The Self-Sufficiency Project at 36 Months:
Effects on Children of a Program that Increased Parental Employment and Income
¾ Executive Summary

Pamela Morris

Charles Michalopoulos

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Other SRDC reports on the Self-Sufficiency Project (SSP):

Creating an Alternative to Welfare: First-Year Findings on the Implementation, Welfare Impacts, and Costs of the Self-Sufficiency Project. Tod Mijanovich and David Long. December 1995.

The Struggle for Self-Sufficiency: Participants in the Self-Sufficiency Project Talk About Work, Welfare, and Their Futures. Wendy Bancroft and Sheila Currie Vernon. December 1995.

Do Financial Incentives Encourage Welfare Recipients to Work? Initial 18-Month Findings from the Self-Sufficiency Project. David Card and Philip K. Robins. February 1996.

When Work Pays Better Than Welfare: A Summary of the Self-Sufficiency Project's Implementation, Focus Group, and Initial 18-Month Impact Reports. March 1996.

How Important Are "Entry Effects" in Financial Incentive Programs for Welfare Recipients? Experimental Evidence from the Self-Sufficiency Project. David Card, Philip K. Robins, and Winston Lin. August 1997.

Do Work Incentives Have Unintended Consequences? Measuring "Entry Effects" in the Self-Sufficiency Project. Gordon Berlin, Wendy Bancroft, David Card, Winston Lin, and Philip K. Robins. March 1998.

When Financial Incentives Encourage Work: Complete 18-Month Findings from the Self-Sufficiency Project. Winston Lin, Philip K. Robins, David Card, Kristen Harknett, and Susanna Lui-Gurr. September 1998.

Does SSP Plus Increase Employment? The Effect of Adding Services to the Self-Sufficiency Project's Financial Incentives. Gail Quets, Philip K. Robins, Elsie C. Pan, Charles Michalopoulos, and David Card. May 1999.

The Self-Sufficiency Project at 36 Months: Effects of a Financial Work Incentive on Employment and Income. Charles Michalopoulos, David Card, Lisa A. Gennetian, Kristen Harknett, and Philip K. Robins. June 2000.

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Executive Summary

For several decades, policy-makers have implemented policies designed to encourage welfare recipients to work. Especially promising is the use of financial work incentives, which have proved to increase employment, reduce welfare dependence, and at the same time increase family income. Little is known, however, about how policies that encourage welfare recipients to work affect children in these families. Do policies that increase employment and income among single parents also benefit children? Or do children suffer because increased employment reduces the time they spend with their parents and increases their parents' stress? Would the benefits of increased income help to overcome any negative effects of maternal[1] employment? This report seeks to address these issues by investigating the effects on families and children of a research and demonstration project called the Self-Sufficiency Project (SSP). SSP offers a rare opportunity to inform our understanding of how programs that increase employment and income may affect low-income children.

Conceived and funded by Human Resources Development Canada (HRDC), SSP is a research and demonstration project to test a policy innovation that makes work pay better than welfare. Managed by the Social Research and Demonstration Corporation (SRDC) and evaluated by staff at Manpower Demonstration Research Corporation (MDRC) and SRDC, SSP offered a temporary, but generous, earnings supplement to selected single parents who had been on Income Assistance (IA) for at least a year. To take advantage of the supplement offer, parents had to begin working full time (30 or more hours per week) and stop receiving Income Assistance within a year of being offered the supplement. The supplement was paid on top of earnings from full-time employment. Those who were eligible to receive it could do so for up to three years after finding full-time work, as long as they were working full time and not receiving Income Assistance. While collecting the supplement, a parent received an immediate payoff from work; in most cases, her total income before taxes was about twice her earnings. The supplement amount was not tied to family size or family structure and was a voluntary alternative to the IA program; recipients could not receive the supplement and Income Assistance at the same time.

The Self-Sufficiency Project was designed as a social experiment using a rigorous, random-assignment research model. In the main SSP study, a group of 5,686 single parents (primarily single mothers) in New Brunswick and the lower mainland of British Columbia who had been on Income Assistance for at least a year were selected at random from the IA rolls. One-half of these parents was randomly assigned to a *program group* and offered the SSP supplement, while the remainder formed a *control group*. Because the two groups were similar in all respects except whether they were allowed to participate in the program, the "impact" or effect of SSP can be measured in the difference between the program and control groups' subsequent experiences.

[1]Since 97 percent of the single-parent, long-term welfare recipients analyzed in this report are women, the term "maternal" and feminine pronouns are used throughout this report.

Families were surveyed three years after entering the study and being randomly assigned to one of the research groups, and information on mothers' economic outcomes and on child and family functioning was collected. A companion report on this sample examines the effects of SSP on parental outcomes such as employment, IA receipt, wage growth, and employment stability, as well as income level, material hardship, assets, and marriage.[2] This report examines SSP's impacts on children's academic functioning (for example, achievement in school), cognitive functioning (for example, test scores), social behaviour, emotional well-being, and health. In addition, it explores impacts on maternal physical and emotional health, interactions between mothers and children, child care and children's after-school activities, school and residential changes, and family structure. These impacts were measured at 36 months after random assignment, during the period when members of the program group who "took up" the supplement (by finding work in the year after random assignment and leaving Income Assistance) were eligible to receive supplement payments. Those supplement takers who went to work shortly after random assignment were nearing the end of their eligibility, while those who found work at the end of their first year after random assignment could still receive the supplement for a full year after the 36-month survey. A future report will examine how children are faring after the three years of supplement eligibility has ended.

