

# Appendix

## Gender Differences in the Benefits of an Influential Early Childhood Program

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## A Background<sup>1</sup>

### A.1 Overview

The Carolina Abecedarian Project (ABC) and the Carolina Approach to Responsive Education (CARE) were high-quality early childhood education programs each with two phases of randomized controlled design. They were both implemented at the Frank Porter Graham Center (FPGC) of the University of North Carolina in Chapel Hill. ABC served four cohorts of children born between 1972 and 1977, and CARE served two cohorts of children born between 1977 and 1980. In this section of the appendix, we expand on important details of the eligibility requirements, the randomization protocol, and the programmatic contents of both programs.

### A.2 Eligibility Criteria and Populations Served

The mothers of the ABC and CARE subjects were generally recruited during the last trimester of pregnancy. Potential families were referred by local social service agencies and hospitals. Eligibility was determined by a score of 11 or more on a weighted 13-factor High-risk Index (HRI). Table A.1 details the items of the HRI for ABC.

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<sup>1</sup>Sylvi Kuperman greatly assisted us in preparing this section of the appendix.

Table A.1: High-risk Index for ABC

Item	Response	Weight
1 Maternal education (years of education)	6	8
	7	7
	8	6
	9	3
	10	2
	11	1
	12	0
2 Paternal education (years of education)	same as maternal education	
3 Year family income (2014 USD)	\$5,663.54 or less	8
	\$5,663.54-\$11,327.08	7
	\$11,327.08-\$16,990.62	6
	\$16,990.62-\$22,654.16	5
	\$22,654.16-\$28,317.70	4
	\$28,317.70-\$33,981.24	0
4 Father’s absence from the household for reason other than health or death	Yes	3
5 Lack of maternal relatives in the area	Yes	3
6 Siblings in school age one or more grades behind age-appropriate level or low scores on school-administered achievement tests	Yes	3
7 Received payments from welfare agencies within the past 3 years	Yes	3
8 Father’s work unstable or unskilled and semi-skilled labor	Yes	3
9 Maternal or paternal IQ 90 or below	Yes	3
10 Sibling with an IQ score 90 or below	Yes	3
11 Relevant social agencies indicate that family is in need of assistance	Yes	3
12 One or more family members has sought professional help in the past 3 years	Yes	1
13 Special circumstances not included in any of the above that are likely contributors to cultural or social disadvantage	Yes	1

Note: This table shows the High-risk Index (HRI) for ABC. A score of 11 or more determined eligibility (Ramey and Smith, 1977; Ramey and Campbell, 1984, 1991; Ramey et al., 2000). The weighting scale aimed to establish the relative importance of each item in the index (Ramey and Smith, 1977). Race was not considered for eligibility; however, 98% of the families who agreed to participate were African American (Ramey and Smith, 1977; Ramey and Campbell, 1979).

The HRI for CARE was similar to that of ABC—it also contained 13 weighted variables and a score of 11 or above was required to be considered eligible. The items for maternal and paternal education levels have the same categories and weights as the ABC HRI. The other identical items are having an absent father, school-age siblings performing lower than the norm based on grade-level or achievement tests, a record of father’s unstable job history or unskilled labor, social agencies indicating a high level of need, and other circumstances related to cultural or social disadvantage.

The specification of the following items were changed between the ABC and CARE HRI. The weight associated with household income depended on the number of individuals in the

family for CARE and the income categories range from less than \$11,327.08 to \$76,457.80 (2014 USD) or more. In the CARE HRI, it is asked if payments were received from welfare agencies in the past 5 years instead of the past 3 years. Similarly, it asks if any family member has sought counseling in the past 5 years instead of the past 3 years. The threshold for maternal or paternal IQ is 85 in the CARE HRI instead of 90 as in the ABC HRI. It does not have an item related to the absence of maternal relatives in the area, but replaces that item with asking if any member of the mother or father’s immediate family has received services for the mentally disabled (the weight for this item is 3).<sup>2</sup>

All subjects were substantially disadvantaged (see Figure A.1 and Figure A.2). Maternal age when the subject was born was, on average, 19.9 years in ABC and 21.1 years in CARE. Approximately half of the mothers of both treatment-group and control-group subjects in ABC were 19 years or younger and one third were 17 years or younger. In CARE, approximately half of the mothers of both treatment-group and control-group subjects were 20 years or younger and one third were 17.2 years or younger. Mean maternal IQ score in ABC was approximately 85, one standard deviation below the national mean. In CARE, the mean maternal IQ score was approximately 87. Only 25% of the ABC subjects lived with both biological parents, and more than 50% lived with extended families in multi-generational households (61% of treatment-group subjects and 56% of control-group subjects).<sup>3</sup> About 79% of subjects did not have a father in the home in both ABC and CARE.

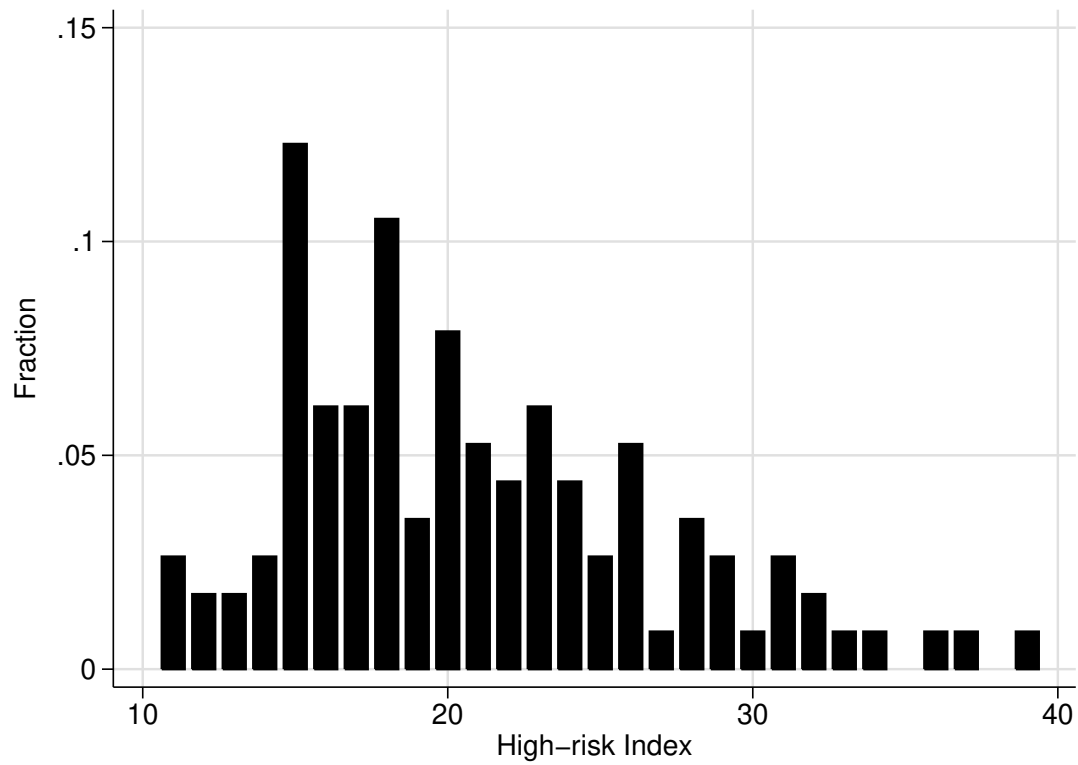
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<sup>2</sup>Ramey et al. (1985).

<sup>3</sup>Ramey and Campbell (1991); Campbell and Ramey (1994).

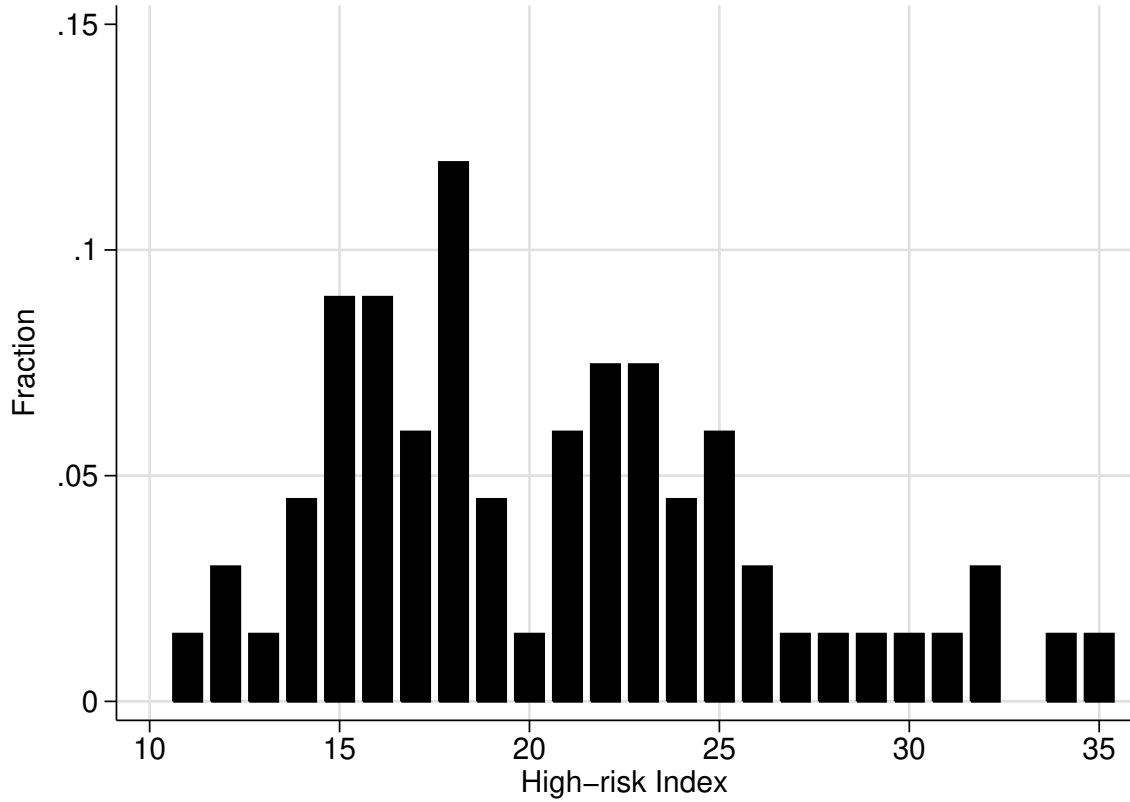


Figure A.1: High-risk Index Distribution, ABC



Note: This plot shows the distribution of the High-risk Index (HRI) for ABC, which determined eligibility. Subjects were eligible if they had a score of 11 or more.

Figure A.2: High-risk Index Distribution, CARE



Note: This plot shows the distribution of the High-risk Index (HRI) for CARE, which determined eligibility. Subjects were eligible if they had a score of 11 or more.

### A.3 Randomization Protocol and Compromises

Randomization compromises throughout ABC's and CARE's implementations pose a challenge when evaluating the programs' effects. We discuss each case of compromise in detail. Figure A.3 and Figure A.4 are flow charts that depict the sample from the first-phase randomization through the last data follow-up accounting for all cases of attrition and non-compliance.

Although most randomization compromises occurred at early stages, this methodology also accounts for the fact that a few subjects were not in the sample either for the second-phase randomization or for the adult follow-ups. In Appendix [A.6](#), we describe the sample reductions that attrition at different stages of the study generates and test potential differences between the subjects who completed data follow-ups and the subjects who did not.

Figure A.3: Randomization Protocol and Treatment Compliance, ABC

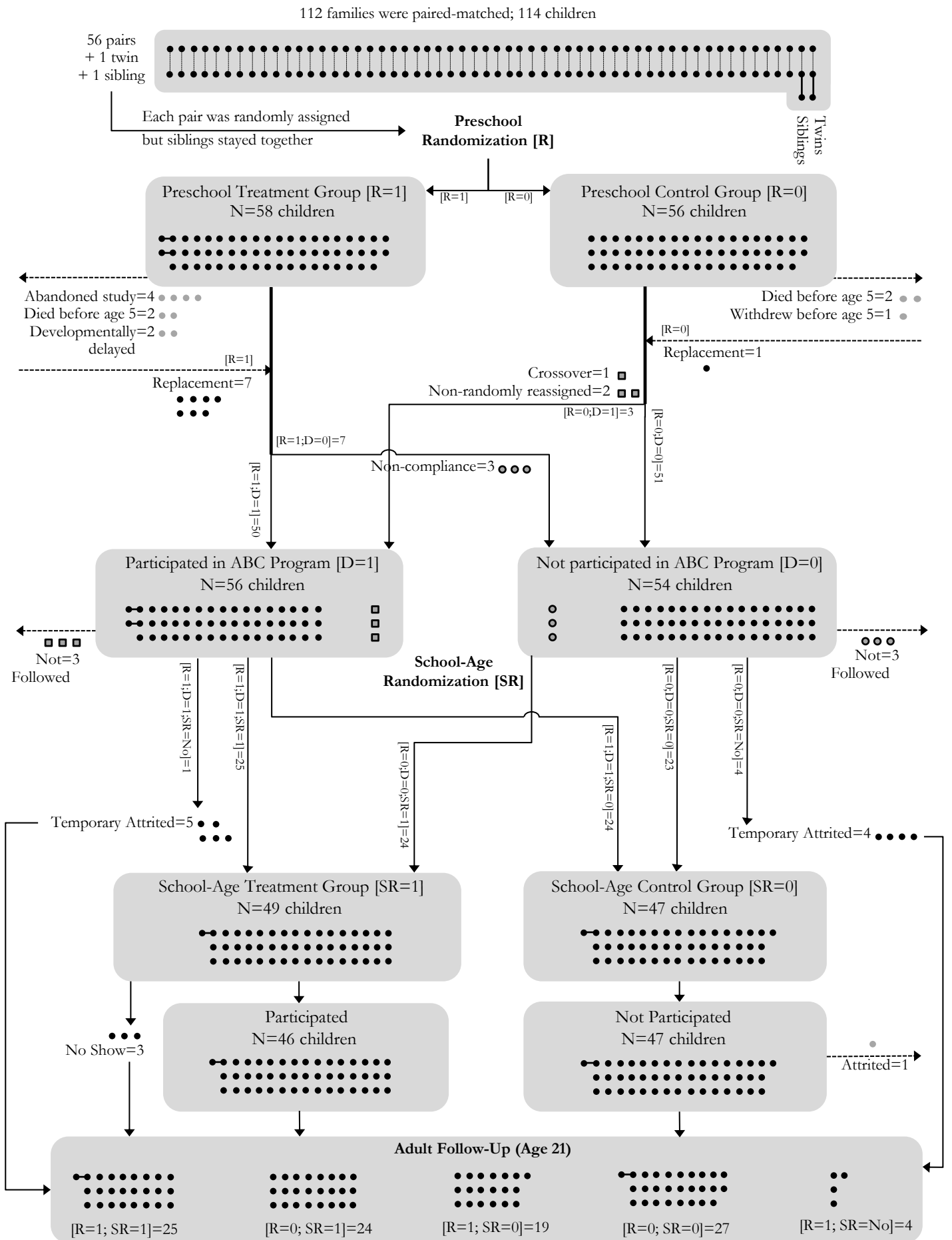
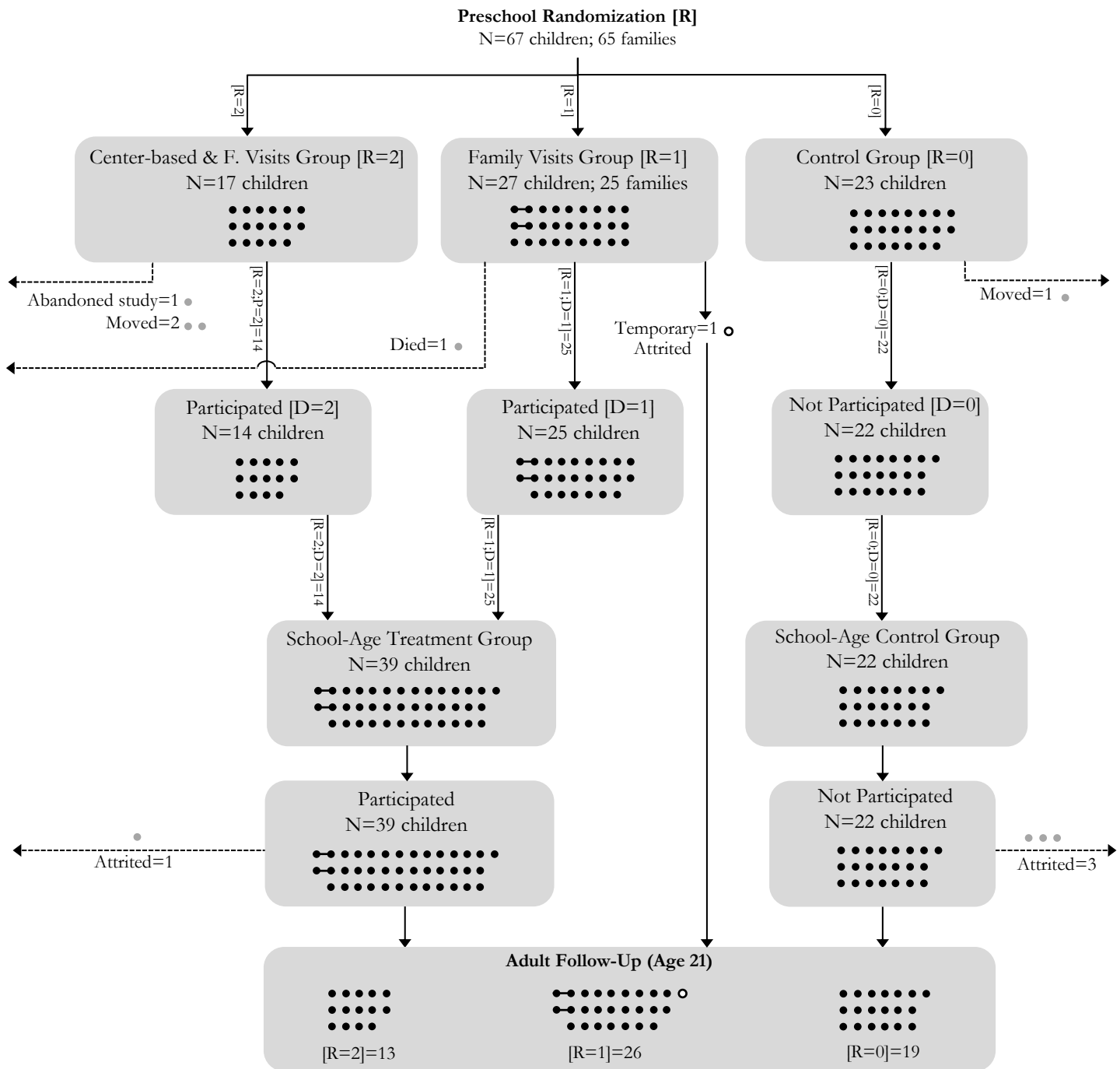


Figure A.4: Randomization Protocol and Treatment Compliance, CARE



**Details on Figure A.3:** Sources: Ramey et al. (1976); Ramey and Smith (1977); Ramey and Campbell (1979, 1984), internal documentation of the program, and own calculations. Note: The variable  $R$  represents randomization into treatment, [ $R = 1$ ], or control, [ $R = 0$ ], groups. After the original randomization, some subjects died or withdrew from the program early in life and were replaced.  $R$  also includes those replacements. Arrows pointing outside of the diagram indicate subjects who left the study permanently. The variable  $D$  represents participation in the preschool-age program. The variable  $SR$  represents randomization into the school-age program, [ $SR = 1$ ], or out of it, [ $SR = 0$ ]. Some subjects were not randomized at school age, [ $SR = No$ ]. We use the term “temporarily attrited” for subjects who did not participate in the study at school age, but were later interviewed in the age-21 followup.

