4.5	7.0	-1.72	-2.45	0.73
Asian ancestry (%)	0.3	0.0	0.7	-0.35	-0.70	0.35
French-speaking (%)	28.7	24.0	25.0	3.67	-1.04	4.71
Immigration						
Not born in Canada (%)	2.8	2.8	2.4	0.37	0.35	0.02
Immigrated in last 5 year (%)	0.7	0.3	0.3	0.35	0.00	0.35
N	286	288	288			

Notes: Standard deviation in brackets; heteroskedasticity robust standard errors in parentheses. Statistically significant at *** 99 percent, ** 95 percent, and * 90 percent confidence levels, respectively.

Table A2: Effects of the SSP+ and Regular SSP on Employment, Social Assistance Participation, and Earnings

	Dependent variables:					
	Employment		Social Assistance		Earnings	
	(1)	(2)	(3)	(4)	(5)	(6)
SSP Plus $\times$ Years 1-4	0.200*** (0.024)	0.197*** (0.023)	-0.105*** (0.022)	-0.101*** (0.021)	4,200*** (570)	4,000*** (540)
SSP Plus $\times$ Years 5-8	0.065** (0.033)	0.061** (0.030)	-0.087** (0.035)	-0.082** (0.032)	1,400 (900)	1,100 (840)
SSP Plus $\times$ Years 9-12	0.058 (0.035)	0.054 (0.033)	-0.075** (0.036)	-0.069** (0.034)	1,400 (1,100)	1,100 (1,100)
SSP Plus $\times$ Years 13-16	0.029 (0.038)	0.024 (0.036)	-0.049 (0.036)	-0.044 (0.034)	2,500* (1,400)	2,300* (1,300)
SSP Plus $\times$ Years 17-20	0.016 (0.040)	0.009 (0.038)	-0.023 (0.037)	-0.016 (0.035)	2,100 (1,500)	1,800 (1,400)
SSP Reg. $\times$ Years 1-4	0.136*** (0.024)	0.151*** (0.022)	-0.045** (0.021)	-0.053*** (0.019)	2,500*** (550)	2,900*** (530)
SSP Reg. $\times$ Years 5-8	0.001 (0.032)	0.016 (0.030)	0.024 (0.035)	0.016 (0.032)	-640 (820)	-310 (770)
SSP Reg. $\times$ Years 9-12	-0.017 (0.034)	0.000 (0.032)	-0.016 (0.037)	-0.022 (0.034)	-1,270 (990)	-880 (920)
SSP Reg. $\times$ Years 13-16	-0.011 (0.037)	0.004 (0.035)	-0.026 (0.036)	-0.033 (0.033)	-490 (1,200)	-100 (1,100)
SSP Reg. $\times$ Years 17-20	-0.016 (0.039)	-0.007 (0.037)	-0.020 (0.037)	-0.024 (0.035)	-730 (1,300)	-470 (1,200)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes

Notes: Standard errors clustered at the individual level in parentheses. Statistically significant at *** 99 percent, ** 95 percent, and * 90 percent confidence levels, respectively.

Table A3: Effects of the SSP+ and Regular SSP on Union Dues, Job Tenure, and Number of Employers

	Dependent variables:					
	Union Dues (1)	Union Dues (2)	Job Tenure (3)	Job Tenure (4)	Number of Employers (5)	Number of Employers (6)
SSP Plus $\times$ Years 1-4	--	-0.002 (0.009)	-0.053 (0.125)	0.201 (0.120)	1.029*** (0.108)	0.952*** (0.098)
SSP Plus $\times$ Years 5-8	-0.022 (0.017)	-0.023 (0.018)	-0.001 (0.186)	0.123 (0.174)	0.172 (0.114)	0.125 (0.110)
SSP Plus $\times$ Years 9-12	-0.043* (0.022)	-0.043* (0.022)	-0.341 (0.260)	-0.164 (0.241)	0.048 (0.122)	-0.004 (0.114)
SSP Plus $\times$ Years 13-16	-0.038 (0.024)	-0.038 (0.024)	-0.426 (0.348)	-0.230 (0.326)	-0.011 (0.126)	-0.061 (0.121)
SSP Plus $\times$ Years 17-20	-0.048* (0.027)	-0.048* (0.027)	-0.557 (0.486)	-0.356 (0.465)	0.090 (0.101)	0.052 (0.093)
SSP Reg. $\times$ Years 1-4	--	0.004 (0.010)	0.054 (0.136)	0.199 (0.137)	0.728*** (0.116)	0.722*** (0.105)
SSP Reg. $\times$ Years 5-8	-0.016 (0.018)	-0.014 (0.018)	0.033 (0.195)	0.116 (0.184)	0.042 (0.114)	0.059 (0.106)
SSP Reg. $\times$ Years 9-12	-0.038* (0.022)	-0.035 (0.022)	-0.289 (0.271)	-0.182 (0.257)	0.031 (0.112)	0.058 (0.104)
SSP Reg. $\times$ Years 13-16	-0.037 (0.024)	-0.034 (0.024)	-0.605 (0.350)	-0.497 (0.333)	-0.027 (0.125)	0.004 (0.117)
SSP Reg. $\times$ Years 17-20	-0.049* (0.027)	-0.047* (0.027)	-0.961 (0.463)	-0.852 (0.445)	0.072 (0.112)	0.101 (0.101)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes	Yes

Notes: Standard errors clustered at the individual level in parentheses. Statistically significant at *** 99 percent, ** 95 percent, and * 90 percent confidence levels, respectively.

Table A4: Incremental Effect of SSP Plus on Receipt of Services

Outcome	Outcome – Percent Using Service		SSP Plus Program Group vs. Regular SSP Program Group
	SSP Plus Program Group	Regular SSP Program Group	
Took part in job-search program such as job club or job-search workshop	47.9	31.9	16.0***
Took part in life-skills program such as money management or parenting	27.6	28.8	-1.2
Received counseling for personal problems	26.6	29.5	-2.9
Participated in work-related training or education	16.4	16.7	-0.2
Participated in subsidized employment program	8.0	9.4	-1.3
Took courses towards completion of high school diploma, college diploma, or university degree	7.3	6.6	0.7
N	286	288	

Source: Reproduced from Quets et al. (1999). Notes: Statistically significant at *** 99 percent, ** 95 percent, and * 90 percent confidence levels, respectively.