THE FINDINGS IN BRIEF

The effects of SSP were studied for three age groups of children. A younger cohort included children who were less than three years old when their parents entered the study. These children were three to five years old at the time of the 36-month interview. A middle cohort included children who were three to eight years old when their parents entered the study; this group was 6 to 11 years old at the time of the 36-month interview. An older cohort was 9 to 15 years old when their parents entered the study, and 12 to 18 at the time of the 36-month interview. The major findings are summarized below:

- **SSP increased full-time employment, earnings, and income, and reduced poverty**. About one-third of the parents in the program group found full-time jobs within the first year after random assignment and took up the earnings supplement. By the beginning of the second year after random assignment, the program had doubled full-time employment. Although these impacts declined somewhat through the remainder of the follow-up period, they were still strong at the time of the 36-month interview. Although parents had to leave Income Assistance to receive the SSP supplement, the combination of increased earnings and SSP supplement payments more than outweighed the loss of IA payments, leaving families in the program group with substantially more income than families in the control group. Among welfare programs that have been studied using random assignment, SSP has been a rare triple winner, encouraging work, increasing income, and reducing poverty.
- **SSP had no effects on the youngest children's functioning**. For children in the younger cohort, who were infants and toddlers at the beginning of the program, SSP did not affect test scores, social behaviour, emotional well-being, or health. These

[2]Michalopoulos et al., 2000.

children were very young when their parents entered the study. It is therefore reassuring that on average they were not harmed even though many of their parents began working full time.

- **SSP increased the number of young children in child care**. Children in the younger cohort in the program group were more likely than similar children in the control group to attend formal child care programs such as preschool and extended day programs, and to participate in informal child care arrangements such as with baby-sitters or relatives in a home setting. There were no differences between the research groups, however, in how parents interacted with their children.

- **For the middle cohort, SSP had small positive effects on children's cognitive and school outcomes. On many other measures, program and control groups did not differ**. Children in the program group scored slightly higher on a math test than children in the control group, and parents of children in the program group gave more positive reports of their children's achievement in school than did parents of children in the control group. There was also some suggestion, based on parents' reports, that children in the program group were in better health. On the other hand, middle cohort children in the two research groups displayed similar social behaviour and emotional health on average.

- **Children in the middle cohort program group were more likely than their peers in the control group to be cared for by baby-sitters and relatives, and to participate in lessons and sports after school**. As would be expected with the increases in maternal employment, middle-cohort children in the program group were more likely than similar children in the control group to be cared for by someone other than their mother. This increase in non-maternal care was primarily in informal arrangements in a home setting. Children in the program group also were more likely than children in the control group to be involved in after-school activities, including lessons, sports, and clubs. Again, however, there were no differences between the research groups in how parents interacted with their children.

- **For children in the older cohort, SSP may have increased minor delinquency and tobacco, alcohol, and drug use. The program did not affect many other outcomes that were examined**. On measures of children's health and emotional adjustment and on a math skills test, older children in the program and control groups did not differ. In their self-reports, however, more older children in the program group than in the control group reported staying out late, smoking, drinking, and using drugs. Both mothers and children in the program group reported slightly lower academic achievement for this older cohort of children than did their counterparts in the control group. These results should be interpreted more cautiously than the findings for the younger and middle cohorts of children, because many more families with children in the older age group did not respond to the 36-month interview.

- **For older children, SSP did not affect after-school activities, but older children in the program group took on greater responsibilities and experienced more changes in family structure than did their peers in the control group**. Although SSP increased employment of parents of older children, older children in the program and control groups participated in similar levels of after-school activities. On the

other hand, older children in the program group were more likely to do household chores and to work long hours outside the home. In addition, SSP significantly increased marriage and children's contact with their second parent for older children in New Brunswick, and significantly decreased children's contact with their second parent for older children in British Columbia. As with the younger and middle cohorts of children, there were no differences between the research groups in how parents interacted with their children.

- **Small effects on children's outcomes for the middle and older cohorts of children may be masking more pronounced effects for children in families that took up the supplement**. In general, the effects on children's functioning due to SSP are relatively small. These averages, however, may be hiding important variation in the sample. In particular, any differences in children's outcomes are likely to be confined to the one-third of families in which parents ever took up the SSP supplement. If SSP did not affect the children of parents who did not take up the supplement, then changes in children's outcomes for those families who did take up the supplement must have been much larger than the effects of SSP overall.

These findings suggest small positive effects for the middle cohort of children and small negative effects for the older cohort of children, but only in certain areas of functioning. The youngest children in the sample, the focus of many people's concerns, did not experience any measurable effects, either positive or negative. Given the small and limited impacts, it is too early to draw conclusions about what might be the long-term effects on children of a program like SSP. Further follow-up is planned as part of this study, and several related studies of the effects on children of programs that increase employment and family income are currently under way. The data from these studies will be critical in enabling researchers to draw more definitive conclusions about the effects of such programs on children.

FEATURES OF SSP

SSP was designed to make work a viable alternative to welfare for low-income single parents whose skills and experience would likely relegate them to low-paying jobs. Eligibility for the study was limited to long-term welfare recipients (with at least one year of IA receipt).

The key features of the SSP program are:

- **Full-time work requirement**. Supplement payments are made only to eligible single parents who work full time (an average of at least 30 hours per week over a four-week or monthly accounting period, in one or more jobs) and who leave Income Assistance.
- **Substantial financial incentive**. The supplement is calculated as half the difference between a participant's earnings from employment and an "earnings benchmark" set by SSP for each province. Each benchmark was set at a level that would make full-time work pay better than Income Assistance for most recipients. During the first year of operations, the benchmark was $30,000 in New Brunswick and $37,000 in British Columbia. The benchmark has been adjusted over time to reflect changes in the cost of living and the generosity of Income Assistance. The supplement is reduced by 50 cents for every dollar of increased earnings. Unearned income (such as child