**Details on Figure A.4:** Sources: Wasik et al. (1990), internal documentation of the program, and own calculations. Note: The variable  $R$  represents randomization into center-based childcare and family education, [ $R = 2$ ], family education, [ $R = 1$ ], or control, [ $R = 0$ ]. Arrows pointing outside of the diagram indicate subjects who left the study permanently. The variable  $D$  represents participation in the corresponding group of the preschool-age program. The variable  $SR$  represents those who participated in the school-age program, [ $SR = 1$ ], or did not, [ $SR = 0$ ]. Unlike in ABC, there was no second-phase randomization in CARE. Rather, those in the center-based childcare and family education group and those in the family education group were automatically assigned to receive the school-age treatment. We use the term “temporarily attrited” for subjects who did not participate in the study at school age, but were later interviewed in the age-21 followup.

### A.3.1 ABC

Both the first and second phases of randomization were conducted at the family level, so pairs of siblings and twins were jointly randomized into either treatment or control groups.<sup>4</sup> Although we know that pairing was based on HRI, maternal IQ, maternal education, maternal age, and gender of the subject, we do not know the original pairs. The study collected an initial sample of 120 families. Twenty-two subjects did not complete the first-phase of treatment as initially assigned by the randomization (see Table A.2).<sup>5</sup>

Of these cases, there were four subjects assigned to treatment who left the study before any data on them was collected. In our main methodology, we assume that they are missing at random.

Second, four subjects died before age 5—two of them initially assigned to treatment and two of them initially assigned to control. For all of them, we observe baseline characteristics and any other data collected before their death. For methodological purposes, they represent cases of program attrition when we do not observe their outcomes.

Third, three subjects in the treatment group did not comply to treatment status. They are different from the four subjects who left the study before any data collection because we observe data collected for them from birth to age 8. Afterward, the program staff chose not to follow them anymore.<sup>6</sup> Therefore, these subjects remain in treatment sample until age 8 or before. After, they represent cases of program attrition, given that we do not observe

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<sup>4</sup>Sibling pairs occurred when the two siblings were close enough in age such that both of them were eligible for the program.

<sup>5</sup>In Appendix B, we compare the observed baseline characteristics of the subjects in Table A.2 to the observed baseline characteristics of the subjects who complied to the initial treatment assignment. We find little evidence of differences.

<sup>6</sup>Informal conversations with the program’s staff do not indicate a clear reason for this.

them anymore.



Table A.2: Randomization Compromises, ABC

Case	Initial Assignment	Compromise Description	Age at Departure	Data Availability	Methodology Assumption
1	Treatment	Left the study	0	None	Missing at random
2	Treatment	Left the study	0	None	Missing at random
3	Treatment	Left the study	0	None	Missing at random
4	Treatment	Left the study	0	None	Missing at random
5	Control	Death (age 0), heart disease	0	Baseline; before dead	Attrition after death
6	Control	Death (age 0), heart disease	0	Baseline; before dead	Attrition after death
7	Treatment	Death (age 0), AIDS	0	Baseline; before dead	Attrition after death
8	Treatment	Death (age 4), pedestrian accident	4	Baseline; before dead	Attrition after death
9	Treatment	Non-compliance	Do not depart	Baseline; before age 8	Attrition after age 8
10	Treatment	Non-compliance	Do not depart	Baseline; before age 8	Attrition after age 8
11	Treatment	Non-compliance	Do not depart	Baseline; before age 8	Attrition after age 8
12	Control	Crossover from control to treatment	Do not depart	Baseline; before age 8	Attrition after age 8
13	Treatment	3 months of treatment	3 months	Baseline; after age 2	Same as treatment group
14	Treatment	10 months of treatment	10 months	Baseline; after age 2	Same as treatment group
15	Treatment	6 months of treatment	6 months	Baseline; after age 2	Same as treatment group
16	Treatment	9 months of treatment	9 months	Baseline; after age 2	Same as treatment group
17	Control	Left study at 54 months	54 months	Baseline; before 54 months	Attrition after 54 months
18	Treatment	Developmentally delayed at 6 months	6 months	No data after diagnosis	Dropped (non-eligible)
19	Treatment	Developmentally delayed at 3 years	3	No data after diagnosis	Dropped (non-eligible)
20	Control	Crossover from control to treatment	Do not depart	Baseline, before age 8	Attrition after age 8
21	Control	Crossover from control to treatment	Do not depart	Baseline, before age 8	Attrition after age 8

Note: This table describes the various randomization compromises in ABC. For each subject, we display: the nature of the compromise, the available data, and the methodological assumption when accounting for non-compliance and program attrition. The case numbers do not have anything to do with individual identifiers of program participants.

Fourth, one subject initially assigned to control was enrolled into treatment. The mother wanted to work and the program staff decided to admit her child into center-based care.<sup>7</sup> Both in terms of data collection and in terms of methodological purposes, this subject is analogous to the subjects in the third case.<sup>8</sup>

Fifth, four subjects in the treatment group did not complete treatment in its entirety. They were treated for at most 10 months. Except for follow-ups during childhood, which our main results do not use, we observe most of the data for these subjects. We avoid taking a stance on how beneficial the program was at each age, because we do not have a way to document this. Therefore, we assume that they were treated as other subjects in the treatment group.<sup>9</sup>

Sixth, the family of one subject in the control group moved at age 54 months. We observe data before the family moved, so we consider the subject as part of the control group in any estimation before this event. Afterwards, we do not observe any data on the subject, so we consider her a case of program attrition.

Seventh, two subjects initially assigned to treatment status were diagnosed as developmentally delayed after 6 and 36 months of treatment. No data for them are available after the diagnosis. We drop them from the sample because they were not eligible to be part of the program.

Finally, two subjects initially assigned to the control group were admitted into treatment. Local authorities requested this because the children were considered highly at risk. Data on

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<sup>7</sup>Correspondence with the program officers stating this permission is available under request from the authors.

<sup>8</sup>The sensitivity analysis finding little evidence when adjusting for non-compliance includes this case.

<sup>9</sup>If anything, this downward biases the effects of the program we estimate.

them are available from birth to age 8. Although they crossed over from the control group to the treatment group, we consider them to be members of the control group who attrited after age 8.

Analysis of each of these cases leads to the following conclusions. For four subjects, we do not have data to assess them as cases of program attrition, though sensitivity analyses suggest that the treatment effects of the program persist after assigning them the same outcome as the subjects who did the worst in the treatment group. For the subjects who did not comply to treatment, adjusting our estimates for non-compliance when data are available makes little difference. The remaining 14 subjects who did not complete treatment as initially assigned represent various cases of program attrition, for which we propose a correction methodology in Appendix B.2.

To increase the number of subjects in the sample, the program officers recruited additional subjects who were added to the program before the subjects were 6 months old. Our calculations indicate that there were eight replacements. We cannot distinguish in the data the subjects who were initially randomized from the replacement children and there is no documentation on how these subjects were recruited.<sup>10</sup> After the various compromises, the sample consisted of 114 subjects: 58 in the treatment group and 56 in the control group. The observed characteristics for each subjects indicate that they were eligible for the program; all subjects in the sample have an HRI of 11 or above.

Prior to the second phase of randomization, 3 subjects in the first-phase control group and 3

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<sup>10</sup>Three replacements are reported in Ramey and Campbell (1979). Three are documented in correspondence with the program officers, which is available from the authors upon request. The other two replacements are implied by the number of subjects who participated in the randomization protocol in each cohort.

subjects in the first-phase treatment group could not be located for follow-up. One subject in the control group and eight subjects in the treatment group of the first phase did not participate in the second phase but later agreed to participate in the data collections during adulthood. This yielded a sample of 96 subjects in the second phase: 49 in treatment and 47 in control. After the second-phase randomization, three subjects in the treatment group chose not to participate in the program, while all subjects in the control group adhered to their randomization status.

### A.3.2 CARE

The randomization protocol in CARE had no major compromises.<sup>11</sup> Of the 65 initial families, 23 were randomized to a control group, 25 to the family education treatment group (we do not consider this group in our combined ABC/CARE sample), and 17 to the family education and center-based childcare treatment group. Two families in the family education treatment group had twins who were jointly randomized, as in ABC. We document four cases of program attrition (see Table A.3).<sup>12</sup> For methodological purposes, we consider these subjects analogous to their corresponding cases in ABC. We do not present exercises to evaluate the sensitivity to non-compliance because there was none in CARE. Figure A.4 illustrates CARE's randomization protocol and the presence of subjects throughout the data follow-ups.

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<sup>11</sup>Wasik et al. (1990); Burchinal et al. (1997).

<sup>12</sup>In Appendix B, we compare the observed baseline characteristics of the subjects in Table A.3 to the observed baseline characteristics of the subjects who complied to the initial treatment assignment. We find little evidence of differences.

Table A.3: Randomization Compromises, CARE

Case	Initial Assignment	Compromise Description	Age at Departure	Data Availability	Methodology Assumption
1	Family education	Death (age 0), unknown causes	0	Baseline	Attrition after dead
2	Center-based Childcare	Left study at age 5	5	Baseline; before age 5	Attrition after age 5
3	Control	Move at 11 months old	11 months	Baseline; before 11 months	Attrition after 11 months
4	Center-based Childcare	Move at 5 months	5 months	Baseline; before 5 months	Attrition after 5 months
5	Center-based Childcare	Move at age 5	5	Baseline; before age 5	Attrition after 5

Note: This table describes the various randomization compromises in CARE. For each subjects, we display: the nature of the compromise, the available data, and the methodological assumption when accounting for non-compliance and program attrition. The case numbers do not have anything to do with individual identifiers of program participants.

## A.4 Program Description and Content

### A.4.1 Goals

The original goals of treatment were to prevent mental retardation by enhancing overall development from birth, in turn fostering school-readiness for an at-risk population.<sup>13</sup> Additional curriculum goals were to (i) support language, motor, and cognitive development; (ii) minimize high-risk behaviors; and (iii) develop socio-emotional competencies considered crucial for school success including task-orientation, communicative competence, independence, and prosocial behavior.<sup>14</sup> Implementation of ABC's and CARE's educational treatments evolved each successive year as program staff evaluated ongoing outcome data.<sup>15</sup>

### A.4.2 Daily Schedule

For both ABC and CARE, FPGC was open to families from 7:45 a.m. to 5:30 p.m., 5 days per week and 50 weeks per year.<sup>16</sup> Subjects were offered free transportation to and from the center. A driver and second adult staffed each vehicle (one van and two station wagons) equipped with child safety seats.<sup>17</sup> Approximately 65% of treated ABC families utilized the free transportation.<sup>18</sup> Vehicles typically arrived by 9:00 a.m. to the center and departed around 3:45 p.m.<sup>19</sup> At FPGC, ABC and CARE treatment-group subjects received breakfast, lunch, and a snack planned by a nutritionist.<sup>20</sup> Meals were catered by off-site

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<sup>13</sup>Note that the clinical understanding of mental retardation was once associated with disadvantages that hindered early-life development (Noll and Trent, 2004).

<sup>14</sup>Ramey et al. (1976, 1985); Sparling (1974); Wasik et al. (1990); Ramey et al. (2012).

<sup>15</sup>Ramey et al. (1975); Finkelstein (1982); McGinness (1982); Haskins (1985).

<sup>16</sup>Ramey et al. (1976, 1985).

<sup>17</sup>Ramey and Campbell (1979); Kuperman (2015).

<sup>18</sup>Barnett and Masse (2002).

<sup>19</sup>Ramey et al. (1977).

<sup>20</sup>Haskins (1985); Bryant et al. (1987); Ramey et al. (1977).

kitchens. Infants received iron-fortified formula until doctors advised adding solid food. The control-group subjects also received an unlimited amount of iron-fortified formula until approximately 15 months of age.<sup>21</sup>

### A.4.3 Program Staff and Physical Space

To promote trust in FPGC within the subjects' families, staff were recruited from the local community.<sup>22</sup> Infant and toddler caregivers and preschool teachers demonstrated varied educational backgrounds ranging from high school graduation to master's degrees. Their average professional working experience with young children was 7 years.<sup>23</sup> All classroom staff participated in extensive training and were closely observed by FPGC's academic staff, as part of a broad variety of ongoing clinical and social research related to early childhood education, psychology, and health. In ABC, child-caregiver ratios varied by age: 3:1 for infants up to 13 to 15 months of age; 4:1 for toddlers up to 36 months; and 5:1 or 6:1 for children aged 3 to 5 years, depending on cohort size.<sup>24</sup> Child-caregiver ratios were similar in CARE.<sup>25</sup>

The ABC and CARE staff included a program director, a secretary, 12 to 14 teachers and assistant teachers, 3 administrative staff members, and a transportation supervisor.<sup>26</sup> Lead caregivers and teachers had bachelor's or master's degrees. Teacher aides, recruited from the local community, held high school diplomas (at minimum) and were comparatively well-compensated in the childcare field. They remained a stable treatment component throughout the study. After 1980, following revisions to FIDCR regarding minimum requirements for early childhood education staff, several teacher aides pursued and received undergraduate

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<sup>21</sup>Campbell et al. (2014); Kuperman (2015).

<sup>22</sup>Ramey et al. (1977); Bryant et al. (1987); Feagans (1996); Kuperman (2015).

<sup>23</sup>Ramey et al. (1982, 1985); Wasik et al. (1990).

<sup>24</sup>Ramey et al. (1977); Ramey and Campbell (1979); Ramey et al. (1982).

<sup>25</sup>Burchinal et al. (1997); Ramey et al. (1985).

<sup>26</sup>Ramey et al. (1977, 1982); Bryant et al. (1987).

degrees and became lead teachers. All classroom staff were supervised daily, received weekly mentoring, and professional development from outside consultants..<sup>27</sup>

Infant nurseries, toddler rooms, and preschool classrooms were housed on different floors of FPGC. Early reports indicate that FPGC allocated two floors to ABC, but later reports indicate the use of three floors.<sup>28</sup> Two infant nurseries were staffed by five adults in a suite of four adjoining rooms: two sleeping rooms contained seven cribs each, while the other two rooms were designated for activities.<sup>29</sup> The four rooms opened into a large, shared space with feeding tables, an area for food preparation, and a couch.<sup>30</sup> Offices for the medical staff, along with two examining rooms and facilities for laboratory tests were located around the corner from the infant nurseries.<sup>31</sup> Two multi-age toddler rooms were located one floor below the infant nurseries. One room served children who were 1 to 2 years old and the other served children 2 to 3 years old.<sup>32</sup> 3-year-olds were housed in a closed classroom near the toddler rooms. On the lowest floor, 4-year-olds shared an open classroom with a public kindergarten program; the two classes were separated by a long, low bookcase. In CARE, two floors of FPGC were allocated to nurseries and classrooms. A mixed-age classroom design was implemented combining children ages 1 and 3, and children ages 2 and 4. Teacher-child ratios for these ages remained 1:5. FPGC offered two outdoor play areas for both ABC and CARE: one for children up to age 3, and the other for older children.<sup>33</sup>

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<sup>27</sup>O'Brien and Sanders (1974); Ramey et al. (1985); Sanders and Stokes (1979); Klein and Sanders (1982); Kuperman (2015).

<sup>28</sup>Ramey and Smith (1977); Ramey and Campbell (1979); Ramey and Haskins (1981).

<sup>29</sup>Ramey et al. (1977).

<sup>30</sup>Ramey and Campbell (1979).

<sup>31</sup>Kuperman (2015).

<sup>32</sup>Ramey and Smith (1977); Ramey and Campbell (1979).

<sup>33</sup>Ramey and Campbell (1979); Ramey et al. (1982).



#### A.4.4 Approach to Child Development

Curriculum delivery enabled a highly customized learning experience for treated subjects in both ABC and CARE. Infant caregivers recorded child observations on progress charts and collaborated with FPGC’s curriculum developers and academic researchers to rotate learning activities every 2 to 3 weeks for each treated subject.<sup>34</sup> Preschool rooms featured intentionally organized environments to promote pre-literacy and access to a rich set of learning tools. The full-day curriculum emphasized active learning experiences, dramatic play, and pre-academics. Frequent 1:1 or 2:1 child-adult interactions prioritized language development for social competence. For ages 3 through 5, as the cohorts approached public school entry, classroom experiences were increasingly structured towards the development of pre-academic skills and “socio-linguistic and communicative competence.”<sup>35</sup> FPGC offered a summer program before the start of kindergarten designed to target specific skills to ensure success in a kindergarten classroom (e.g., lining up when exiting the classroom). This program was available to subjects in both the center-based childcare and family education group and the family education group.<sup>36</sup>

ABC’s and CARE’s learning programs were influenced by key developmental theorists.<sup>37</sup> All four ABC cohorts and two CARE cohorts participated in curriculum developers Sparling and Lewis’ “LearningGames for the First Three Years.”<sup>38</sup> The “LearningGames” were implemented daily by infant and toddler caregivers in 1:1 child-adult interactions. Each “LearningGames” activity stated a developmentally-appropriate objective, the necessary materials, directions for teacher behavior, and expected child outcome. The activities were designed

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<sup>34</sup>Ramey et al. (1976); Campbell and Ramey (1994).

<sup>35</sup>Ramey et al. (1977); Haskins (1985); Ramey and Haskins (1981); Ramey and Campbell (1979); Ramey and Smith (1977); Ramey et al. (1982); Sparling and Lewis (1979, 1984).

<sup>36</sup>Ramey et al. (1985).

<sup>37</sup>These include including Bowlby, Piaget, and Vygotsky. (Sparling, 1974; McGinness and Ramey, 1981; Kuperman, 2015).

<sup>38</sup>Sparling and Lewis (1979).

for use both indoors and outdoors, while dressing, eating, bathing, or during play.<sup>39</sup>

Supplemental curricula for preschool rooms varied throughout the study, and included “Cook and Learn,” “Peabody Early Experiences Kit,” “GOAL Math Program,” and “My Friends and Me.”<sup>40</sup>

CARE subjects randomized into the center-based childcare and family education group or the family education group also received home visits designed to transmit information on child development and skills involved with parenting including strategies for parent-child interactions based on “LearningGames” activities and problem-solving techniques.<sup>41</sup> Home visitors were trained to ensure they were able to form a strong relationship with the parent and successfully implement the curriculum.<sup>42</sup> The visits lasted about an hour, and occurred weekly until the child was 3 years old. After age 3, the home visits were less frequent and depended on the preferences of the parents. They were usually about once a month after age 3.<sup>43</sup>

#### **A.4.5 Medical Care and Nutrition**

ABC and CARE provided comprehensive on-site medical care because it was conducted in conjunction with a longitudinal medical research study on infectious respiratory diseases in group environments.<sup>44</sup> Treatment group children were monitored daily for signs of illness. All treated children received medical care while attending center-based childcare; the first ABC cohort of control-group children also received medical care during the program’s first

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<sup>39</sup>Ramey and Campbell (1979); Ramey and Haskins (1981); Sparling and Lewis (1979).

<sup>40</sup>Greenberg and Epstein (1973); Karnes (1973); Dunn et al. (1976); Davis (1977); Wallach and Wallach (1976).

<sup>41</sup>Bryant et al. (1987); Wasik et al. (1990); Burchinal et al. (1997).

<sup>42</sup>Bryant et al. (1987).

<sup>43</sup>Bryant et al. (1987); Wasik et al. (1990); Burchinal et al. (1997).

<sup>44</sup>Henderson et al. (1982).

year of implementation.<sup>45,46</sup>

In ABC, primary pediatric care was provided by a family nurse practitioner and a licensed practical nurse, both under the supervision of one pediatrician who was on continuous duty at the center.<sup>47</sup> In CARE, the medical staff included two pediatricians, a family nurse practitioner, and a licensed practical nurse.<sup>48</sup> The medical staff provided regularly scheduled check-ups, immunizations, parental counseling, and initial assessment of illnesses.<sup>49</sup> The treatment group received standard check-ups when they were 2, 4, 6, 9, 12, 18, and 24 months old and annually thereafter. While in treatment, they also received the standard immunizations.<sup>50</sup> In ABC, a licensed practical nurse visited classrooms for up to two hours on a daily basis to monitor the subjects' health status.<sup>51</sup> Although this medical care was offered to the treatment-group families free of charge, it was the policy of the medical staff to refer families to a community hospital for serious treatment. While ABC and CARE provided aspirin, immunizations, and basic medicines, families were responsible for purchasing any prescription medication subjects required. There are no data currently available on treatment received for serious conditions or use of prescription medication.

Infants were supplied with iron-fortified formula. Children older than 15 months of age were provided breakfast, lunch, and an afternoon snack all planned by a nutritionist.<sup>52</sup> Control families received diapers for up to three years and unlimited iron-fortified bottled formula

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<sup>45</sup>Ramey et al. (1976); Bryant et al. (1987); Ramey and Campbell (1991); Campbell and Ramey (1994).

<sup>46</sup>Subjects in both the treatment and control groups of the first cohort received free medical care provided by ABC. The control group of the first cohort only received medical care in the first year of the program; the treatment group of the first cohort received medical care for all years of the program. In the subsequent cohorts, only subjects in the treatment group received free medical care provided by ABC. Both CARE cohorts of treated subjects received medical care.

<sup>47</sup>Haskins et al. (1978).

<sup>48</sup>Bryant et al. (1987).

<sup>49</sup>Ramey et al. (1977); Bryant et al. (1987).

<sup>50</sup>Bryant et al. (1987); Campbell et al. (2014).

<sup>51</sup>Sanyal et al. (1980).

<sup>52</sup>Bryant et al. (1987); Campbell et al. (2014); Kuperman (2015).

through 15 months.<sup>53</sup>

#### A.4.6 School-age Treatment

The ABC subjects were randomized into a second-phase, school-age treatment (95 subjects continued to this stage of treatment). The CARE subjects in the center-based childcare and family education group and the family education group received the school-age treatment without randomization. The school-age treatment lasted for the first three years of elementary school and consisted of home visits conducted by a Home/School Resource Teacher.<sup>54</sup> These visits were structured to increase exposure to reading and mathematics and promote parental involvement in the academic process.

The curriculum was delivered through sets of activities that developed skills such as handwriting, phonics, and math facts.<sup>55</sup> Teachers worked to encourage parental involvement in the subjects' academics and provided incentives to families to comply with the treatment, such as giving gift certificates to restaurants and books for the subjects upon the completion of activity packets.

Teachers had graduate-level education, training in special education, *or* were qualified to act as consultants for in-school teachers to address any problems that arose.<sup>56</sup> They met with parents at home and with teachers in the schools to deliver new activities for the parents to complete with their children and discuss the child's level of success with the previous set of activities. In addition, they helped parents with issues such as adult literacy, housing, and medical care. Thus, the teacher had a dual role as a parent educator and an advocate for

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<sup>53</sup>Ramey et al. (1976); Ramey and Campbell (1979); Ramey et al. (1985).

<sup>54</sup>Burchinal et al. (1997).

<sup>55</sup>There were about 60 activities per year. See Campbell and Ramey (1989) for details.

<sup>56</sup>Ramey and Campbell (1991).

the subject in their educational institution.

## A.5 Control Group Substitution

In ABC, the families of 75% of the control-group subjects enrolled their children in alternative center-based childcare. In CARE, 74% of families in the control group and 62% of families in the family education group enrolled their children in alternative center-based childcare. We refer to this phenomenon as control substitution; accounting for it is fundamental when evaluating the program.<sup>57</sup> In this Appendix, we thoroughly describe the characteristics and costs of the childcare centers providing alternative treatment, in order to create a comparison with the treatments offered by ABC and CARE.

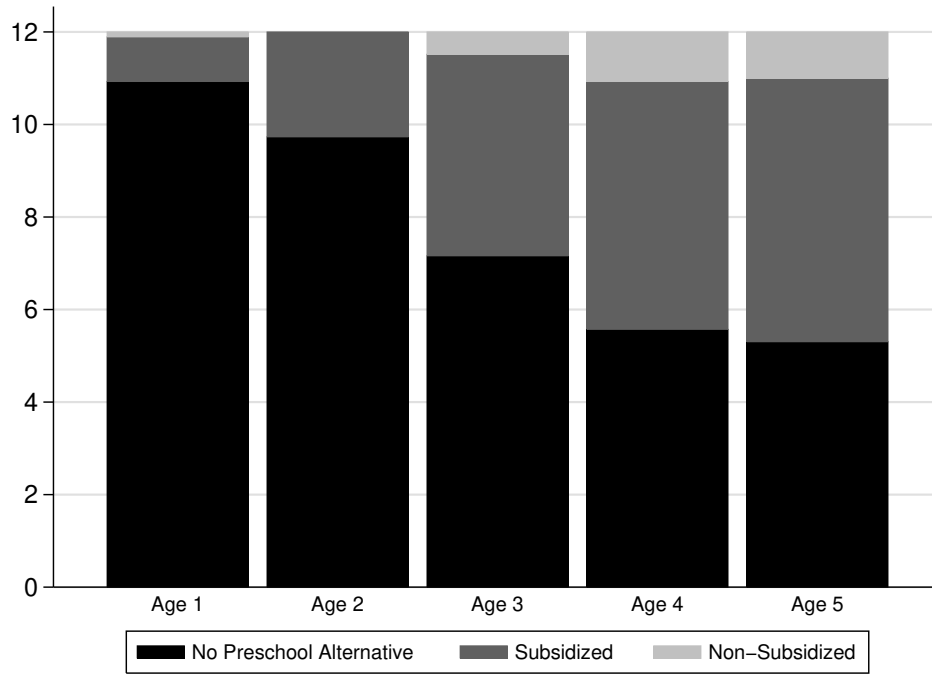
Most of the families in the ABC and CARE control groups enrolled their children in alternative preschool that received federal subsidies and, therefore, were regulated. Figure A.5 and Figure A.6 show the amount of enrollment into subsidized and non-subsidized care for ABC and CARE, respectively. Subsidized centers were required to have trained staff who were able to implement curricula designed to enhance cognitive, social, and linguistic competence in disadvantaged children.<sup>58</sup> Thus, we consider these centers to offer low-quality center-based childcare.

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<sup>57</sup>See Heckman (1992), Heckman (2001), and Kline and Walters (2016).

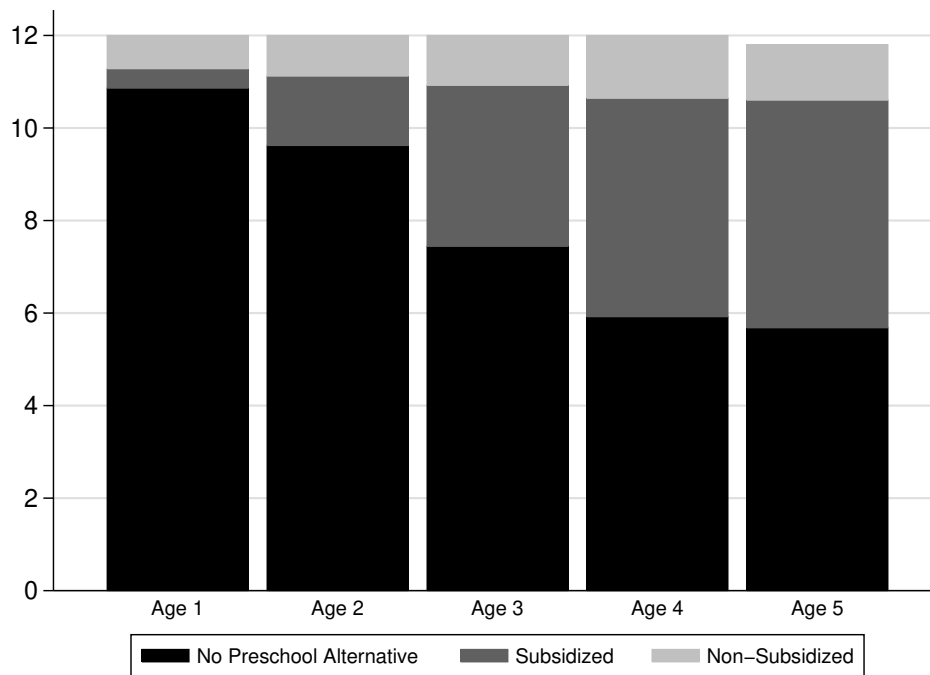
<sup>58</sup>Burchinal et al. (1989).

Figure A.5: Average Number of Months in Alternative Preschool, ABC Control Group



Note: This figure describes the take-up of alternative preschool by families in the ABC control group. The vertical axis represents the average number of months per year the subjects of the control group spent in alternative preschool. Subsidized centers were highly regulated and, therefore, relatively high-quality. Non-subsidized childcare services were center-based but not regulated. Other sources of childcare could have included care by parents, relatives, or non-relatives.

Figure A.6: Average Number of Months in Alternative Preschool, CARE Control and Family Education Groups



Note: This figure describes the take-up of alternative preschool by families in the CARE family education and control groups. The vertical axis represents the average number of months per year the subjects of the control group spent in alternative preschool. Subsidized centers were highly regulated and, therefore, relatively high-quality. Non-subsidized childcare services were center-based but not regulated. Other sources of childcare could have included care by parents, relatives, or non-relatives.

Table A.4 shows baseline characteristics between the control-group subjects who were enrolled in alternative preschool and those who stayed at home. The control-group children who attended alternative preschool were marginally more advantaged, with the most stark difference being maternal employment. This is seen across genders, but is only significant for the female and pooled samples. The males who are enrolled in alternative preschool have mothers with higher IQ scores, but lower parental income indicating lack of spousal support, which is evident by the fewer number of fathers present in that same group. Those who were enrolled in alternative preschools also had more siblings.

Table A.4: Baseline Characteristics and Control Substitution

Characteristic	Females			Males			Pooled		
	Control Substitution		<i>p</i> -value	Control Substitution		<i>p</i> -value	Control Substitution		<i>p</i> -value
	No	Yes		No	Yes		No	Yes	
<i>N</i> = 10	<i>N</i> = 27		<i>N</i> = 9	<i>N</i> = 28		<i>N</i> = 19	<i>N</i> = 55		
Mother's Yrs. of Edu.	9.70 (0.63)	10.19 (0.42)	0.53	9.78 (0.62)	10.50 (0.31)	0.32	9.74 (0.43)	10.35 (0.26)	0.23
Mother Works	<b>0.00</b> (0.00)	<b>0.23</b> (0.09)	0.02	0.14 (0.14)	0.29 (0.11)	0.42	<b>0.08</b> (0.08)	<b>0.26</b> (0.07)	0.09
Mother's Age	19.40 (1.66)	19.89 (0.91)	0.80	23.67 (3.25)	20.64 (0.89)	0.39	21.42 (1.79)	20.27 (0.63)	0.55
Mother's IQ	81.70 (3.15)	84.04 (1.96)	0.54	82.33 (3.62)	87.11 (1.80)	0.26	82.00 (2.32)	85.60 (1.33)	0.19
Father Present	0.30 (0.15)	0.26 (0.09)	0.82	0.44 (0.18)	0.25 (0.08)	0.34	0.37 (0.11)	0.25 (0.06)	0.38
Parental Income	2,566.67 (2,566.67)	3,499.55 (1,264.46)	0.75	11,291.43 (4,750.08)	8,694.41 (2,220.99)	0.63	7,264.62 (2,986.31)	5,763.97 (1,256.34)	0.65
HRI Score	21.90 (1.73)	22.93 (1.25)	0.64	19.89 (2.46)	20.32 (1.00)	0.87	20.95 (1.46)	21.60 (0.81)	0.70
Number of Siblings	0.50 (0.31)	0.70 (0.22)	0.60	1.56 (0.71)	0.54 (0.14)	0.19	1.00 (0.38)	0.62 (0.13)	0.35
Male							0.47 (0.12)	0.51 (0.07)	0.80
Birth Year	1975.50 (0.99)	1975.37 (0.42)	0.91	1975.67 (0.97)	1976.07 (0.48)	0.71	1975.58 (0.68)	1975.73 (0.32)	0.84
Apgar Score, 1 min.	7.30 (0.73)	7.46 (0.33)	0.84	7.67 (0.44)	7.78 (0.27)	0.83	7.47 (0.43)	7.62 (0.21)	0.76
Apgar Score, 5 min.	8.40 (0.45)	9.04 (0.17)	0.21	8.89 (0.20)	8.92 (0.21)	0.91	8.63 (0.26)	8.98 (0.14)	0.24

**Note:** This table describes baseline characteristics for the children in the control group, by gender and by their enrollment in alternative childcare. The number of subjects in these groups are listed at the top of the table. Asymptotic standard errors are in parentheses. The reported *p*-values are from two-sided tests of difference of means. The means are bolded if the difference is significant at the 10% level. In the main text, we jointly test for baseline differences between males and females and between treatment- and control-group children, accounting for multiple hypotheses, and find that none of the *p*-values remain significant after this adjustment.



Figure A.7a shows enrollment by age and the average months of enrollment by age for the control-group children who enrolled in program alternatives. Enrollment increases with the age of children. Figure A.7b shows the fraction of children enrolled in preschool by age. As control children age, they are more likely to enter childcare.

### A.5.1 Regulation

During the period when both ABC and CARE were active, North Carolina had an active, high-quality system of public childcare for vulnerable families funded by several public programs. Examples include Title IV-A of the Social Service Administration (SSA), Aid to Families with Dependent Children (AFDC), and Title IV-B of Child Welfare Services. These funding efforts were amplified in 1975 by Title XX of the SSA, Social Services Block Grant, which was the main federal source of childcare financing in the U.S. when ABC and CARE were active.<sup>59</sup>

Federally funded childcare services were regulated according to FIDCR standards, which defined stringent regulation for center-based programs for children between the ages of 3 and 6.<sup>60</sup> These requirements were enforced.<sup>61</sup> Additionally, North Carolina had a mandatory licensing law for childcare facilities. While FIDCR applied to centers for older children (between the ages of 3 and 6), the North Carolina regulation only applied to centers serving children below the age of 3. The relative weakness of this regulation is not very relevant for our study because treatment substitution occurred mostly after age 3 (see Figure A.5 and Figure A.6).<sup>62</sup> Table A.5 compares a widely-used quality standard, the child-staff ratio, between the North Carolina and FIDCR standards and the actual ABC and CARE numbers.