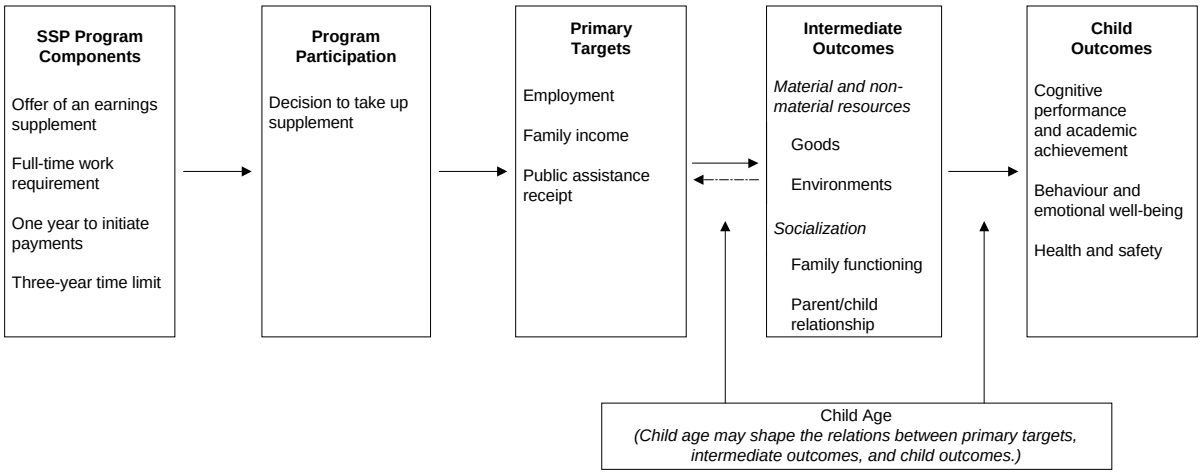
support), earnings of other family members, and number of children do not affect the amount of the supplement.

- **One year to take advantage of the offer**. A person could sign up for the supplement if she found full-time work within the year after random assignment. If she did not sign up during that year, she could never receive the supplement.
- **Three-year time limit on supplement receipt**. A person may collect the supplement for up to three calendar years from the time she began receiving it, as long as she is working full time and not receiving Income Assistance.
- **Voluntary alternative to welfare**. People cannot receive IA payments while receiving the supplement. No one is required to participate in the supplement program, however. After beginning supplement receipt, people may decide at any time to return to Income Assistance as long as they give up supplement receipt and meet the eligibility requirements for Income Assistance. They can also renew their supplement receipt by going back to work full time at any point during the three-year period in which they are eligible to receive the supplement.

HOW MIGHT SSP AFFECT CHILDREN?

Figure ES.1 presents the *pathways* by which SSP might affect children — that is, the aspects of children's lives that may be affected by SSP and that, in turn, might result in better or worse outcomes for children. The figure represents the SSP program through four components: the offer of a supplement, the full-time work requirement, the one year of eligibility, and the three-year time limit. Parents in the program group participate by deciding to take up the SSP supplement. For families in which parents take up the supplement, SSP influences the primary targets of employment, public assistance, and family income. Changes in these primary targets may translate into changes in intermediate outcomes such as spending on food and interactions between parents and children. It is through these intermediate outcomes that the program is most likely to ultimately affect children.

Figure ES.1: Conceptual Model of the Effects of SSP on Child Outcomes



Note: Program components may influence intermediate and child outcomes directly without influencing the primary targets of the program.

Social science research suggests two main pathways by which welfare and employment programs might affect children. Through the first pathway, a *resource path*, employment and income affect the resources that families can provide for their children and that, in turn, can influence children's development. These resources include both material resources, such as food or books, and non-material resources, such as interactions with teachers and peers, that parents provide for their children. Through the second pathway, the *socialization path*, income and employment affect children by influencing their role models, their family's functioning, and their interactions with their parents. For example, increased income might reduce maternal stress that, through changes in the parent-child relationship, may influence children's development. Both of these pathways are depicted in the conceptual model in Figure ES.1 under intermediate outcomes.

The parents who qualified for the supplement can be divided theoretically into two groups. Some members of the program group would have worked full time without the supplement offer and received the supplement without changing their employment behaviour. For this group, the supplement increased income and reduced poverty but did not increase employment, earnings, or hours of work. Children in these families likely benefited from their families' increased income. Other parents in the program group began working full time because of the supplement offer. For this set of families, any changes in children's functioning are a result of *both* changes in full-time employment and changes in income. It is impossible to know which families fall into which group. In the analyses of the effects of SSP on children, therefore, the effects of employment cannot be easily distinguished from the effects of income, and the impacts of SSP on children will reflect the effects of increased income and employment together.

SAMPLE AND METHODS

Between November 1992 and March 1995, 5,686 families in New Brunswick and British Columbia were assigned at random to the program and control groups of SSP (2,859 to the program group and 2,827 to the control group). In New Brunswick, SSP operated in a region covering roughly the lower third of the province, including the cities of Saint John, Moncton, and Fredericton. In British Columbia, the program operated in the lower mainland, which includes the Vancouver metropolitan area as well as neighbouring areas to the north, south, and east. Out of the full research sample, families were chosen to participate in the child study if they had at least one child between the ages of 4 and 18 years in the home when the 36-month interview was conducted. The sample of families analyzed in this report consists of all families for which any of the parent or child surveys or child tests were completed — a total of 3,259 families with 5,078 children. All children analyzed had been in the home at random assignment and were also living with their parent at the 36-month follow-up.

The report uses data from a variety of sources. A baseline survey administered at the time of random assignment provides background information on the families. Administrative records give information on recipients' use of the IA program and receipt of the earnings supplement. Follow-up surveys at 18 and 36 months after random assignment provide information on recipients' employment, earnings, income, hardship, and expenditures. There are three primary sources of information on family and child outcomes, all of which were collected 36 months after random assignment. These include parent surveys to gather data on

all children in the household, language tests conducted with children between four and seven years old at the time of the 36-month interview, math tests conducted with children between 7 and 15 years old at that time, and surveys conducted with children who were then age 10 and older.

In assessing the reliability of information obtained through surveys, an important concept is the *response rate*, or the proportion of people asked to complete a survey who actually did so. The response rate provides one indication of how well the group that responded to the survey represents the sample of all families who were asked to complete the survey. Across the survey and test assessments just described, the response rate was 81 percent. That is, 81 percent of families asked to complete one or more parts of the assessment completed at least one. On some of the tests and surveys of children, however, response rates were quite low. This was particularly true of the surveys conducted with the older children in the family; only 64 percent of children between 12 and 18 years old who were asked to complete this part of the survey did so.[3] Response rates were similar in the program and control groups, providing greater confidence in the estimates of the effects of the program. Nevertheless, when a survey has a low response rate, the sample members who respond to the survey might not be representative of the entire group for whom the survey was intended. Average outcomes for survey respondents might then be different from average outcomes for the entire group, and the impacts of the program on survey respondents might lead to incorrect conclusions about the true effects of the program. To assess whether results using the survey respondents were representative, several analyses were conducted. While survey respondents and non-respondents had somewhat different family characteristics, there was little evidence that impacts of the program based on information about survey respondents were different than they would have been if all families had responded to the survey. Still, results of analyses based on data with such low response rates should be viewed with caution.