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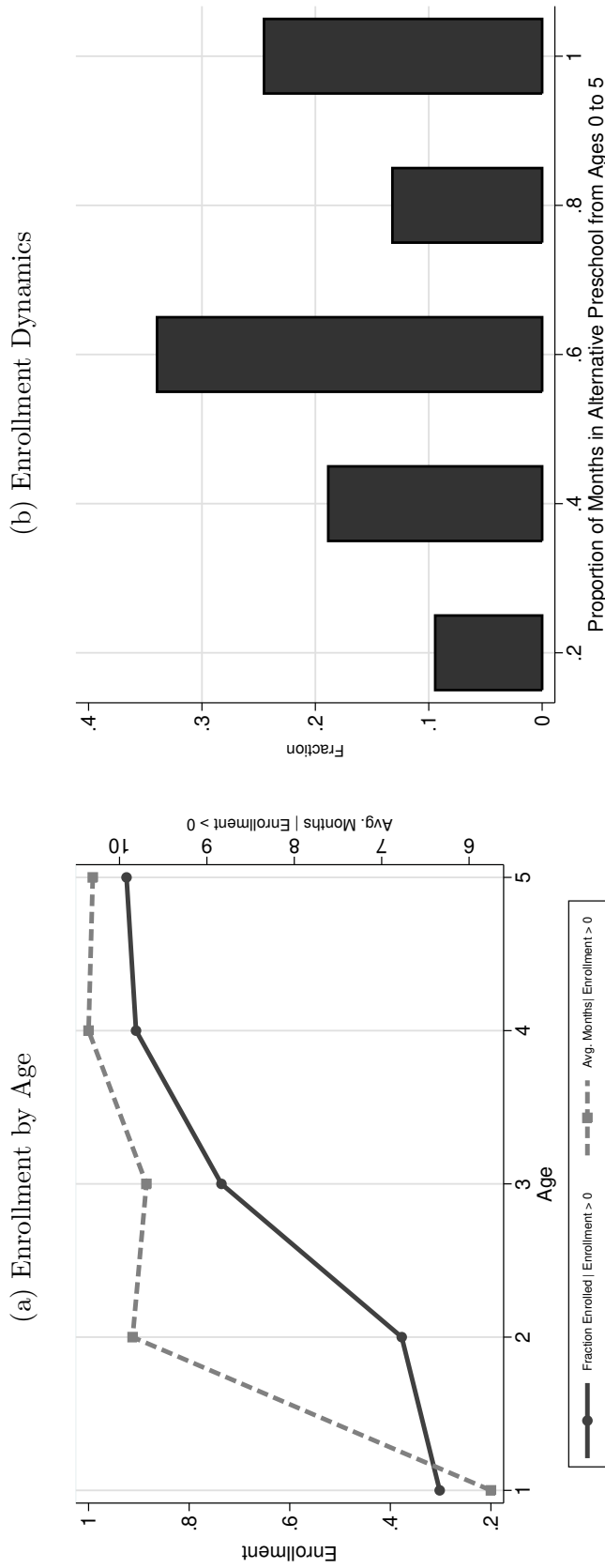
<sup>59</sup>Robins (1988).

<sup>60</sup>Department of Health, Education, and Welfare (1968).

<sup>61</sup>Kuperman and Hojman (2015b).

<sup>62</sup>North Carolina General Assembly (1971).

Figure A.7: Control Substitution Characteristics, ABC/CARE Control Group



Note: Panel (a) displays the fraction of the ABC/CARE control group enrolled in alternatives by age on the left axis and average number of months in alternative preschool by age in the right axis. Panel (b) displays the fraction of children in the ABC/CARE control groups enrolled in alternatives 20%, 40%, 60%, 80%, and 100% of the time, from ages 0 to 5.

Table A.5: Child-Staff Ratios for North Carolina, FIDCR, and Actual ABC and CARE Ratios

Age	NC Standards Level I	FIDCR Standards	ABC and CARE Ratios
0–1	6:1*		3:1
1–2	8:1*		4-5:1
2–3	12:1*		4-5:1
3–4	15:1	5:1*	4-5:1
4–5	20:1	7:1*	5-6:1
5–6	25:1	7:1*	5-6:1

Sources: Department of Health, Education, and Welfare (1968); North Carolina General Assembly (1971); Ramey et al. (1977); Ramey and Campbell (1979); Ramey et al. (1982); Burchinal et al. (1997).

Note: The starred ratios represent the ones we believe were the most relevant for the ABC control-group subjects and the CARE control-group and family-education-group subjects.

## A.5.2 Costs

Previous papers have used childcare cost rates that are not specific to North Carolina and do not account for the contemporaneous structure of the subsidies. We use the local subsidy rates that were in place when the ABC subjects were in preschool to impute different costs of the alternative preschools. These costs depend on the specific preschool attended and the eligibility of the families to receive the subsidies.

When ABC and CARE were in operation, center-based childcare was subsidized by several federal programs (the Department of Social Services categorized these programs as Child Welfare, AFDC, and Work Incentive Programs).<sup>63</sup> However, our calculations of the cost of alternative preschool are simplified by the fact that the subsidies were centralized and regulated by the County Department of Social Services. Those departments used a uniform

<sup>63</sup>North Carolina State Department of Social Services (1972).

subsidy rate, regardless of the origin of the funds.<sup>64</sup> We collected information about the subsidy rate at the time, which approximates the price of the centers, as centers pegged their fees and services to the maximum subsidy rate. Moreover, we know which centers each ABC control subject attended. We interviewed North Carolina childcare staff and academics that study childcare to document which of those centers were subsidized and regulated at the time.<sup>65</sup> For subsidized centers, we impute the maximum Department of Social Services fee established at the time: \$633/month in 2014 USD.<sup>66</sup> For non-subsidized centers, we impute the mean of costs for Level-1 centers (minimum accepted quality level) according to a 1982 North Carolina study of the cost of childcare: \$298/month in 2014 USD.<sup>67</sup> Although the information in this survey is not ideal for assessing the cost of subsidized preschools for CARE, as the subsidies greatly changed after the end of FIDCR (1981), it provides an approximation for assessing the cost of the non-subsidized centers.

Finally, we determine if the families paid the costs themselves or if they were subsidized, in which case we also add deadweight costs. We consider if a subject was eligible for subsidies if the family lived in poverty according to the federal guidelines and all parents living at home worked. If a family is deemed eligible, then we assume the child’s preschool was fully subsidized using the rates described above without additional subsidies.

## A.6 Data

In Table A.6 through Table A.11, we summarize the data availability for both ABC and CARE. The data collection processes in both programs were analogous by design. For both

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<sup>64</sup>Ad Hoc Committee of Professionals in Child Care Services, North Carolina (1974).

<sup>65</sup>Kuperman and Hojman (2015b,a).

<sup>66</sup>Ad Hoc Committee of Professionals in Child Care Services, North Carolina (1974); Community Planning Services (1973).

<sup>67</sup>Administrative Branch, Office of Day Care Services (1982).

programs, the treatment and control groups were followed into adulthood with relatively low attrition. For ABC, subjects were followed annually through elementary school and at ages 12, 15, 21, and 30. Health and administrative crime data were collected when the subjects reached their mid-30s. For CARE, the exact same follow-ups are available with the exception of the age 15 follow-up.

Table A.6: Early Childhood Data (Part I)

Category	Sub-Category	Description	ABC Age (months)	CARE Age (months)	Measure
Demographics	Gender	Gender of subject	Birth, 18, 30, 42, 54	Birth, 18, 30, 42, 54	Demographic Interview
	Race	Race/Cultural identity of subject	Birth, 18, 30, 42, 54	Birth, 18, 30, 42, 54	Demographic Interview
	Birth Date	Date of birth of subject	Birth, 18, 30, 42, 54	Birth, 18, 30, 42, 54	Demographic Interview
Cognitive Assessments	Language Ability	Auditory association, Verbal expression, etc.	36, 42, 48, 54	30, 42, 54	ITPA <sup>ABC</sup> , GPB <sup>ABC</sup> , PLP <sup>ABC</sup> , MSCD
	Intelligence Levels	SEIS	24, 36, 48, 60	24, 36, 48, 60	SBIS
		WPPSI	60	60	WPPSI
		BSID	3, 6, 9, 12, 18, 24	6, 12, 18, 24	BSID
	Quantitative	UOSPD	15	-	UOSPD <sup>ABC</sup>
		RPM	60	-	RPM <sup>ABC</sup>
		BSID	3, 6, 9, 12, 18, 24	6, 12, 18, 24	BSID
	Memory	MSCD	30, 42, 54	30, 42, 54	MSCD
		BSID	3, 6, 9, 12, 18, 24	6, 12, 18, 24	BSID
		MSCD	30, 42, 54	30, 42, 54	MSCD
Motor Development	BSID	3, 6, 9, 12, 18, 24	6, 12, 18, 24	BSID	
	MSCD	30, 42, 54	30, 42, 54	MSCD	
Critical Thinking	Curiosity	Curiosity	30, 36, 42, 48, 54, 60, 66, 72	-	Infant Behavior Inventory <sup>ABC</sup>
	Social Skills	Positive social response	30, 36, 42, 48, 54, 60, 66, 72	6, 12, 18, 24	Infant Behavior Inventory <sup>ABC</sup> , Bayley Infant Inventory <sup>CARE</sup>
Self-Control	Creativity	Creativity	30, 36, 42, 48, 54, 60, 66, 72	-	Infant Behavior Inventory <sup>ABC</sup>
			3, 18	6, 18	RIES
Emotional Health	KRT	KRT	30, 36, 42, 48, 54, 60, 66, 72	6, 12, 18, 24	Infant Behavior Inventory <sup>ABC</sup> , Bayley Infant Inventory <sup>CARE</sup>
			24, 36, 48, 60	24, 30, 36, 42, 48, 60	KRT
Self-Consciousness	Self-consciousness	Self-consciousness	30, 36, 42, 48, 54, 60, 66, 72	-	Infant Behavior Inventory <sup>ABC</sup>

Sources: Authors' description.

Note: This table describes the main categories of variables that were measured for ABC and CARE subjects up to age 6. ABC and CARE ages are measured in months. This is not an exhaustive list of variables, nor does it include variables from auxiliary data. Instruments or questionnaires available for only one of the studies are indicated with the superscript <sup>ABC</sup> or <sup>CARE</sup>. **Abbreviations are as follows.** ITPA: Illinois Test of Psycholinguistic Ability. GPB: Gordon Psycholinguistic Battery. PLP: Preschool Language Performance. MSCD: McCarthy Scales of Children's Development. BSID: Bayley Scales of Infant Development and Infant Behavior. UOSPD: Uzgriris-Hunt Ordinal Scales of Psychological Development. RPM: Raven's Progressive Matrices. RIES: Rotter's Internality-Externality Scale. KRT: Kohn and Rosman Test Behavior Inventory.

Table A.7: Early Childhood Data (Part II)

Category	Sub-Category	Description	ABC Age (months)	CARE Age (months)	Measure	
Family Environment	Family Members	Number of primary caretakers	Birth, 18, 30, 42, 54	18, 30, 42, 54, 60	Demographic Interview	
		Relationship with family members, including father, mother, siblings, etc.	Birth, 18, 30, 42, 54	18, 30, 42, 54, 60	Demographic Interview	
		Number of siblings	Birth, 18, 30, 42, 54	Birth, 18, 30, 42, 54, 60	Demographic Interview	
		Marital status of parents	Birth, 18, 30, 42, 54	Birth, 18, 30, 42, 54, 60	Demographic Interview	
		Marital conflicts between parents	6, 18	Demographic Interview, Parental Attitudes Research Inventory	Parental Attitudes Research Inventory	
		Father at home	18, 30, 42, 54	18, 30, 42, 54, 60	Demographic Interview	
	Family Economic Environment	Parents' occupation	Parents' occupation	Birth, 18, 30, 42, 54	Birth, 18, 30, 42, 54, 60	Demographic Interview
			Mother works	18, 30, 42, 54	18, 30, 42, 54, 60	Demographic Interview
		Source of child support	Source of child support	Birth, 18, 30, 42, 54	18, 30, 42, 54, 60	Demographic Interview
			Family income	Birth, 18, 30, 42, 54	Birth, 18, 30, 42, 54, 60	Demographic Interview
Parents and Home Environment	Parents' authority, warmth, family conflict, etc.	Parents' authority, warmth, family conflict, etc.	6, 18, 30, 42, 54	6, 12, 18, 30, 42, 54	Parent Interview	
Family Social Status	Parents' education background	Parents' education background	Birth, 18, 30, 42, 54	Birth, 18, 30, 42, 54, 60	Demographic Interview	
		Risk taking of family members	Birth	-	Parent Interview, ABC	
Family Members' Physical Health	Health issues of parents	Health issues of parents	Birth	Birth	Parent Interview	
		Pregnancy history	Birth	Birth	Parent Interview	
Childcare	Day-care Experience	Time and location of childcare, Age when begin	Birth, 18, 30, 42, 54	18, 30, 42, 54	Demographic Interview	
		Home visits	-	6, 18, 30, 42, 54, 60	Home Visit Data, CARE	
Parental Care	Maternal involvement with child	Maternal warmth, Maternal involvement with child	6, 18, 30, 42, 54	6, 12, 18, 30, 42, 54	Home Stimulation	
		Provision of appropriate play materials	6, 18, 30, 42, 54	6, 12, 18, 30, 42, 54	Home Stimulation	
	Avoidance of restriction and punishment	Avoidance of restriction and punishment	6, 18, 30, 42, 54	6, 12, 18, 30	Home Stimulation	
		Authoritarian control	6, 18, 30, 42, 54	6, 12, 18, 30, 36, 42, 102	Home Stimulation, Parental Attitudes Research Inventory	
	Democratic attitudes	Democratic attitudes	6, 18	6, 18, 36	Parental Attitudes Research Inventory	
		Hostility and rejection	6, 18	6, 18, 36	Parental Attitudes Research Inventory	
	Parents' knowledge of childcare	Parents' knowledge of childcare	Parents' knowledge of childcare	Birth	-	Parent Interview, ABC
	Physical Health	Growth Data	Height, Weight, Head circumference, etc.	3, 6, 9, 12, 18, 24, 36, 48, 60	Birth, 6, 12, 18, 24, 36, 48, 60	Growth Measures

Sources: Authors' description.

Note: This table describes the main categories of variables that were measured for ABC and CARE subjects up to age 6. ABC and CARE ages are measured in months. This is not an exhaustive list of variables, nor does it include variables from auxiliary data. Instruments or questionnaires available for only one of the studies are indicated with the superscript *ABC* or *CARE*.

Table A.8: Childhood and Adolescence Data (Part I)

Category	Sub-Category	Description	ABC Age (years)	CARE Age (years)	Measure	
Cognitive Assessment	Language Ability	Adaptive Language Inventory	6, 7, 8	6, 7, 8	Adaptive Language Inventory	
		Language Questionnaire	12	-	Language Questionnaire <sup>ABC</sup>	
	Intelligence Tests	MSCD	MSCD	7	-	MSCD <sup>ABC</sup>
		SBIS	SBIS	6	7	SBIS
		WIS	WIS	6, 7, 8, 12, 15	6, 8	WIS
		Kaufman <sup>CARE</sup>	Kaufman <sup>CARE</sup>	-	6	Kaufman <sup>CARE</sup>
	Quantitative Skills	MSCD <sup>ABC</sup>	MSCD <sup>ABC</sup>	7	-	MSCD <sup>ABC</sup>
		Memory	MSCD <sup>ABC</sup>	7	-	MSCD <sup>ABC</sup>
		Motor Skills	MSCD <sup>ABC</sup>	7	-	MSCD <sup>ABC</sup>
	Non-Cognitive Assessment	Interpersonal Skills	Gets along with people	6, 8, 12, 15	8, 12	PEI, CAS, PMI <sup>ABC</sup> , SAI <sup>ABC</sup> , Subject Interview <sup>ABC</sup> , Quality Rank <sup>CARE</sup>
Relationship with the other sex			15	-	SAI <sup>ABC</sup> , Subject What I Am Like (Harter) <sup>ABC</sup>	
Critical Thinking		Thinks for self, questions things	6, 8	8, 12	PEI, Harter Child <sup>CARE</sup> , CBI	
		Concept Attainment Kit	6, 7, 8	-	Concept Attainment Kit <sup>ABC</sup>	
Self-Control		Distracted in class	6, 7, 8, 12, 15	12	SCAN <sup>ABC</sup> , CBI, WPB <sup>ABC</sup> , PMI <sup>ABC</sup> , SAI <sup>ABC</sup> , Self-Evaluation Inventory <sup>ABC</sup>	
		Locus of control	15	-	Nowicki-Strickland Data, Pearlin Mastery Scale <sup>ABC</sup>	
Work Ethic		Task Orientation	6, 7, 8, 12, 15	6, 7, 8, 9, 12	SCAN <sup>ABC</sup> , CBI, PMI <sup>ABC</sup>	
		Harms self, suicidal thoughts	8, 12, 15	8, 12	Achenbach Parent, Subject Risk Taking Survey <sup>ABC</sup>	
Emotional Health		Depression, anxiety, fear, etc.	6, 7, 8, 12, 15	7, 8, 9, 12	KRT, CAS, ETS, Achenbach Parent	
		Athletic activities	8, 12, 15	8, 12	Achenbach Parent, SAI <sup>ABC</sup> , Subject What I Am Like (Harter) <sup>ABC</sup> , PEI <sup>CARE</sup>	
Social Activities	Participant of organizations, e.g. religions	8, 12, 15	8, 12	Achenbach Parent, SAI <sup>ABC</sup> , Subject Interview <sup>ABC</sup>		
	Reading list	12, 15	12	CAS, SAI <sup>ABC</sup>		
Self-Consciousness	TV/music	12, 15	12	CAS, SAI <sup>ABC</sup> , Television Checklist <sup>ABC</sup>		
	Self-conscious emotions	8, 12, 15	8, 12	Achenbach Parent, Subject What I Am Like (Harter)		

Sources: Authors' descriptions.

Note: This table describes the main categories of variables that were measured for ABC and CARE subjects at ages 6 to 18. ABC and CARE ages are measured in years. This is not an exhaustive list of variables, nor does it include variables from auxiliary data. Instruments or questionnaires available for only one of the studies are indicated with the superscript *ABC* or *CARE*. **Abbreviations are as follows.** MSCD: McCarthy Scales of Children's Development. SBIS: Stanford-Binet Intelligence Scale. WIS: Wechsler Intelligence Scale for Children. KRT: Kohn and Rosman Test Behavior Inventory. WJCA: Woodcock-Johnson Test of Cognitive Abilities. PEI: Parents as Educator Interview. CAS: Child Assessment Schedule. PMI: Psychosocial Maturity Inventory. SAI: Social Adjustment Inventory for Children and Adolescents. SCAN: Schedule of Classroom Activity Norms. CBI: Classroom Behavior Inventory. WPB: Walker Problem Behavior Checklist. ETS: Emotional/Activity/Sociability/Impulsivity Temperament Survey. FES: Family Environment Scale. PIAT: Peabody Individual Achievement Test. CAT: California Achievement Test. MARS: Mid-Adolescence Rating Scale Data.



Table A.9: Childhood and Adolescence Data (Part II)

Category	Sub-Category	Description	ABC Age (years)	CARE Age (years)	Measure	
Family Environment	Family Members	Number of adults in house	6, 8, 12, 15	8, 12	PEI, Parent Interview, Subject Person In Household <sup>ABC</sup>	
		Relationship with family members, including father, mother, siblings, etc.	6, 8, 12, 15	8, 12	PEI, FES, SAI, Subject Interview <sup>ABC</sup> , Adult Self Report <sup>ABC</sup> , Parent Interview, Achenbach Parent PEI <sup>ABC</sup> , Parent Interview	
		Number of siblings	6, 8, 12, 15	7, 8, 12	PEI <sup>ABC</sup> , Parent Interview	
		Marital status of parents	6, 8, 12, 15	7, 8, 12	PEI <sup>ABC</sup> , Parent Interview	
	Parents' Education Style	Father at home		18, 30, 42, 54	54, 60	Demographic Interview
		Role of parents in education		6, 8	8, 12	PEI, Parent Interview <sup>CARE</sup>
		Parents' education beliefs & methods		6, 8	8, 12	PEI, Parent Interview <sup>CARE</sup>
		Parents' aspiration & attitudes towards child		6, 8, 12, 15	8, 12	PEI, Parent Interview
		Parents' occupation		6, 8, 12, 15	7, 8, 12	PEI <sup>ABC</sup> , Parent Interview
		Mother works		9	5, 7, 8	Demographic Interview
Family Economic Environment	Source of child support		6, 8, 12, 15	7, 8, 12	PEI <sup>ABC</sup> , Parent Interview	
	Family income		6, 8, 12, 15	7, 8, 12	PEI <sup>ABC</sup> , Parent Interview	
	Parents' authority, warmth, family conflict, etc.		8	8	Parent Interview	
Family Social Status	Parents' education background		6, 8, 12, 15	7, 8, 12	PEI <sup>ABC</sup> , Parent Interview	
	Criminal history and risk taking of family members		8, 12, 15	-	Subject Taylor Life Events <sup>ABC</sup> , Parent Interview <sup>ABC</sup>	
Family Members' Physical Health	Health issues of adults in house		8, 12, 15	12	Parent Interview, Subject Taylor Life Events <sup>ABC</sup>	
	Reading, mathematics, and language abilities		6, 7, 8, 12	6, 8, 9, 12	CAT <sup>ABC</sup> , PIAT <sup>ABC</sup> , WIJA	
Academic Achievements	Performance in Schoolwork	Drop in grades	12, 15	12	CAS	
		Lack of interest in school	12, 15	12	CAS	
		Total years in special education	17	11	Retention and Special Services Data	
		Total years retained in school	17	11	Retention and Special Services Data	
Physical Health	Health Issues	Health issues of subject	8, 12, 15	8, 12	Achenbach Parent, Subject Interview <sup>ABC</sup> , Adult Self Report <sup>ABC</sup> , PEI <sup>CARE</sup> , Parent Interview <sup>CARE</sup>	
	Growth	Vision, weight, height	8	8	Growth Data	
Social Conduct	Teenage Pregnancy	Teenage Pregnancy	15	-	Subject Interview <sup>ABC</sup>	
	Law Breaking	Felony, Time spent incarcerated	15	-	MARS <sup>ABC</sup> , Subject Interview <sup>ABC</sup>	

Sources: Authors' descriptions.

Note: This table describes the major categories of variables that were measured for ABC and CARE subjects at ages 6 to 18. ABC and CARE age are measured in years. This is not an exhaustive list of variables, nor does it include variables from auxiliary data. Instruments or questionnaires available for only one of the studies are indicated with the superscript <sup>ABC</sup> or <sup>CARE</sup>. **Abbreviations are as follows.** MSCD: McCarthy Scales of Children's Development. SBIS: Stanford-Binet Intelligence Scale. WIS: Wechsler Intelligence Scale for Children. KRT: Kohn and Rosman Test Behavior Inventory. WJCA: Woodcock-Johnson Test of Cognitive Abilities. PEI: Parents as Educator Interview. CAS: Child Assessment Schedule. PMI: Psychosocial Maturity Inventory. SAI: Social Adjustment Inventory for Children and Adolescents. SCAN: Schedule of Classroom Activity Norms. CBI: Classroom Behavior Inventory. WPB: Walker Problem Behavior Checklist. ETS: Emotional/Activity/Sociability/Impulsivity Temperament Survey. FES: Family Environment Scale. PIAT: Peabody Individual Achievement Test. CAT: California Achievement Test. MARS: Mid-Adolescence Rating Scale Data.

Table A.10: Adult Data (Part I)

Category	Sub-Category	Description	ABC Age (years)	CARE Age (years)	Measure
Cognitive Assessments	Intelligence Tests	WIS	21	-	WIS
Non-Cognitive Assessment	Interpersonal Skills	Gets along with people	21, 30	-	Subject Interview
	Self-Control	Locus of control	21, 30	-	Nowicki-Strickland Data <sup>ABC</sup> , Pearlin Mastery Scale <sup>ABC</sup>
		Proud of working, interest in working	21, 30	21, 30	Job Satisfaction Survey <sup>ABC</sup> , Subject Interview
	Emotional Health	Harms self, suicidal thoughts, depression, anxiety, fear, etc.	21, 30	21, 30	Achenbach, Subject Risk Taking Survey KRT, Achenbach Parent, CAS, Brief Symptom Inventory, ETS
	Social Activities	Athletic activities Participant of organizations, e.g. religions	21, 30	-	Achenbach, Subject Interview
Family Environment	Family Members	Number of adults in house Relationship with family members, including father, mother, siblings, etc. Number of siblings Marital status of parents Number of children, childcare basics	21, 30	-	Parent Interview <sup>ABC</sup> , Subject Interview Parent Interview, Achenbach <sup>ABC</sup> , Subject Interview, Adult Self Report Parent Interview <sup>ABC</sup> , Subject Interview Parent Interview <sup>ABC</sup> , Subject Interview Subject Interview, Childcare Questionnaire
	Family Economic Environment	Parents' occupation Source of child support Family income	21, 30	-	Parent Interview <sup>ABC</sup> , Subject Interview Parent Interview <sup>ABC</sup> , Subject Interview Parent Interview <sup>ABC</sup> , Subject Interview
	Family Members and Children	Relationship quality, family health issues, attitude toward child learning	30	30	Parent Interview, Taylor Life Events <sup>ABC</sup> , Child Health Questionnaire, PEI
	Marital Status	Marital status, spouse income Spouse details, marriage history Relationship with spouse	21, 30 21, 30 21, 30	21, 30 30 30	Subject Interview Subject Interview Subject Interview, Adult Self Report
Achievement	Education Level	Years in school, plans for future education College type, certificate earned	21, 30 21, 30	21, 30 21, 30	Subject Interview, Adult Self Report Subject Interview, Adult Self Report
	Achievement Test	WJCA	21, 30	-	WJCA

Sources: Authors' description.

Note: This table describes the major categories of variables that were measured for ABC and CARE subjects at ages 21 and 30. ABC and CARE age are measured in years. This is not an exhaustive list of variables, nor does it include variables from auxiliary data. Instruments or questionnaires available for only one of the studies are indicated with the superscript *ABC* or *CARE*. **Abbreviations are as follows.** KRT: Kohn and Rosman Test Behavior Inventory. CAS: Child Assessment Schedule. ETS: Emotional/Activity/Sociability/Impulsivity Temperament Survey. WIS: Wechsler Adult Intelligence Scale. WJCA: Woodcock-Johnson Test of Cognitive Abilities. PEI: Parents as Educator Interview.

Table A.11: Adult Data (Part II)

Category	Sub-Category	Description	ABC Age (years)	CARE Age (years)	Measure
Physical Health	Health Insurance	Covered by health insurance	21, 30	21, 30	Subject Interview
	Health Issues	Health conditions, diseases, regular checkups and tests, mental health	21, 30, mid-30's	21, 30, mid-30's	Brief Symptom Inventory, Subject Interview, Adult Self Report, Biomedical Survey
Social Conduct	Risk Taking	Smoking, drinking, carry gun, fight, drug use	21, 30	21, 30	Subject Risk Taking Survey, Tobacco, Alcohol, and Drug Survey, Adult Self Report
	Law Breaking	Felony, Time spent incarcerated	21	21, 30	Subject Interview
Economic Status	Living Circumstances	Number of rooms	21, 30	21, 30	Subject Interview
		Own or rent apartment	21, 30	21	Subject Interview
	Working Condition	Number living in same domicile	21, 30	21	Subject Interview
		Currently employed	21, 30	21, 30	Subject Interview
Transportation	Job category	Job title	21, 30	21, 30	Subject Interview, Adult Self Report
		Hours	21, 30	21, 30	Subject Interview, Adult Self Report
	Satisfied with current job		21, 30	21, 30	Subject Interview, Subject What I Am Like (Harter), Adult Self Report
		Own reliable transportation	21, 30	21	Subject Interview, Adult Self Report
Income	Public transportation		21, 30	21	Subject Interview, Adult Self Report
		Income from job	21, 30	21, 30	Subject Interview, Adult Self Report
	Income from welfare programs	21, 30	30	Subject Interview, Adult Self Report	
	Income from investment	21, 30	-	Subject Interview, Adult Self Report	

Sources: Authors' description.

Note: This table describes the major categories of variables that were measured for ABC and CARE subjects at ages 21, 30, and the mid-30's. ABC and CARE age are measured in years. This is not an exhaustive list of variables, nor does it include variables from auxiliary data. Instruments or questionnaires available for only one of the studies are indicated with the superscript *ABC* or *CARE*.

Attrition was low in ABC. Information is available on 100 subjects in the age 30 follow-up, which we call the adult follow-up. In addition, 80 subjects—40 from the control group and 40 from the treatment group—consented to the release of their criminal records. Further, 70 participants consented to the release of information regarding a full-range biomedical panel—31 from the control group and 39 from the treatment group.

Attrition was also low for CARE subjects. Information is available on 58 subjects (more than 85% of the initial sample) in the age-30 follow-up. Additionally, 40 participants (11 from the control group, 18 from the family education group, and 11 from the center-based childcare and family education group) released information on the full-range biomedical sweep. Administrative crime data are not available for CARE. We do not evaluate the second-phase of treatment in CARE because it was not randomized. Rather, those in the center-based childcare and family education group and the family education group were offered school-age treatment, and those in the control group were not.

In the following set of tables (Table A.12 through Table A.16), we compare the observed, baseline characteristics between the first-phase control and treatment groups in ABC, which are the main groups we analyze, at different stages of the data collection follow-ups. For each observed characteristic, we present the bootstrapped  $p$ -value associated with the standard  $t$ -test. We also present the bootstrapped, step-down  $p$ -value on jointly testing the difference in observed characteristics across the two blocks of variables separated by the horizontal line.<sup>68</sup>

First, we compare the first-phase treatment and control groups on baseline characteristics.

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<sup>68</sup>Lehmann and Romano (2005).

Table A.12: First-phase Treatment vs. Control Groups, ABC

Variable	Control		Treated	Control		Treated	$p$ -value	
	Age	Obs.	Obs.	Mean	Mean	Single $H_0$	Multiple $H_0$	
Male	0	57	59	0.438	0.489	(0.580)	(0.700)	
Birth Weight	0	56	58	7.191	6.829	(0.130)	(0.205)	
No. Siblings in Household	0	57	59	0.750	0.516	(0.245)	(0.425)	
Birth Year	0	57	59	1974	1974	(0.785)	(0.865)	
Mother's Education	0	57	59	9.864	10.505	<b>(0.050)</b>	(0.105)	
Mother's Age	0	57	59	20.103	19.564	(0.555)	(0.695)	
Mother Employed	0	57	59	0.216	0.317	(0.190)	(0.370)	
Parental Income	0	57	58	6,211	7,019	(0.645)	(0.755)	
Mother's IQ	0	57	59	83.419	85.393	(0.360)	(0.555)	
Father at Home	0	57	59	0.346	0.223	(0.135)	(0.310)	

Note: This table shows the balance in observed characteristics between the treatment and control groups in ABC at baseline. For each characteristic, we present the  $p$ -value from a single hypothesis test. We also present the  $p$ -values from multiple hypothesis testing, where we collectively test the baseline characteristics within the blocks separated by the horizontal line. Both  $p$ -values are two-sided and non-parametric. We construct them based on 200 re-draws of the full sample.

Second, we compare the second-phase treatment and control groups on baseline characteristics.

Table A.13: Second-phase Treatment vs. Control Groups, ABC

Variable	Control		Treated	Control		Treated	$p$ -value	
	Age	Obs.	Obs.	Mean	Mean	Single $H_0$	Multiple $H_0$	
Male	0	47	48	0.551	0.460	(0.420)	(0.552)	
Birth Weight	0	47	48	7.084	6.929	(0.610)	(0.700)	
No. Siblings in Household	0	47	48	0.748	0.504	(0.285)	(0.445)	
Birth Year	0	47	48	1974	1974	(0.835)	(0.915)	
Mother's Education	0	47	48	10.150	10.388	(0.480)	(0.725)	
Mother's Age	0	47	48	21.122	18.884	<b>(0.035)</b>	<b>(0.075)</b>	
Mother Employed	0	47	48	0.314	0.256	(0.530)	(0.725)	
Parental Income	0	47	48	7,589	6,714	(0.625)	(0.825)	
Mother's IQ	0	47	48	83.000	85.831	(0.185)	(0.365)	
Father at Home	0	47	48	0.279	0.287	(0.920)	(0.965)	

Note: This table shows the balance in observed characteristics between the school-age treatment and control groups in ABC at baseline. For each characteristic, we present the  $p$ -value from a single hypothesis test. We also present the  $p$ -values from multiple hypothesis testing, where we collectively test the baseline characteristics within the blocks separated by the horizontal line. Both  $p$ -values are two-sided and non-parametric. We construct them based on 200 re-draws of the full sample.

Third, we compare the observed, baseline characteristics of attrited and non-attrited subjects in the first-phase treatment assignment.

Table A.14: Observed vs. Attrited Children, ABC

Variable	Age	Obs.	Att.	Observed	Attrited	<i>p</i> -value	
				Mean	Mean	Single $H_0$	Multiple $H_0$
Male	0	103	13	0.488	0.248	<b>(0.085)</b>	(0.140)
Birth Weight	0	103	11	7.014	6.948	(0.825)	(0.875)
No. Siblings in Household	0	103	13	0.609	0.829	(0.600)	(0.705)
Birth Year	0	103	13	1974	1973	<b>(0.045)</b>	<b>(0.095)</b>
Mother's Education	0	103	13	10.302	9.192	<b>(0.100)</b>	(0.165)
Mother's Age	0	103	13	20.016	18.178	<b>(0.080)</b>	(0.160)
Mother Employed	0	103	13	0.268	0.255	(0.925)	(0.955)
Parental Income	0	103	12	6,622	6,442	(0.950)	(0.960)
Mother's IQ	0	103	13	85.050	78.834	<b>(0.070)</b>	(0.135)
Father at Home	0	103	13	0.278	0.329	(0.735)	(0.835)

Note: This table shows the balance in observed characteristics between ABC subjects who were followed up to at least age 21 and ABC subjects who attrited before age 21. For each characteristic, we present the *p*-value from a single hypothesis test. We also present the *p*-values from multiple hypothesis testing, where we collectively test the baseline characteristics within the blocks separated by the horizontal line. Both *p*-values are two-sided and non-parametric. We construct them based on 200 re-draws of the full sample.

Fourth, we compare the observed, baseline characteristics between the subjects in the treatment and the control groups, excluding those who did not comply to treatment.

Table A.15: First-phase Treatment vs. Control Groups, Dropping Attrited Children, ABC

Variable	Control		Treated		p-value		
	Age	Obs.	Obs.	Mean	Mean	Single $H_0$	Multiple $H_0$
Male	0	51	52	0.452	0.524	(0.430)	(0.600)
Birth Weight	0	51	52	7.210	6.822	(0.115)	(0.220)
No. Siblings in Household	0	51	52	0.767	0.455	(0.150)	(0.230)
Birth Year	0	51	52	1974	1974	(0.635)	(0.785)
Mother's Education	0	51	52	10.000	10.598	<b>(0.085)</b>	(0.185)
Mother's Age	0	51	52	20.412	19.635	(0.405)	(0.615)
Mother Employed	0	51	52	0.221	0.314	(0.245)	(0.455)
Parental Income	0	51	52	6,409	6,846	(0.765)	(0.870)
Mother's IQ	0	51	52	84.472	85.635	(0.560)	(0.755)
Father at Home	0	51	52	0.349	0.208	(0.115)	(0.255)

Note: This table shows the balance in observed characteristics between the treatment and control groups of ABC subjects who were followed up to at least age 21. For each characteristic, we present the  $p$ -value from a single hypothesis test. We also present the  $p$ -values from multiple hypothesis testing, where we collectively test the baseline characteristics within the blocks separated by the horizontal line. Both  $p$ -values are two-sided and non-parametric. We construct them based on 200 re-draws of the full sample.