As described earlier, this report examines the impact of SSP on three age cohorts of children. Children of different ages may react very differently to increases in maternal employment and family income. Young children, particularly infants and toddlers, may be most sensitive to maternal absence. At the same time, research suggests that preschool children may benefit the most from increases in family income because their cognitive functioning is developing so rapidly during this period. Older children may benefit from maternal employment and family income changes if they are placed in supervised care settings after school. Adolescents may be asked to assist working mothers with household chores and may be left to care for themselves after school; their lack of supervision may increase risk-taking behaviour.

The adults in the sample are primarily single mothers (although a few are single fathers), half of whom were never married at random assignment. These parents were expected to have problems finding work, especially work at high wages. Half of them did not have a high school diploma at random assignment, almost a quarter reported physical problems that kept them from working, and one-sixth had three or more children. Many reported they could not work because of personal or family responsibilities, child care needs, or an illness or

[3]The response rates were particularly low for the oldest children in this cohort, ages 15–18, for whom response rates were at 57 percent.

disability. Almost three-fourths of all sample members, however, reported that they could find someone they trusted to care for their children if they worked.

In the assessment of SSP's effect on children and families, the difference between the program and control group levels on outcomes for adults and children is used to determine the *impact* of SSP. An impact is determined to be *statistically significant* if it has less than a 10 percent probability of occurring by chance.

IMPACTS ON ADULT ECONOMIC OUTCOMES

SSP was remarkably successful in its goals of increasing employment, reducing reliance on Income Assistance, and increasing family income over the 36-month follow-up period analyzed in this report. The findings on these adult economic outcomes for the sample of families analysed in this report are presented in Table ES.1. A companion report (Michalopoulos et al., 2000) contains greater detail about the effects of SSP on employment and income through 36 months.

Table ES.1: SSP Summary of Impacts on Economic Outcomes for Families Over the 36-Month Follow-Up Period

	Program Group	Control Group	Difference (Impact)
Employment, earnings, and income, months 1 to 34[a]			
Ever employed full time[b] (%)	51.57	38.75	12.82 ***
Monthly earnings ($)	310.44	219.38	91.06 ***
Monthly income from Income Assistance ($)	645.43	726.14	-80.70 ***
Monthly income from SSP supplement payments ($)	152.14	0.00	152.14 ***
Total income from earnings, Income Assistance, and SSP ($)	1,113.22	957.33	155.89 ***
Employment and income 6 months prior to interview			
Employed full time (%)	33.98	23.86	10.12 ***
Monthly pre-tax income ($)	1,619.53	1,443.03	176.50 ***
Monthly income below low-income cut-off (%)	78.12	86.80	-8.68 ***
Expenditures and hardship, at 36 months			
Monthly food expenditures ($)	383.42	368.10	15.32 **
Used food bank/could not afford food (%)	35.27	40.76	-5.49 ***
Good neighbourhood quality (%)	75.15	76.70	-1.55
Household/structural problems (%)	20.87	22.90	-2.02
Health care problems (%)	31.82	33.06	-1.24
Sample size (total = 3,259)			

Sources: Calculations from the baseline survey, IA administrative records, the 18-month follow-up core survey, and the 36-month follow-up core survey.

Notes: A two-tailed test was applied to differences between the outcomes for the program and control groups. Statistical significance levels are indicated as: * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Sample sizes may vary for individual items because of missing values.

[a]Although information on employment comes from the 36-month follow-up core survey, some sample members were interviewed as early as month 35, so that the valid information on employment and earnings is available through month 34 only. Therefore, results related to employment and earnings are shown only through 34 months.

[b]Full-time employment is defined as working 30 hours or more per week in at least one week during the month.

- **SSP increased full-time employment and earnings and reduced receipt of Income Assistance.**

Just over one-third of the program group members found full-time employment during the year after random assignment and received at least one supplement payment. Over the 36-month follow-up period, 51.6 percent of parents in the program group worked full time at some point, compared with 38.8 percent of parents in the control group. As a result, SSP increased full-time employment by almost 13 percentage points, the difference in the rate of full-time employment between the two research groups.

The impacts on full-time employment increased over the first year of follow-up and diminished somewhat by the third year of follow-up (not shown in the table). By the beginning of the second year after random assignment, SSP had doubled full-time employment, from about 15 percent of the control group to about 30 percent of the program group. In the second half of the follow-up period, the program's impacts on full-time employment diminished somewhat to about 10 percentage points. This reduction in the program impact was largely due to control group members moving into employment during the follow-up period. Because parents in the program group had to leave Income Assistance in order to receive the earnings supplement, the increases in full-time employment were almost exactly mirrored by a decline in Income Assistance.

- **SSP increased total family income and expenditures on necessities but had few impacts on hardship.**

When program group members worked full time, they also received SSP supplement payments. The combined earnings and supplement produced much higher income on average for families in the program group than families in the control group received from earnings and Income Assistance. As is shown in Table ES.1, parents in the program group earned about $90 more per month than parents in the control group. Although they received about $80 per month less in income from Income Assistance, this loss was more than offset by average supplement payments of about $150 per month. The program's impacts on employment and income persisted into the six-month period prior to the interview. As a result, 78.1 percent of families in the program group had income below Statistic Canada's low-income cut-off compared with 86.8 percent of the control group, a difference of 8.7 percentage points. These averages probably mask important variation within the sample, because only one-third of families took up the supplement. For this third of families in the program group, the program's impacts on earnings, income, and other outcomes was about three times as high as the impact of the program averaged across all members of the sample. Families used much of their extra income to buy basic necessities. For example, the average family in the program group spent $15 more per month on food than the average family in the control group and was less likely to use a food bank. There were few effects on measures of hardship, however; SSP had little effect on neighbourhood quality, household problems, or health care.