Finally, we compare the observed, baseline characteristics between the children in the first-phase treatment, restricting the sample to the children for whom we have information on the age-34 medical data collection.

Table A.16: First-phase Treatment vs. Control Groups, Subjects Completing the Health Follow-up, ABC

Variable	Control		Treated		p-value		
	Age	Obs.	Obs.	Mean	Mean	Single $H_0$	Multiple $H_0$
Male	0	31	39	0.293	0.533	<b>(0.050)</b>	<b>(0.055)</b>
Birth Weight	0	31	39	7.233	6.826	(0.190)	(0.295)
No. Siblings in Household	0	31	39	0.613	0.493	(0.580)	(0.750)
Birth Year	0	31	39	1975	1974	(0.360)	(0.510)
Mother’s Education	0	31	39	10.039	10.597	(0.190)	(0.385)
Mother’s Age	0	31	39	19.389	19.595	(0.825)	(0.945)
Mother Employed	0	31	39	0.195	0.349	(0.185)	(0.315)
Parental Income	0	31	39	5,509	7,520	(0.280)	(0.535)
Mother’s IQ	0	31	39	83.822	84.922	(0.655)	(0.860)
Father at Home	0	31	39	0.355	0.231	(0.205)	(0.450)

Note: This table shows the balance in observed characteristics between the treatment and control groups in ABC at baseline for subjects who completed the health follow-up at age 34. For each characteristic, we present the  $p$ -value from a single hypothesis test. We also present the  $p$ -values from multiple hypothesis testing, where we collectively test the baseline characteristics within the blocks separated by the horizontal line. Both  $p$ -values are two-sided and non-parametric. We construct them based on 200 re-draws of the full sample.

Despite some exceptions, these tables indicate balance between the treatment and control groups from the first-phase randomization, which is the primary comparison we analyze in the main paper. The balance in observed characteristics holds for the different samples we consider, which differs from the initial sample due to various instances of item non-response. For the second-phase randomization, there is also balance in observed characteristics.

### A.6.1 Summary of Data Collection

Data across a wide range of outcomes were collected for ABC and CARE at similar time points. Table A.17 summarizes the data collection for both programs. A varied battery of measures of cognitive, social-emotional, and parenting skills were administered during the intervention and while the children were in school. Adult follow-ups are available at ages 21, 30, and 34, with administrative crime records and biomarker health data available at age 34.



Table A.17: ABC and CARE Data Collection

Variable	Early	School-age	Adult
<b>Family</b>	0, 1.5, 2.5, 3.5, 4.5	8	
<b>Cognitive</b>			
IQ	2, 2.5, 3, 3.5, 4, 4.5, 5	6*, 6.5, 7, 8, 12, 15*	21*
Achievement		5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 12, 15 *	21
<b>Social-emotional</b>			
Task orientation	3 m.*, 6 m., 9 m.*, 1, 1.5, 2	5.5, 6, 6.5, 7.5	
Extraversion		5.5, 6, 6.5, 7, 7.5, 8, 12	
Behavior		8, 12, 15*	
<b>Parenting</b>	6 m., 1.5, 2.5, 3.5*, 4.5*	8*	
<b>Education</b>		12, 15	21, 30
<b>Labor</b>			21, 30
<b>Parental income</b>	0, 1.5, 2.5, 3.5, 4.5	8	21
<b>Health</b>	0, 1.5, 2.5, 3.5, 4.5	8	21, 30, 34
<b>Crime</b>			21, 30, 34

Note: This table provides an abbreviated summary of the variables available in ABC and CARE. The cognitive and social-emotional categories listed are a subset of the full list of measured skills. Ages followed by m. are in months. All other ages are in years. Ages with an asterisk (\*) are only present in ABC.

## B Identification and Estimation of Life-Cycle Treatment Effects

This appendix presents our approach to identifying and estimating life-cycle treatment effects. Differences in the approach for each outcome are based on different scenarios of data availability. We proceed as follows. Appendix B.1 focuses on outcomes that are fully observed over the course of the experiment with little attrition. Appendix B.2 focuses on outcomes that are partially observed over the course of the experiment with a substantial rate of attrition. Finally, Appendix B.3 provides the precise steps for constructing our statistical inferences.

## B.1 Complete Data

We classify a variable as complete data when we observe the data for at least 85% of the individuals in the sample. Table B.1 lists the variables that are completely observed. For these outcomes, we estimate the standard errors of our estimates by resampling the ABC/CARE data. We estimate non-parametric  $p$ -values based on the bootstrap distribution. We perform inference in this same way throughout the paper.

Table B.1: Variables Estimated without IPW Adjustment

Completely Observed Outcomes	Age (years)
IQ Standard Score	2, 3, 3.5, 4, 4.5, 5, 12, 15, 21
PIAT Math Standard Score	7
Achievement Score	15, 21
HOME Total Score	0.5, 1.5, 2.5, 3.5, 4.5
Mother Works	2, 3, 4, 5, 21
Biological Mother's Education Level	2, 3, 4, 5, 9
Father is Home	2, 3, 4, 5, 8
Graduated High School	NA
Attended Vocation/Tech/Community College	NA
Years of Education	30
Ever Had Special Education	NA
Total Number of Years in Special Education	NA
Ever Retained	NA
Total Number of Retained Grades	NA
Employed	30
Labor Income	21, 30
Transfer Income	30
Total Years Incarcerated	30
Self-reported Health	30
Brief Symptom Inventory Score	21
Number of Cigarettes Smoked Per Day Last Month	30
Number of Days Drank Alcohol Last Month	30
Number of Days Binge Drank Alcohol Last Month	30
Program Costs	0–26
Control Contamination Costs	0–26
Education Costs	0–26
Medical Expenditure	8–30
Justice System Costs	0–50
Prison Costs	0–50
Victimization Costs	0–50

Note: The table above lists the variables for which we observe completely for the full sample. treatment effects.

## B.2 Partially Complete Data

When we do not observe data on an outcome within the experiment for more than 10% of the individuals in the sample, we consider the outcome to be partially complete. These

outcomes include: parental labor income at ages 1.5, 2.5, 3.5, 8, 12, 15, and 21, for which we observe no more than 112 subjects at any given age; and items in the health survey at age 34, for which we observe no more than 93 subjects. Table B.2 lists the variables that we classify as partially complete.

For partially complete outcomes, we correct for attrition using an inverse probability scheme (IPW) as in Horvitz and Thompson (1952). For each of the partially observed outcomes, we construct a IPW scheme. The scheme is based on a set of variables that we observe for the complete sample. We use this set of complete variables to estimate the propensity of an outcome to be classified as partially complete. That is, the scheme is based on a logistic regression of “being partially complete” on a set of variables that we do observe for the full sample. The control set of variables is chosen among many possible control sets, as documented in Appendix D.1. For each of the outcomes that we partially observe, we list the variables that we use to produce the IPW scheme in Table B.2.

Table B.2: Variables Used to Create IPW Scheme

Partially Observed Outcomes	Age	N	Variables Used to Produce IPW
IQ Score	6.5	126	High Risk Index (HRI)
IQ Score	7	118	High Risk Index (HRI)
IQ Score	8	125	High Risk Index (HRI)
Achievement Score	5.5	105	High Risk Index (HRI)
Achievement Score	6	124	High Risk Index (HRI)
Achievement Score	6.5	89	High Risk Index (HRI)
Achievement Score	7	90	High Risk Index (HRI)
Achievement Score	7.5	121	High Risk Index (HRI)
Achievement Score	8	123	High Risk Index (HRI)
Achievement Score	8.5	122	High Risk Index (HRI)
Parental Labor Income	1.5	112	Mother's Age at Baseline
Parental Labor Income	2.5	112	Mother's Age at Baseline
Parental Labor Income	3.5	110	Mother's Age at Baseline
Parental Labor Income	8	87	High Risk Index (HRI)
Parental Labor Income	12	108	High Risk Index (HRI)
Parental Labor Income	15	92	APGAR 5 min.
Parental Labor Income	21	73	High Risk Index (HRI)
HOME Score	8	100	High Risk Index (HRI)
Father at Home	8	116	High Risk Index (HRI)
Subject Public Transfer Income	21	105	High Risk Index (HRI)
Total Felony Arrests	Mid-30s	115	APGAR 1 min.
Total Misdemeanor Arrests	Mid-30s	115	APGAR 1 min.
Self-reported Health	Mid-30s	92	APGAR 1 min.
Self-reported Drug User	Mid-30s	89	APGAR 1 min.
Systolic Blood Pressure (mm Hg)	Mid-30s	90	APGAR 1 min.
Diastolic Blood Pressure (mm Hg)	Mid-30s	90	APGAR 1 min.
Prehypertension, Sys. B.P. > 120 or Dys. B.P. > 80	Mid-30s	90	APGAR 1 min.
Hypertension, Sys. B.P. > 140 or Dys. B.P. > 90	Mid-30s	90	APGAR 1 min.
High-Density Lipoprotein (HDL) Cholesterol (mg/dL)	Mid-30s	93	APGAR 1 min.
Dyslipidemia (HDL < 40 mg/dL)	Mid-30s	93	APGAR 1 min.
Hemoglobin Level (%)	Mid-30s	92	APGAR 1 min.
Prediabetes, Hemoglobin > 5.7%	Mid-30s	92	APGAR 1 min.
Diabetes, Hemoglobin > 6.5%	Mid-30s	92	APGAR 1 min.
Vitamin D Deficiency (< 20 ng/mL)	Mid-30s	93	APGAR 1 min.
Measured BMI	Mid-30s	88	APGAR 1 min.
Obesity (BMI > 30)	Mid-30s	90	APGAR 1 min.
Severe Obesity (BMI > 35)	Mid-30s	91	APGAR 1 min.
Waist-hip Ratio	Mid-30s	84	APGAR 1 min.
Abdominal Obesity	Mid-30s	84	APGAR 1 min.
Framingham Risk Score	Mid-30s	88	APGAR 1 min.
Brief Symptom Survey (BSI) Score	Mid-30s	92	APGAR 1 min.

Note: This table provides a list of the variables that we partially observe and the variables that we use to construct the IPW scheme to account for attrition when calculating treatment effects pooling females and males. The procedure to select these variables is described in Appendix D.1. We construct the IPW using a common model across males and females.

Partially observed outcomes can occur at any age  $a \leq a^*$ . We construct the IPW using both pre-treatment and post-treatment variables, within the age period  $a \leq a^*$ .

We construct the IPW using the same algorithm, independently of the age within  $a \leq a^*$  in which an outcome is partially complete. For notational simplicity, we derive the IPW scheme without indexing the outcomes by age. We restore the notation used throughout the text in the next appendix.

We use a standard inverse probability weighting (IPW) scheme<sup>69</sup> Formally, recall that  $R = 1$  if the child is randomized to treatment, and  $R = 0$  otherwise.<sup>70</sup> Similarly, let  $A = 1$  denote the case where we observe a generic scalar outcome  $Y$ , and  $A = 0$  otherwise. As in the main text,  $\mathbf{B}$  represents background (pre-treatment) variables and  $\mathbf{X}$  variables that could be affected by treatment and that predict  $Y$ .

We assume  $A$  is independent of  $Y$  conditional on  $\mathbf{X}$  and  $\mathbf{B}$ . More formally, we invoke

**Assumption AA-1**

$$A \perp\!\!\!\perp Y | \mathbf{X}, \mathbf{B}, R.$$

Let  $Y^r$  represent outcome  $Y$  when  $R$  is fixed to take the value  $r$ . Based on Assumption AA-1, we use IPW to identify  $\mathbb{E}[Y^r]$  as follows:

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<sup>69</sup>Horvitz and Thompson (1952).

<sup>70</sup>We are able to use  $R$  (randomization into treatment) and  $D$  (participation in treatment) exchangeably.

$$\begin{aligned}
\mathbb{E}[Y^r] &= \int \int y f_{Y_r|\mathbf{B}}(y) f_{\mathbf{B}}(b) dy db & (1) \\
&= \int \int y f_{Y|\mathbf{B}, R=r}(y) f_{\mathbf{B}}(b) dy db \\
&= \int \int \int y f_{Y|R=r, \mathbf{X}, \mathbf{B}}(y) f_{\mathbf{X}|R=r}(x) f_{\mathbf{B}}(b) dy dx db \\
&= \int \int \int y f_{Y|R=r, \mathbf{X}, \mathbf{B}, A=1}(y) f_{\mathbf{X}|R=r, \mathbf{B}}(x) f_{\mathbf{B}}(b) dy dx db
\end{aligned}$$

where each component of the last expression in (1) is straightforward to recover from the data. Using Bayes' Theorem, we can write an equivalent expression to make the IPW scheme explicit. That is, we apply Bayes' Theorem to  $f_{\mathbf{X}|R=r, \mathbf{B}}(x)$  and  $f_{\mathbf{B}}(b)$  to obtain

$$f_{\mathbf{X}|R=r, \mathbf{B}}(x) = \frac{f_{\mathbf{X}|R=r, \mathbf{B}, A=1}(x) P(A=1|R=r, \mathbf{B})}{P(A=1|R=r, \mathbf{X}, \mathbf{B})}$$

and

$$f_{\mathbf{B}}(b) = \frac{f_{\mathbf{B}|R=r, A=1}(b) P(R=r, A=1)}{P(R=r, A=1|\mathbf{B})}.$$

Substituting these expressions into (1), we obtain

$$\begin{aligned}
\mathbb{E}[Y_r] &= \int \int \int y f_{Y, \mathbf{X}, \mathbf{B}|R=r, A=1}(y, x, b) \frac{P(R=r, A=1) P(A=1|R=r, \mathbf{B})}{P(R=r, A=1|\mathbf{B}) P(A=1|R=r, \mathbf{X}, \mathbf{B})} dy dx db \\
&= \int \int \int y f_{Y, \mathbf{X}, \mathbf{B}|R=r, A=1}(y, x, b) \frac{P(R=r, A=1)}{P(R=r|\mathbf{B}) P(A=1|R=r, \mathbf{X}, \mathbf{B})} dy dx db.
\end{aligned}$$

Assumption AA-1 generalizes the matching assumption of [Campbell et al. \(2014\)](#). It conditions not only on pre-program variables but on fully observed post-treatment variables,  $\mathbf{X}$ , that predict  $Y$ . The corresponding sample estimator for  $\mathbb{E}[Y^r]$  is

$$\sum_{i \in \mathcal{I}} y \alpha_i \beta_{i,r} \mathbf{1}(r_i = r)$$

where  $\mathcal{I}$  indexes the individuals in the sample,  $\alpha_i$  indicates whether we observe  $Y$  for individual  $i$ , and

$$\beta_{i,r} = \frac{1}{\pi_r(x_i) \alpha(r_i, x_i, b_i)} \frac{1}{\sum_k \frac{\mathbf{1}(r_i=r) \mathbf{1}(\alpha_i=1)}{\pi_r(x_k) \alpha(r_k, x_k, b_k)}},$$

with  $\pi_r(x) := P(R = r | \mathbf{B} = b)$  and  $\alpha(r, x, b) := P(A = 1 | R = r, \mathbf{X} = x, \mathbf{B} = b)$ . The weight  $\pi_r$  corrects for selection into treatment based on pre-program variables  $\mathbf{B}$ . The weight  $\alpha_i$  corrects for item non-response based on  $R, \mathbf{X}, \mathbf{B}$ .

For each of the estimates presented in this paper, we allow the reader to assess the sensitivity of the estimate to adjusting by the IPW. We present estimates for the first counterfactual of interest (“Treatment vs. Next Best”) without adjusting by IPW in column (1). In column (2), we present estimates accounting for IPW. The rest of the columns report similar exercises for the other counterfactuals considered.<sup>71</sup>

### B.3 Inference

This section provides the precise steps for constructing the bootstrap distribution and for computing the standard errors for three of the main estimates in our paper.

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<sup>71</sup>We only account for IPW for the list of variables listed here, or any calculation involving them.



### B.3.1 Treatment Effects

1. Resample the experimental sample with replacement at the individual level. This gives us a new (re-sampled) panel dataset. Full information about each individual is obtained in each re-sample.
2. For a partially complete outcome  $Y_j$ , run  $K$  regressions of  $Y_j$  on the set of explanatory variables  $k = 1, \dots, K$ .<sup>72</sup>  $K$  is determined by the number of possible control sets we can construct with 1, 2 and, 3 baseline variables. We document this procedure and describe the possible control sets in Appendix D.1.
3. Choose the control set that best predicts  $Y_j$ , as we describe in Appendix D.1. Call this control set  $k_j^*$ . There is one control set per each of the partially complete outcomes  $Y_j$ .
4. Construct the IPW using the inverse of the prediction of a logistic regression of an indicator of “observed or not” on control set  $k_j^*$ .
5. If we estimate our parameter of interest using matching (treatment vs. stay at home or treatment vs. alternative preschool —see Section 3), we weight the treatment group as to make it comparable in observed characteristics to the control group individuals who either stay at home or attend alternative preschools. We use the procedure in 3. to choose the variables used to weight.
6. Repeat this procedure 1,000 times to obtain the empirical bootstrap distribution. Compute the standard error as the sample standard deviation of these resamples. Compute the  $p$ -value’s as the proportion of times that we reject the null hypothesis, after centering the empirical bootstrap distribution according to the null hypothesis.

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<sup>72</sup>We perform this procedure at any age, and re-sample individuals independently of their treatment status so we drop the respective indices.

### B.3.2 Combining Functions

1. Use the same procedure as before to re-sample the experimental data.
2. Calculate treatment effects as described in Appendix B.3.1.
3. If counting the number of positive effects, compute this number and generate standard errors and  $p$ -value's as before.
4. If counting the number of positive and at significant treatment effects, compute the number of positive and significant treatment effects (at the desired significance level). Re-sample the non-experimental sample a second time. The second re-sample creates an empirical bootstrap distribution for this count. Generate standard errors and  $p$ -value's as before.

## C Gender Differences

### C.1 Survey of Gender Differences Literature

We summarize (Table C.1) work that examines early-life differences between boys and girls. It is generally found that boys are more fragile than girls early in life. While some of these papers consider the family environment, there is a dearth of work studying (1) the effect of low-quality preschool on children<sup>73</sup> and (2) the interaction of this with family environments. We find that while low-quality programs can deteriorate the parent-child interaction, especially for boys, high-quality programs can enhance it.

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<sup>73</sup>Although Kottelenberg and Lehrer (2014) study gender gaps, they only consider intact families.

Table C.1: Literature Review on Early Gender Differences

Paper	Program(s)	Main Gender-Difference Finding	Outcomes	Quality of Childcare Setting?	Quality of Home Setting?
Lundberg (2005)	Literature survey	-females: divorce is likely if all children are girls less likely to live with fathers (US), spends more time with mothers -males: increase marital stability, increase likelihood of subsequent child	-fertility and divorce	No	No
Anderson (2008)	ABC Perry Preschool Program Early Training Program (ETP)	-modest results for males -females especially affected in academic outcomes -accounting for multiple hypotheses	-child, adolescent, adult (up to age 21 for ABC) -social, educational, employment -test scores reduces effects substantially especially for males	No	No
Ou and Reynolds (2010)	Chicago Child-Parent Center - 1334 youths (682 females, 652 males) - center-based, served 3/4 year olds - RCT	Differences in treatment effects consequence of difference in mediators -male mediators: preschool participation -female mediators: family support, abuse/neglect	-educational attainment -HS or GED (jointly coded)	No	Yes
Bertrand and Pan (2013)	ECLS-K (ATUS as complementary) -observational study up to 5th grade	Stark gender differences - females: better on all socio-emotional measures (gaps widen when children get older) - males: worst at reading but better than math at 1st grade	-socio-emotional measures -grade suspension - tests scores (math and reading)	No	Yes
Cornwell et al. (2013)	ECLS-K -observational study up to 5th grade	Gender differences in tests and grades -males: better in science and math; worst grades overall females: better reading tests (gap wider than gap with respect to science and math) - some but not all of the gaps disappears when accounting for socio-emotional measures	-reading, science, math tests scores -grades -socio-emotional measures	No	No
Golsteyn and Schils (2014)	Observational study in the Netherlands - elementary school children, age 11/12	Gender differences across skills and tests - males: higher assertiveness and math -females: higher social skills and language	-cognition -socio-emotional measures -math and language tests	N/A	No
Kottelenberg and Lehrer (2014)	NLSY	-females: better parent-child relationship and interactions across diverse measures - no precise difference in cognition	-cognition - socio-emotional outcomes -parental child relationship and quality of interactions -maternal labor supply	No	Yes
Baker and Milligan (2013)	Observational studies in three countries -Canada: NLSY (ages 1 to 5) -UK: Millennium Cohort Study (ages 1 to 7) -US: ECLS-B (ages 1 to 4)	Gender differences in parental investment -no difference in mother's time at home -females: more investment in teaching activities -males: more father's investment at older ages	-parental investment across different ages	No	Yes
Magnuson et al. (2016)	23 programs (meta-analysis) - at least 10 controls - from 1960 to 2013 - < 50%attrition - RCTs	No gender differences, in general - males/females: cognitive benefits - no effect on behavior or mental health	-all programs: cognition -some programs: achievement, behavior, adult outcomes	No	No
Schore (2017)	Literature survey	Sex differences in brain maturation -males: less time spent with mothers, more sensitive to early infections and endotoxins; respond poorly to daycare settings; amplify stress more sensitive to single mother environment -females: more rapid brain maturation	- brain maturation (right brain development) - daycare behavior - maternal interaction	N/A	Yes

Note: This table presents a summary of papers studying early-life gender differences. (1) lists the paper; (2) lists the main program or sample of analysis; (3) lists the main finding with respect to gender differences; (4) the outcomes analyzed; (5) reports if the paper assesses or discusses the quality of the childcare setting; (6) reports if the paper assesses or discusses measures of home quality.

## D Procedures for Selecting Background Variables, Estimated Treatment Effects, and Estimated Combining Functions

In this appendix we first explain our method for selecting the background variables that we control for when estimating treatment effects.<sup>74</sup> Then, we present the treatment effects of the center-based treatment in ABC/CARE estimates for the 95 main outcomes we consider. For each set of estimates, we first present a summary of the effect of the program using a combining function counting the number of socially positive treatment effects. We then present tables of treatment effect estimates for each outcome. Finally, we test for statistically significant treatment effects using the step-down procedure to test multiple hypotheses.

### D.1 Background Variables

We select three out of fourteen potential variables that best predict the relevant outcomes of interest, i.e. the outcomes we test treatment effects for. We list the fourteen variables in Table D.1 and bold the three we choose. In addition to these three variables, we account for a male indicator when computing estimates pooling males and females and a ABC/CARE indicator, to account for any difference in the programs—although we extensively document throughout the paper the similarities between them.

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<sup>74</sup>This is a separate discussion from the election of variables to forecast life-cycle profiles of labor income and other outcomes. For that discussion see Appendix B.

Table D.1: Background Variables

Maternal IQ	Maternal education	Mother's age at birth
<b>High Risk Index</b>	Parent income	Premature birth
<b>1 minute Apgar score</b>	<b>5 minute Apgar score</b>	Mother married
Teen pregnancy	Father at home	Number of siblings
Cohort	Mother is employed	

Note: This table lists the variables we permute over when selecting the background variables we control for in our estimations. We bold the variables we choose based on the procedure explained in this section.

We briefly formalize the choice of the control sets based on most predictive models in the next lines.

Let  $\mathcal{M}$  be the set of all the models we consider. In our application,  $\mathcal{M}$  consists of all linear regressions of an outcome of interest on the different combinations of background variables.  $m \in \mathcal{M}$  is one of such models. We choose the model minimizing the Bayesian Information Criterion (BIC) by ranking them according to their likelihood. That is, according to their posterior probability given the data. The data, in this case, are the dependent variable being predicted together with the background variables in each combination. We denote this by  $\Pr(m|\text{Data})$ .

Using Bayes Rule and the law of total probability,

$$\begin{aligned}
 \Pr(m|\text{Data}) &= \frac{\Pr(\text{Data}|m) \times \Pr(m)}{\Pr(\text{Data})} \\
 &= \frac{\Pr(\text{Data}|m) \times \Pr(m)}{\sum_{m' \in M} \Pr(\text{Data}|m') \Pr(m')} \\
 &\propto \Pr(\text{Data}|m) \times \Pr(m),
 \end{aligned} \tag{2}$$

where  $\Pr(m)$  is the prior probability of model  $m$  and  $\Pr(\text{Data}|m)$  is the probability of observing Data under model  $m$ .

There are various approaches to rank the the likelihood of each model. Examples include rankings based on Bayesian Information Criterion (Schwarz), the Hannan-Quinn Information Criterion (HWIC), and the Akaike Information Criterion (AIC). We use the first approach because it has appealing consistency properties (Diebold, 2007). This criterion minimizes the following loss function:  $2 \log[\Pr(\text{Data}|m)]$ . We follow an specific approximation developed by Claeskens and Hjort (2008), which assumes uniform priors and simplifies the computation of the loss function.

This procedure allows us to choose one control set per outcomes of interest. To gain consistency across all specifications, we sum the BIC across all outcomes and choose the background variables with lower average across models. These background variables form our control set across all estimations and appear bold in Table D.1.

### D.1.1 Matching Variables

We use matching estimators for different versions of the “treatment vs. stay at home” and “treatment vs. alternative preschools” parameters. For treatment vs. stay at home, we construct the Mahalanobis distance between the individuals in the treatment group and the control group who stay at home and use an Epanechnikov metric to construct an individual-level weight—giving a relatively high weight to individuals in the treatment group who would have been likely to stay at home if randomized to the control group. We proceed analogously when estimating the treatment vs. alternative preschool parameters. We use the same variables to “match” and to “control”.

Table D.2 displays the results of a test comparing the matched samples. The first three columns compare the children in the control group who attended alternative center-based care to those in the treatment group who would have attended alternative care if they were in the control group. The last three columns perform the analogous comparison for children who stayed at home. The % Bias is the standardized mean difference between the matched samples. The corresponding  $t$ -scores and  $p$ -values are also reported, however none of the comparisons are significantly different.

Other forms of matching estimates such as propensity score matching and nearest neighbor(s) give very similar results and are available upon request. We analyze sensitivity to the choice of controls and matching variables next.

### D.1.2 Sensitivity Analysis

An immediate route of inquiry has to do with the sensitivity of our estimates to the choice of background variables. Especially in the context of our small sample, in which estimates

Table D.2: Testing Matched Samples

Baseline Characteristic	Alternative Center-Based Care			Stay at Home		
	% Bias	<i>t</i> -score	<i>p</i> -value	% Bias	<i>t</i> -score	<i>p</i> -value
Mother's Yrs. of Edu.	-10.8	-0.57	0.573	-41.9	-1.30	0.202
Mother Works	-16.6	-0.75	0.456	-62.0	-1.61	0.119
Mother's Age	8.9	0.45	0.654	27.0	0.83	0.413
Mother's IQ	12.5	0.68	0.498	-22.7	-0.72	0.474
Father Present	-15.4	-0.78	0.438	20.3	0.62	0.541
Parental Income	-25.6	-1.14	0.256	-4.2	-0.11	0.911
HRI Score	37.2	1.96	0.053	19.8	0.62	0.538
Number of Siblings	10.9	0.55	0.585	38.8	1.19	0.244
Male	3.4	0.17	0.864	-0.7	-0.02	0.983
Apgar Score, 1 min.	-17.9	-1.04	0.302	-19.6	-0.65	0.522
Apgar Score, 5 min.	-6.3	-0.43	0.669	-29.6	-1.14	0.260
ABC	-28.4	-1.47	0.145	-35.7	-1.11	0.273

Note: This table tests the difference between the matched samples for both sets of matches that are done: treatment to alternative childcare and treatment to staying at home. The % Bias is the standardized mean difference between the matched samples. The corresponding *t*-scores and *p*-values are also reported.

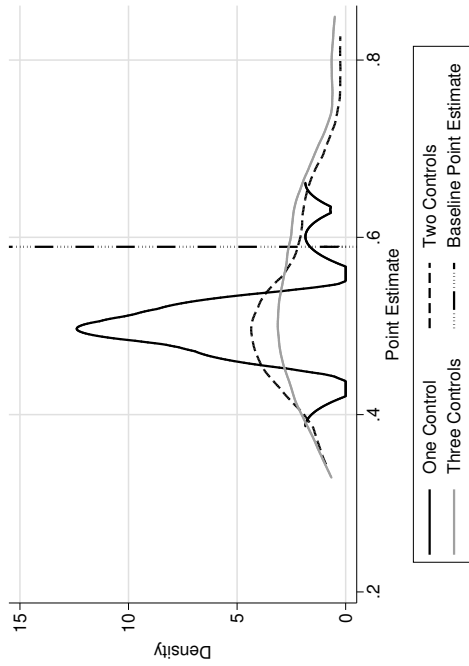
can vary to different model specifications. To investigate this, we estimate treatment effects for the three counterfactuals we consider using all possible control sets for the three variables we can form with the background variables in Table D.1. We also consider all possible control sets of one and two variables in Table D.1. For brevity, we present this exercise for two outcomes, employment and education. Similar exercises for the 95 main outcomes we consider are available upon request.

Figure D.1 to Figure D.3 display the results from this exercise. In any case, the support of the distributions are very compressed leading us to conclude that there is little sensitivity to the choice of controls sets. This is especially true for the comparisons of treatment vs. staying at home and vs. alternative preschool.

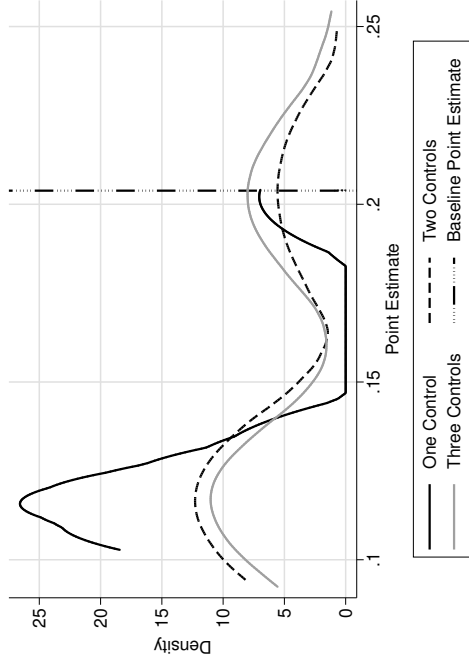


Figure D.1: Sensitivity to Choice of Control Set, Treatment vs. Next Best

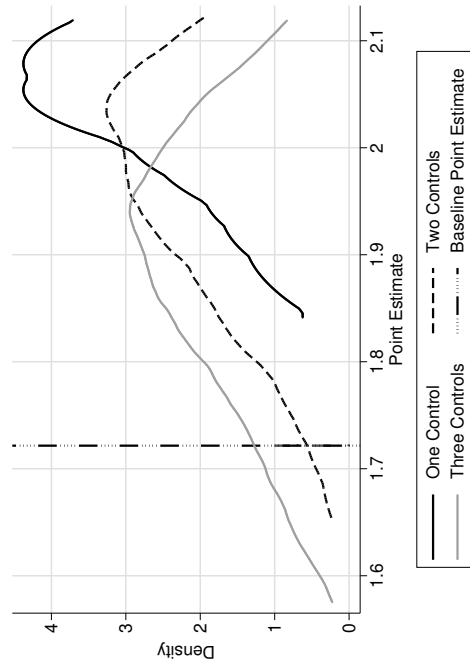
(a) Years of Education, Males



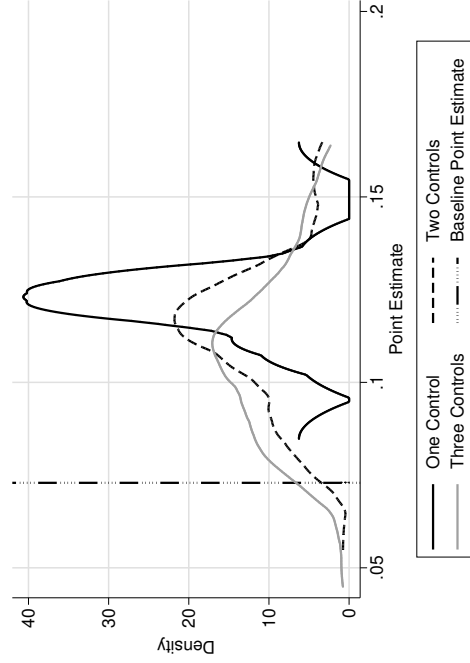
(b) Employment, Males



(c) Years of Education, Females



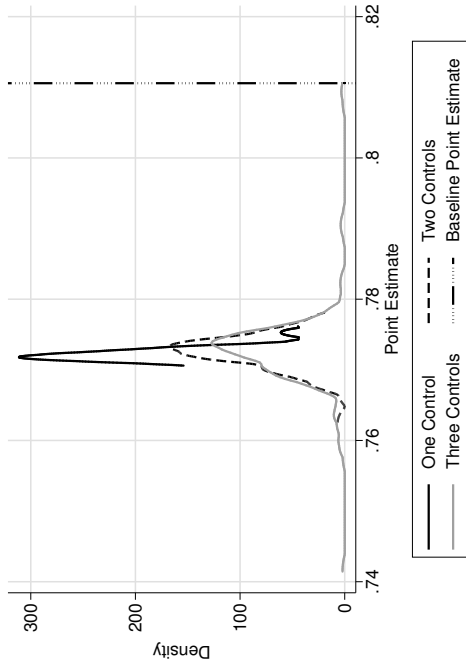
(d) Employment, Females



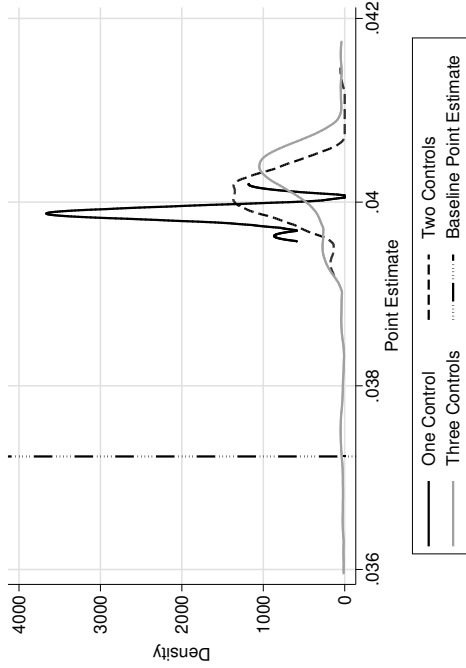
Note: Panel (a) displays the distribution of the treatment effect estimate of the treatment compared to next best counterfactual for males years of education. The distribution is obtained by using all possible combinations of one, two, and three background variables listed in Table D.1. In addition to these three variables, we account for a male indicator when computing estimates pooling males and females and a ABC/CARE indicator, to account for any difference in the programs—although we extensively document throughout the paper the similarities between them. The horizontal line marks the baseline estimate we use. The reminder panels present analogous distributions for the outcomes and genders indicated in the title.