- **In general, impacts on adult economic outcomes were similar for mothers of the three age cohorts of children.**

Only minor differences in impacts on adult economic outcomes were found for parents of the three age cohorts of children. For all three groups, SSP increased employment and

earnings, but the effects of SSP on employment and income from earnings, SSP, and Income Assistance were slightly greater for mothers of younger children than for mothers of older children.

These similarities in impacts on employment and income do not imply that the impact of SSP on children will be similar across the three age cohorts of children. First, children of different ages may respond differently to the same behaviour of their mothers. For example, younger children may be more sensitive to increases in maternal employment than their older peers. Second, parents may respond differently to increases in employment depending on the ages of their children. For example, they may place their younger children in child care while they work but expect their older children to care for themselves.

IMPACTS ON CHILDREN'S OUTCOMES

Children's outcomes were measured in three broad categories: cognitive performance and academic achievement, including children's test scores and their grades in academic subjects; social behaviour and emotional well-being, including measures of positive and negative social behaviour, depression, and anxiety; and health, including measures of general health and long-term health conditions. Measures were based on tests, parents' reports about their children, and children's reports about themselves.

- **There were no significant impacts on outcomes for children in the younger cohort.**[4]

Children in the younger cohort were given a test of their understanding of language called the Peabody Picture Vocabulary Test–Revised (PPVT-R). In addition, parents were asked about their children's social behaviour, emotional well-being, and health. As can be seen in Table ES.2, there were no significant impacts in any of these three areas. Considering that these children were infants and toddlers at the start of the program, it is reassuring that the increases in full-time maternal employment induced by the supplement offer did not hurt them. Perhaps the increase in income that accompanied the full-time employment of mothers in the program group offset any negative effects of full-time employment.

- **There were small positive impacts for the middle cohort in cognitive and health outcomes, but not in their social behaviour and emotional well-being.**[5]

For the middle cohort of children, effects on children's cognitive outcomes were consistent, but small, across parents' reports and tests (see Table ES.3). Children in the middle cohort in the program group scored higher on a math test than their peers in the control group, and mothers in the program group rated their children higher on academic performance in school than did mothers in the control group. These impacts seem to be concentrated in the younger children in this cohort, who were three to five years old at

[4]Impacts on children in the younger cohort did not differ by child gender or by province.

[5]When examined separately by child gender, the impacts of SSP on outcomes for children in the middle cohort were much more pronounced for girls than for boys. These differences in impacts between boys and girls, however, were generally insignificant. Impacts for children in New Brunswick were similar to impacts for children in British Columbia.

random assignment and six to eight years old at the time of the 36-month interview (result not shown in the table).

Table ES.2: SSP Impacts on Child Outcomes for the Younger Cohort at the 36-Month Follow-Up

Outcome	Program Group	Control Group	Difference (Impact)
Cognitive functioning			
PPVT-R score[a]	92.18	91.32	0.86
Behaviour and emotional well-being			
Behaviour problems[b]	1.48	1.48	0.00
Positive social behaviour[c]	2.51	2.53	-0.03
Health			
Average health[d]	4.01	4.05	-0.04
Any long-term problems[e] (%)	25.60	27.43	-1.83
Sample size[f]	**503**	**540**	

Sources: Calculations from the baseline survey, the 36-month follow-up parent survey, and the Peabody Picture Vocabulary Test–Revised (PPVT-R).

Notes: Younger cohort children were ages 3–5 at the 36-month follow-up.

Only children who were in the home at random assignment and at the 36-month follow-up interview were analyzed.

A two-tailed test was applied to differences between the outcomes for the program and control groups. Statistical significance levels are indicated as: * = 10 percent; ** = 5 percent; *** = 1 percent.

Standard errors were adjusted to account for shared variance between siblings.

Rounding may cause slight discrepancies in sums and differences.

Sample sizes may vary for individual items because of missing values.

All measures are described in detail in Appendix B.

[a]The PPVT-R is a test of children's understanding of words. Scores reported are standardized scores.

[b]This scale was scored as the average score across the items in the hyperactivity, internalizing (depression and anxiety), and externalizing (negative social behaviour) subscales. Scores ranged from 1 ("never") to 3 ("often").

[c]This scale was computed as the average score across the items in the positive social behaviour scale. Scores ranged from 1 ("never") to 3 ("often").

[d]An average score of children's general health was computed across four items. Responses ranged from 1 ("false") to 5 ("true").

[e]Parents were asked whether their children had been diagnosed with any long-term conditions or health problems that limit their participation in any activity.

[f]Sample sizes reflect the largest sample of all measures shown.

According to parents' reports, children in the program group were in slightly better health and were slightly less likely to have long-term health problems than children in the control group. For example, 37 percent of children in the control group were reported to have long-term health problems such as asthma, bronchitis, and learning and emotional problems, compared with 32.4 percent of children in the program group, a difference of nearly five percentage points. In their positive behaviour, children in the program and control groups did not differ, either in their parents' or in their own reports.

These findings suggest that SSP's large positive impacts on maternal employment, earnings, and income had modest positive effects on children, at least in selected areas. Considering that the positive impacts of SSP are probably concentrated in the third of families who ever received the supplement, effects on children in these families were probably much larger than the average effects shown in Table ES.3.

Table ES.3: SSP Impacts on Child Outcomes for the Middle Cohort at the 36-Month Follow-Up

Outcome	Program Group	Control Group	Difference (Impact)
Cognitive/academic functioning			
PPVT-R score[a] (ages 6-7)	93.21	90.78	2.43
Math score[b] (ages 7-11)	0.56	0.52	0.04 **
Average achievement[c]	3.71	3.61	0.10 **
Below-average, any subject[d] (%)	22.84	25.65	-2.81
Behaviour and emotional well-being			
Behaviour problems[e]	1.42	1.43	-0.01
Positive social behaviour[f]	2.58	2.59	-0.01
School behaviour problems[g]	1.25	1.26	0.00
Health			
Average health[h]	4.11	4.02	0.09 **
Any long-term problems[i] (%)	32.43	36.98	-4.55 **
Sample size[j]	**1,111**	**1,047**	

Sources: Calculations from the baseline survey, the 36-month follow-up parent survey, the Peabody Picture Vocabulary Test–Revised (PPVT-R), the math skills test, and the 36-month follow-up child survey.

Notes: Middle cohort children were ages 6–11 at the 36-month follow-up.

Only children who were in the home at random assignment and at the 36-month follow-up interview were analyzed.

A two-tailed test was applied to differences between the outcomes for the program and control groups. Statistical significance levels are indicated as: * = 10 percent; ** = 5 percent; *** = 1 percent.

Standard errors were adjusted to account for shared variance between siblings.

Rounding may cause slight discrepancies in sums and differences.

Sample sizes may vary for individual items because of missing values.

All measures are described in detail in Appendix B.

[a]The PPVT-R is a test of children's understanding of words. Scores reported are standardized scores.

[b]The math score reflects the proportion of items answered correctly on a math skills test.

[c]An average score across children's achievement in math, reading, and writing was computed ranging from 1 ("not very well at all") to 5 ("very well").

[d]Children with a score below 3 ("average") on any one of three academic subjects were scored as below average in any subject.

[e]This scale was computed as the average score across the items in the hyperactivity, internalizing (depression and anxiety), and externalizing (negative social behaviour) subscales. Scores ranged from 1 ("never") to 3 ("often").

[f]This scale was computed as the average score across the items in the positive social behaviour scale. Scores ranged from 1 ("never") to 3 ("often").

[g]Parents of children in school were asked how often in the past school year they were contacted by the school about their child's behaviour problems in school. Responses ranged from 1 ("never contacted or contacted once") to 3 ("contacted four or more times").

[h]An average score of children's general health was computed across four items. Responses ranged from 1 ("false") to 5 ("true").

[i]Parents were asked whether their children had been diagnosed with any long-term conditions or health problems that limit their participation in any activity.

[j]Sample sizes reflect the largest sample of all measures shown. However, sample sizes vary largely across the measures, ranging from 235 to 1,111 in the program group.

- **The program may be having small adverse effects on the older cohort of children.**[6]

Table ES.4 presents the impacts on outcomes for the older cohort of children. Recall that response rates on the adolescent report outcomes were very low and therefore impacts on these outcomes should be interpreted more cautiously. Small unfavourable effects for the older children in the sample were found on children's school functioning as reported in the parents' and adolescents' reports. Mothers in the program group reported lower average school achievement for their children than did mothers in the control group. Likewise, nearly 19 percent of children in the program group said they were below average in at least one subject in school, compared with about 14 percent of the control group, an impact of nearly five percentage points. On the other hand, there were no differences between children in the two research groups on a math test, the one objective measure of their academic performance.

Results on children's problem behaviours were more consistent. While there were no differences in adolescents' risk of depression, SSP appeared to increase use of tobacco, alcohol, and drugs and to increase involvement in minor delinquent activity, such as staying out late or all night (according to adolescents' own reports). There were no differences in major delinquent activity such as stealing, carrying weapons, and involvement with police, and there were no differences in use of harder drugs, such as cocaine and LSD (not shown in the table). As with the middle cohort of children, these effects were small overall but may be masking more pronounced effects for the children in the one-third of families who took up the supplement.

- **Maternal background characteristics do not seem to explain impacts across age groups of children.**

SSP appears to have benefited children in the middle cohort somewhat, contributed to problematic behaviour for children in the older cohort, and had little effect on children in the younger cohort. Younger children, however, tend to be in very different families than older children. Their parents are much younger and much more likely never to have married, are less likely to have physical or emotional problems, and are less likely to be very long-term welfare recipients. Therefore, impacts for children in different age groups might be due to their parents' characteristics rather than their own age.

In an effort to investigate whether parental differences or children's age differences were responsible for differences in impacts, several statistical analyses were conducted. In these analyses, differences in characteristics of parents and families could not account for differences in impacts across the three cohorts of children. These analyses support the conclusion that the effects of SSP on children depend on the age of the children.

[6]Program impacts on children's outcomes for the older cohort of children were examined by child gender and by province. Program impacts appear to be slightly larger for girls than for boys, but not significantly so. Program impacts generally did not differ by province.

Table ES.4: SSP Impacts on Child Outcomes for the Older Cohort at the 36-Month Follow-Up

Outcome	Program Group	Control Group	Difference (Impact)
Cognitive/academic functioning			
Math score[a] (ages 12-14)	0.45	0.46	-0.01
Parental report			
Average achievement[b]	3.43	3.54	-0.11 *
Below-average, any subject[c] (%)	32.61	32.39	0.22
Adolescent report			
Average achievement[b]	3.50	3.57	-0.07
Below-average, any subject[c] (%)	18.91	14.26	4.65 **
Behaviour and emotional well-being			
Parental report			
School behaviour problems[d]	1.40	1.34	0.06 *
Adolescent report			
Frequency of delinquent activity[e] (ages 12-14)	1.35	1.38	-0.03
Frequency of delinquent activity[e] (ages 15-18)	1.40	1.34	0.07 **
Any smoking (%)	26.52	22.13	4.39 *
Drinks once a week or more (%)	8.91	4.65	4.27 ***
Any drug use (%)	18.63	14.34	4.29 *
At risk for depression (ages 15-18) (%)	45.74	47.14	-1.39
Health			
Average health[f]	4.10	4.13	-0.04
Any long-term problems[g] (%)	38.99	38.11	0.88
Sample size[h]	**740**	**677**	

Sources: Calculations from the baseline survey, the 36-month follow-up parent survey, the math skills test, and the 36-month follow-up child survey.

Notes: Older cohort children were ages 12–18 at the 36-month follow-up.

Only children who were in the home at random assignment and at the 36-month follow-up interview were analyzed.

A two-tailed test was applied to differences between the outcomes for the program and control groups. Statistical significance levels are indicated as: * = 10 percent; ** = 5 percent; *** = 1 percent.

Standard errors were adjusted to account for shared variance between siblings.

Rounding may cause slight discrepancies in sums and differences.

Sample sizes may vary for individual items because of missing values.

All measures are described in detail in Appendix B.

[a]The math score reflects the proportion of items answered correctly on a math skills test.

[b]An average score of children's achievement in three academic subjects was computed ranging from 1 (“not very well at all”) to 5 (“very well”).

[c]Children with a score below 3 (“average”) on any one of three academic subjects were scored as below average in any subject.

[d]Parents of children in school were asked how often in the past school year they were contacted by the school about their child’s behaviour problems in school. Responses ranged from 1 (“never contacted or contacted once”) to 3 (“contacted four or more times”).

[e]An average score was computed (scores were computed across 7 items for 12- to 14-year-olds and across 14 items for 15- to 18-year-olds). Responses for items ranged from 1 (“never”) to 4 (“5 or more times”).

[f]An average score of children's general health was computed across four items. Responses ranged from 1 (“false”) to 5 (“true”).

[g]Parents were asked whether their children had been diagnosed with any long-term conditions or health problems that limit their participation in any activity.

[h]Sample sizes reflect the largest sample of all measures shown. However, sample sizes vary largely across the measures, ranging from 280 to 740 in the program group.

IMPACTS ON FAMILY FUNCTIONING, CHILD CARE, SCHOOL AND RESIDENTIAL CHANGES, AND FAMILY STRUCTURE

To assess the effects of SSP on children's home environments, the 36-month interview asked parents to provide information on their health and emotional well-being, and asked both parents and children to provide information on interactions with one another, on children's involvement with their biological father, and on changes in family structure. The survey also asked for information about child care, changes in where the family lived, and changes in where the children went to school, to assess how children's out-of-home environments were affected by SSP. Understanding how SSP affects these outcomes may help researchers understand the pathways by which changes in employment and income affect children.

- **For all three age groups of children, program impacts on maternal functioning and the quality of parent-child interactions were rare.**

In the 36-month interview, mothers reported on their own health, alcohol use, parenting problems, and depression, and both mothers and children reported on parenting behaviour such as warmth, negative parenting, and discipline style. In general, few impacts were found on any of these measures (data not shown). The findings suggest that SSP had little effect on parents' emotional or physical health or the quality of parent-child interactions for all three age groups of children.

- **SSP increased children's use of child care and after-school activities for the younger and middle cohorts, but not for the older cohort of children.**

Findings on child care and after-school activities are presented in Table ES.5. The 36-month follow-up interview collected information on child care arrangements for only the youngest child in the family during the 18 months prior to the 36-month interview. Therefore, results reflect impacts of the program for children in the younger, middle, and older cohorts who were also the youngest children in the family. Information on after-school activities, on the other hand, was gathered for all children in the household who were age six and older.

As would be expected, given SSP's impact on maternal employment, mothers of the younger and middle cohorts of children in the program group reported spending more money on child care than did mothers in the control group. Likewise, this group of mothers reported greater use of child care relative to mothers in the control group. For the younger cohort, SSP not only modestly increased both formal (preschool and after-school programs) and informal (baby-sitters) child care arrangements but also slightly increased the instability of such care. For children in the middle cohort, mothers in the program group reported slightly more use of informal child care and after-school activities than did mothers in the control group. The positive effects of SSP on children's outcomes for the middle cohort may have been due, in part, to these increases in after-school arrangements.

Table ES.5: SSP Summary of Intermediate Outcomes at the 36-Month Follow-Up, by Child Age

Outcome	Younger Cohort[a] Difference (Impact)	Middle Cohort[b] Difference (Impact)	Older Cohort[c] Difference (Impact)
Child care[d] and children's activities[e]			
Monthly child care expenditure ($)	18.58 **	22.59 ***	0.08
Any centre care (%)	7.90 **	1.49	
Any informal child care (%)	7.40 **	5.18 *	-1.81
Changed care 2+ times (%)	2.71 *	1.25	
Any after-school weekly activity (%)		1.53 *	-0.82
Frequency of doing household chores			0.11 *
Working (%)			0.33
Worked 20 or more hours per week (%)			6.90 **
School changes[e] and residential moves			
Any school changes		4.44 **	1.43
Two or more school changes		4.49 ***	4.56 **
Any residential moves (%)	4.38	4.54 **	2.94
Sample size[f]	**977**	**2,163**	**1,431**

Sources: Calculations from the baseline survey, the 36-month follow-up parent survey, the 36-month follow-up child survey, and the 36-month follow-up core survey.

Notes: Only children who were in the home at random assignment and at the 36-month follow-up interview were analyzed.

A two-tailed test was applied to differences between the outcomes for the program and control groups. Statistical significance levels are indicated as: * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Sample sizes may vary for individual items because of missing values.

All measures are described in detail in Appendix B.

[a]Younger cohort children were ages 3–5 at the 36-month follow-up.

[b]Middle cohort children were ages 6–11 at the 36-month follow-up.

[c]Older cohort children were ages 12–18 at the 36-month follow-up.

[d]The child care participation data for all age groups are for the youngest child in the family only, and only for the previous 18 months. However, monthly child care expenditure data are for the previous month only.

[e]Measures were assessed separately for each child in the family. Standard errors were adjusted to account for shared variance between siblings.

[f]Sample sizes reflect the largest sample of all measures shown. However, sample sizes vary largely across the measures, ranging from 741 to 977 for the younger cohort; to 1,217 to 2,163 for the middle cohort; and to 710 to 1,431 for the older cohort.

For the older cohort, there were no differences between the program and control groups in children's after-school activities (as reported by both parents and adolescents) or in child care arrangements. Since SSP significantly increased mothers' full-time employment, the lack of a corresponding increase in older children's care arrangements means that children in the program group were without parental supervision more often than their control group counterparts, a difference that may have led to some of the adverse effects of the program on adolescents' behaviour. On the other hand, SSP did increase children's involvement in household chores and in employment over 20 hours per week. Non-experimental research has found associations between high levels of employment and adolescent problem behaviour.[7]

[7]Mortimer et al., 1996.

- **Families in the program group were more likely to move and their children were more likely to change schools than their control group counterparts, particularly for the middle cohort of children.**

Impacts of the program on school and residential changes are presented in the bottom panel of Table ES.5. For the middle cohort of children, families in the program group were slightly more likely to move than families in the control group. In addition, children in the middle cohort were slightly more likely to change schools, primarily because of these residential moves. For the younger and older cohorts of children, on the other hand, families in the program group were not significantly more likely to move than families in the control group, and older children in the program group and the control group were equally likely to change schools. Children in the program group in the older cohort were, however, more likely than their control group peers to have experienced two or more school changes.

- **For the older cohort of children, there were significant program impacts on children's family structure, but these differed by province.**

For the younger cohort of children, no impacts on family structure were found. For the middle cohort of children, children in the program group were more likely than children in the control group to be visiting with their second biological parent, but there were no impacts on marital status or living arrangements for this middle cohort.

For the older cohort of children, SSP's impacts on family structure differed by province (see Table ES.6). This was one of the few areas in which the program's impacts on either adults or children differed by province. SSP significantly increased marriage and second-parent contact for children in New Brunswick and significantly decreased second-parent contact for children in British Columbia. Further analyses (not shown) suggest that the increases in second-parent contact in New Brunswick are occurring in situations in which the children are living with the second parent in a separate household from that of their biological mother (and not that their biological parents are moving in together). Combined with the increase in marriage among their mothers, these changes suggest increases in step-families for older children in the program group relative to the control group. In British Columbia, SSP appears to have had a very different effect, reducing father involvement for the older children in the sample. The reasons for this pattern of impacts in the two provinces are unclear, but the findings for both provinces suggest that there may have been more changes in family structure and custody of children for older children in the program group than in the control group. These family structure changes may be responsible for some of the negative effects of SSP on adolescents' substance use and minor delinquency.

Table ES.6: SSP Impacts on Family Structure for Families With Older Cohort Children at the 36-Month Follow-Up, by Province

Outcome	Program Group	Control Group	Difference (Impact)
	British Columbia		
Family structure			
Marital history of parent			
Ever married (%)	11.18	12.91	-1.73
Number of months married	1.63	2.37	-0.74
Contact with second parent[a]			
Any contact (%)	62.43	62.70	-0.27
Living with second parent (%)	5.78	11.91	-6.13 ***
Sample size[b]	345	319	
	New Brunswick		
Family structure			
Marital history of parent			
Ever married	19.53	16.50	3.03
Number of months married	3.62	2.51	1.12 *
Contact with second parent[a]			
Any contact (%)	62.77	59.57	3.20
Living with second parent (%)	11.68	5.66	6.02 ***
Sample size[b]	410	371	

Source: Calculations from the baseline survey, the 36-month core survey, and the 36-month follow-up parent survey.

Notes: Older cohort children were ages 12–18 at the 36-month follow-up.

Only children who were in the home at random assignment and at the 36-month follow-up interview were analyzed.

A two-tailed test was applied to differences between the outcomes for the program and control groups. Statistical significance levels are indicated as: * = 10 percent; ** = 5 percent; *** = 1 percent.

Rounding may cause slight discrepancies in sums and differences.

Sample sizes may vary for individual items because of missing values.

All measures are described in detail in Appendix B.

[a]Contact was assessed separately for each child in the family. Standard errors were adjusted to account for shared variance between siblings.

[b]Sample sizes reflect the largest sample of all measures shown.

IMPLICATIONS AND CONCLUSION

- **Increases in full-time employment that are accompanied by increases in income do not adversely affect young children, at least in the short term.** The findings suggest that SSP did not help or harm children who were infants and toddlers at the start of the program, even though mothers in the program group had higher levels of full-time employment and family income than mothers in the control group, and even though these children did experience modest increases in child care. While many people have expressed concern about very young children as mothers move from welfare to work, these findings suggest that a program like SSP may not affect young children's functioning.
- **A program like SSP may have positive benefits for young school-age children.** The middle cohort of children, who were 3–8 years old at random assignment and 6–11 years old at the 36-month follow-up, experienced some small benefits from SSP, particularly in their test scores and academic functioning. These increases may have

been due, at least in part, to the increases in after-school activities in which these children engaged. This finding suggests that at least for some children, the increases in employment and income due to SSP may have some positive effects on children's functioning.

- **The only children who may have been negatively affected by SSP were adolescents.** Findings for older children suggest that SSP increased adolescents' engagement in substance use and minor delinquent activity. Such findings may have been due to the decline in maternal supervision when single mothers went to work; to the increases in children's own employment; or to changes in family structure, due to SSP. Although adolescents are not typically the focus of the debate around the possible negative effects of maternal employment, these findings suggest that outcomes for adolescents should be more closely monitored as their mothers move from welfare to work.
- **A program like SSP seems to have no effect on the quality of the interactions between mothers and children, and is more likely to affect children's out-of-home environments, like child care, activities, and schools.** For all ages of children, there were very few significant impacts on mothers' health and emotional functioning or on the quality of parent-child interactions as measured here. Instead, significant impacts were found for children's participation in child care and after-school activities, and in children's school changes and residential moves. While policy-makers have raised concerns about the increased stress facing mothers as they move from welfare to work, these findings suggest that increases in full-time employment when accompanied by increases in income do not negatively affect the emotional well-being or parenting practices of single mothers.

The impacts presented in this report are small and are not prevalent across many aspects of children's functioning. Therefore, one possible interpretation is that SSP is having very little impact on children's functioning. A follow-up study of the children in this report is currently under way. Fifty-four months after random assignment, parents of the children studied in this report will be interviewed about their children's behaviour and functioning, providing information on whether the benefits to the middle cohort of children in cognitive and academic functioning lead to more positive school outcomes in later childhood, and whether the difficulties observed for adolescents foretell future problems. Along with comparisons with findings in related studies, the future report will allow for more definitive conclusions about how a program like SSP may affect children and their families. Other studies offer further opportunities for comparison. First, a companion study to the one reported here was conducted with single parents who were applicants to the IA system. Second, other experimental evaluations of programs offering financial incentives are being run in the United States and can provide further information about how programs that increase parental employment and family income among single parents affect children.

While children are an integral part of low-income families, their well-being has been relatively understudied in the move to increase the self-sufficiency of low-income, single parents. SSP is one of a small set of random assignment studies currently being conducted on the effects of welfare and employment programs on children. Together with these other

studies, SSP can dramatically increase our understanding about how programs that increase employment and income among single mothers may affect children.