Figure D.2: Sensitivity to Choice of Control Set, Treatment vs. Stay at Home

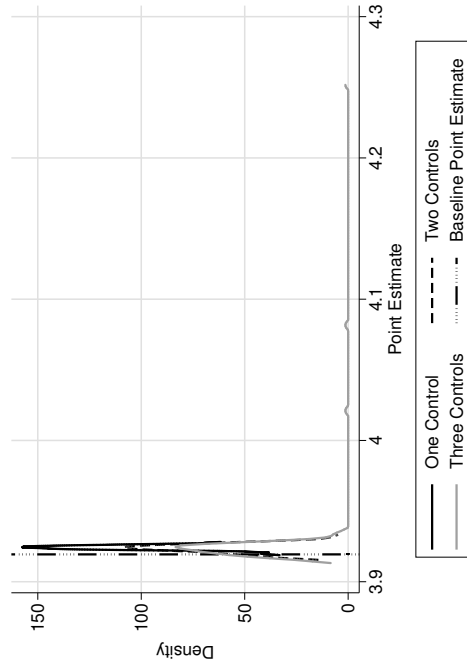
(a) Years of Education, Males



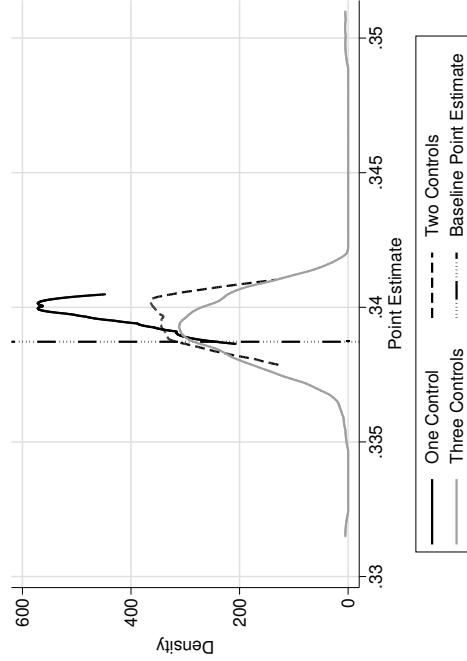
(b) Employment, Males



(c) Years of Education, Females



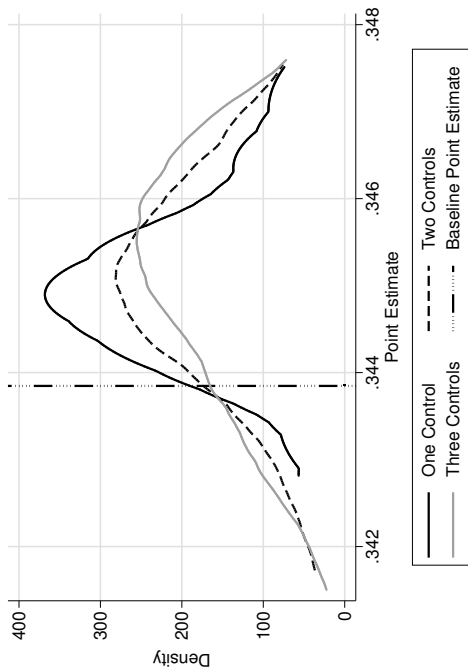
(d) Employment, Females



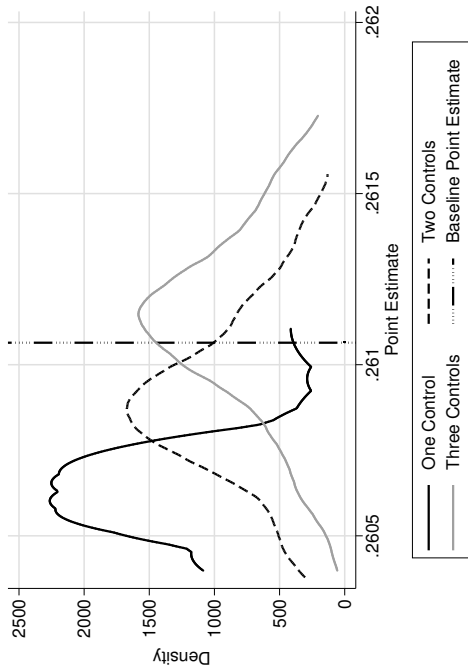
Note: Panel (a) displays the distribution of the treatment effect estimate of the treatment compared to stay at home counterfactual for males years of education. The distribution is obtained by using all possible combinations of one, two, and three background variables listed in Table D.1. In addition to these three variables, we account for a male indicator when computing estimates pooling males and females and a ABC/CARE indicator, to account for any difference in the programs—although we extensively document throughout the paper the similarities between them. We “match” and “control” using the same set of variables. The horizontal line marks the baseline estimate we use. The reminder panels present analogous distributions for the outcomes and genders indicated in the title.

Figure D.3: Sensitivity to Choice of Control Set, Treatment vs. Alternative Preschool

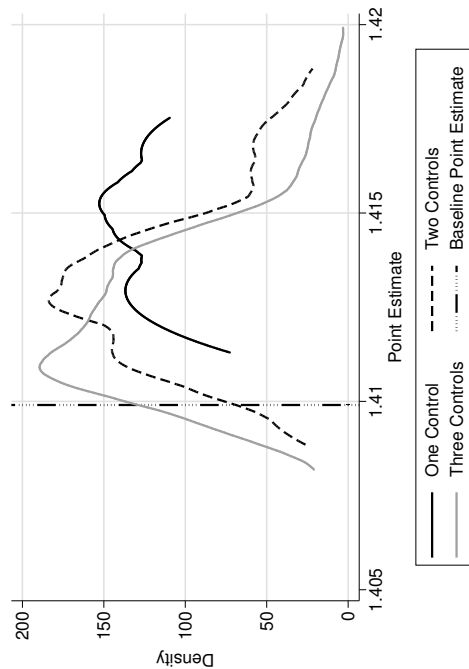
(a) Years of Education, Males



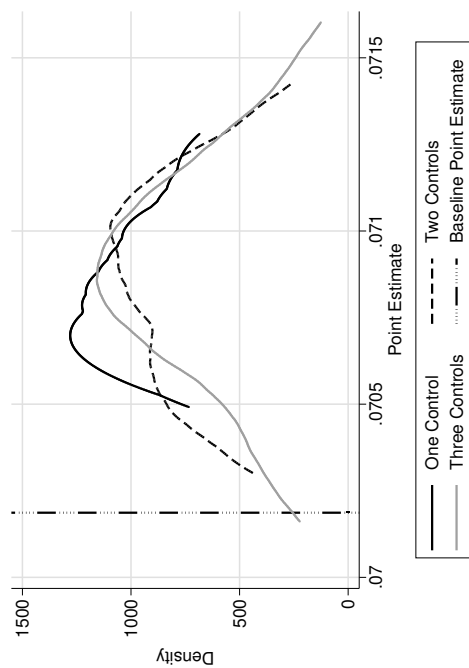
(b) Employment, Males



(c) Years of Education, Females



(d) Employment, Females



Note: Panel (a) displays the distribution of the treatment effect estimate of the treatment compared to alternative preschool counterfactual for males years of education. The distribution is obtained by using all possible combinations of one, two, and three background variables listed in Table D.1. In addition to these three variables, we account for a male indicator when computing estimates pooling males and females and a ABC/CARE indicator, to account for any difference in the programs—although we extensively document throughout the paper the similarities between them. We “match” and “control” using the same set of variables. The horizontal line marks the baseline estimate we use. The reminder panels present analogous distributions for the outcomes and genders indicated in the title.

## D.2 Outcomes of Interest

Table D.3 lists the 95 outcomes that we test in our main analysis. We reverse the outcomes for which we consider a negative treatment effect socially positive.

Table D.3: Main Outcome Variables

Category	Variable	Age	ABC	CARE	Re-versed		
IQ Scores	Std. IQ Test	2	✓	✓			
		2.5		✓			
		3	✓	✓			
		3.5	✓	✓			
		4	✓	✓			
		4.5	✓	✓			
		5	✓	✓			
		6.6	✓	✓			
		7	✓	✓			
		8	✓	✓			
		12	✓	✓			
		15	✓				
		21	✓				
		IQ Scores	IQ Factor	2 to 5	✓	✓	
				6 to 12	✓	✓	
15 to 21	✓						
Achievement Scores	Std. Achv. Test	5.5	✓	✓			
		6	✓	✓			
		6.5	✓				
		7	✓				
		7.5	✓	✓			
		8	✓	✓			
		8.5	✓	✓			
		12		✓			
		15	✓				
		21	✓				

Category	Variable	Age	ABC	CARE	Re-versed
	PIAT Math Std. Score	7	✓	✓	
	Achievement Factor	5.5 to 12 15 to 21	✓	✓	
HOME Scores	HOME Score	0.5 1.5 2.5 3.5 4.5 8	✓	✓	
	HOME Factor	0.5 to 8	✓	✓	
Parent Income	Parental income	1.5 2.5 3.5 4.5 8 12 15	✓	✓	
	Parental Income Factor	1.5 to 15	✓	✓	
Mother's Employment	Mother Works	2 3 4 5 21	✓	✓	
	Mother Works Factor	2 to 21	✓	✓	
Mother's Education	Mother's Years of Edu.	2 3 4 5 9	✓		
	Mother's Edu. Factor	2 to 9	✓		

Category	Variable	Age	ABC	CARE	Re-versed
Father at Home	Father at Home	2	✓	✓	
		3	✓	✓	
		4	✓	✓	
		5	✓	✓	
		8	✓	✓	
	Father at Home Factor	2 to 8	✓	✓	
Adoption	Ever Adopted		✓		
Education	Graduated High School	30	✓	✓	
	Attended Voc./Tech./Com. College	30	✓	✓	
	Graduated 4-year College	30	✓	✓	
	Years of Edu.	30	✓	✓	
	Education Factor	30	✓	✓	
Employment and Income	Employed	30	✓	✓	
	Labor Income	21	✓	✓	
		30	✓	✓	
	Public-Transfer Income	21	✓	✓	✓
		30	✓	✓	✓
Employment Factor	21 to 30	✓	✓		
Crime	Total Felony Arrests	Mid-30s	✓	✓	✓
	Total Misdemeanor Arrests	Mid-30s	✓	✓	✓
	Total Years Incarcerated	30	✓	✓	✓
	Crime Factor	30 to Mid-30s	✓	✓	✓
Tobacco, Drugs, Alcohol	Cig. Smoked per day last month	30	✓	✓	✓
	Days drank alcohol last month	30	✓	✓	✓
	Days binge drank alcohol last month	30	✓	✓	✓

Category	Variable	Age	ABC	CARE	Re-versed
	Self-reported drug user	Mid-30s	✓	✓	✓
	Substance Use Factor	30 to Mid-30s	✓	✓	✓
Self-Reported Health	Self-reported Health	30	✓	✓	✓
		Mid-30s	✓	✓	✓
	Self-reported Health Factor	30 to Mid-30s	✓	✓	✓
Hypertension	Systolic Blood Pressure (mm Hg)	Mid-30s	✓	✓	✓
	Diastolic Blood Pressure (mm Hg)	Mid-30s	✓	✓	✓
	Prehypertension	Mid-30s	✓	✓	✓
	Hypertension	Mid-30s	✓	✓	✓
	Hypertension Factor	Mid-30s	✓	✓	✓
Cholesterol	High-Density Lipoprotein Chol. (mg/dL)	Mid-30s	✓	✓	
	Dyslipidemia	Mid-30s	✓	✓	✓
	Cholesterol Factor	Mid-30s	✓	✓	✓
Diabetes	Hemoglobin Level (%)	Mid-30s	✓	✓	✓
	Prediabetes	Mid-30s	✓	✓	✓
	Diabetes	Mid-30s	✓	✓	✓
	Diabetes Factor	Mid-30s	✓	✓	✓
Vitamin D Deficiency	Vitamin D Deficiency	Mid-30s	✓	✓	✓

Category	Variable	Age	ABC	CARE	Re-versed
Obesity	Measured BMI	Mid-30s	✓	✓	✓
	Obesity	Mid-30s	✓	✓	✓
	Severe Obesity	Mid-30s	✓	✓	✓
	Waist-hip Ratio	Mid-30s	✓	✓	✓
	Abdominal Obesity	Mid-30s	✓	✓	✓
	Framingham Risk Score	Mid-30s	✓	✓	✓
	Obesity Factor	Mid-30s	✓	✓	✓
Mental Health (BSI)	Somatization	21	✓	✓	✓
		34	✓	✓	✓
	Depression	21	✓	✓	✓
		34	✓	✓	✓
	Anxiety	21	✓	✓	✓
		34	✓	✓	✓
	Hostility	21	✓	✓	✓
		34	✓	✓	✓
	Global Severity Index	21	✓	✓	✓
		34	✓	✓	✓
Mental Health Factor	21				
	and 34	✓	✓	✓	
Child Behavior (CAS)	Participates in Activity	12	✓		
	Time Spent Reading	12	✓		
	Good Description of Self	12	✓		
	Views Self as Dumb	12	✓		✓
	Views Self as Clumsy	12	✓		✓
	Views Self as Not Liked	12	✓		✓
	Proud About Self	12	✓		
	Family Proud of You	12	✓		
	Feels Inadequate, Inferior	12	✓		✓
	Withdraws Excessively	12	✓		✓
	Ignores Situation	12	✓		✓



Category	Variable	Age	ABC	CARE	Re-versed
	Not Cope with Prob.	12	✓		✓
	Often Mad or Angry	12	✓		✓
	Impulsivity	12	✓		✓
	Significant Fears	12	✓		✓
	Denies Any Worries	12	✓		✓

Note: This table lists the main outcomes that we test treatment effects for. We reverse the outcomes for which we consider a negative treatment effect socially positive.

### D.3 Estimates

Table D.11 shows that across all methods of estimation, pooling males and females, over 70% of the treatment effect estimates are beneficial. When using a 10% statistical significance level, almost 40% of all estimates are beneficial. These statistics allow us to reject the hypothesis that there are no treatment effects.

For both males and females, we find positive effects in IQ test scores, achievement test scores, as well as educational attainment. Males also enjoy additional benefits in the areas of employment, labor earnings, and hypertension.

In each of the tables for combining functions and treatment effect estimates, we present 8 different estimates. Column (1) corresponds to the mean difference between the groups randomly assigned to receive center-based childcare and the groups randomly assigned not to. Column (2) adjusts the estimates in (1) for attrition and controls for a set of covariates. Column (3) corresponds to the mean difference between the groups randomly assigned to receive center-based childcare and the groups randomly assigned not to, restricting the latter

to subjects who did not receive preschool alternatives. Column (4) adjusts the estimates in (3) for attrition and controls for a set of covariates. Column (5) corresponds to the mean difference between the groups randomly assigned to receive center-based childcare and the groups randomly assigned not to, placing a relatively high weight on the subjects who are likely not to be enrolled in alternative preschools. Column (6) corresponds to the mean difference between the groups randomly assigned to receive center-based childcare and the groups randomly assigned not to, restricting the latter to subjects who received preschool alternatives. Column (7) adjusts the estimates in (6) for attrition and controls for a set of covariates. Column (8) corresponds to the mean difference between the groups randomly assigned to receive center-based childcare and the groups randomly assigned not to, placing a relatively high weight on the children who are likely to be enrolled in alternative preschools. The results in bold are statistically significant at the 10% level in a single-sided, non-parametric, bootstrapped test.<sup>75</sup> Columns (5) and (8) are standard kernel matching estimates.

Beginning with Table D.20, we display treatment effects by outcome. We divide the tables by different blocks of related outcomes. Table D.4 summarizes treatment effects on the set of selected “latent” outcomes that we estimate. We display the full set of estimates beginning with Table D.20, together with the corresponding outcomes underlying the latents that we estimate.

Table D.4 displays the results. Column (1) is the parameter in Equation (2), which is identified by random assignment to treatment. Column (2) displays the same parameter controlling for baseline variables and accounting for attrition. The procedures to select the

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<sup>75</sup>For the tables that present categorical combining function statistics that count the number of positive treatment effects that are significant at the 10% level, two bootstrap tests are conducted. The first bootstrap test is used to determine significance at the 10% level for each treatment effect. The second bootstrap test is used to determine whether the combined function statistic is significantly different from 10% at the 10% level. See Appendix B.3 for more details on our inference procedures.

control variables and to account for attrition are in Appendices B and D. Column (3) displays estimates for the parameters in Equation (3). Column (4) does so as well but controlling for baseline variables and accounting for attrition. Column (5) is analogous to Column (3), but estimating the parameters compared to those who attended alternative care. Column (6) controls for baseline variables and accounts for attrition. Columns (3) to (6) are relevant when explaining gender differences so we delay discussing them to Section 5.

The results in Columns (1) and (2) of Table D.4 reflect that ABC/CARE has substantial market and non-market benefits across the life-cycle. Recall that this inference is valid for all individuals in the population for whom  $\mathbf{B} \in \mathcal{B}_0$  (i.e., are at considerable socio-economic disadvantage). The latents for each category have an in-sample mean of 0 and standard deviation of 1.

The latent capturing measures of education increases by almost 1/2 of a standard deviation for females even after accounting for baseline characteristics and attrition. For males, employment and hypertension are the latents that show the strongest improvement as a result of treatment.

Table D.4: Treatment Effects on Latent Outcomes

Category	Age	(1)	(2)	(3)	(4)	(5)	(6)
<b>Females</b>							
Parental Income Latent	1.5 to 21	0.260 (0.261)	0.176 (0.284)	0.189 (0.398)	0.580 ( <b>0.091</b> )	0.289 (0.265)	0.089 (0.398)
Education Latent	21 to 30	0.556 ( <b>0.022</b> )	0.424 ( <b>0.069</b> )	0.806 ( <b>0.019</b> )	0.728 ( <b>0.074</b> )	0.422 ( <b>0.075</b> )	0.341 (0.112)
Employment Latent	21 to 30	0.130 (0.324)	0.042 (0.447)	0.548 (0.119)	0.611 (0.119)	-0.017 (0.527)	-0.180 (0.747)
Crime Latent	30 to Mid-30s	0.404 ( <b>0.005</b> )	0.266 (0.109)	1.379 ( <b>0.026</b> )	1.242 ( <b>0.085</b> )	0.172 (0.179)	-0.043 (0.567)
Hypertension Latent	Mid-30s	0.038 (0.482)	0.092 (0.383)	-0.225 (0.722)	-0.128 (0.607)	0.109 (0.380)	0.178 (0.304)
<b>Males</b>							
Parental Income Latent	1.5 to 21	0.032 (0.443)	-0.050 (0.596)	-0.064 (0.561)	-0.208 (0.725)	-0.010 (0.494)	-0.041 (0.552)
Education Latent	21 to 30	0.374 ( <b>0.084</b> )	0.283 (0.134)	0.246 (0.283)	0.341 (0.208)	0.419 ( <b>0.075</b> )	0.359 ( <b>0.079</b> )
Employment Latent	21 to 30	0.289 (0.135)	0.476 ( <b>0.023</b> )	0.024 (0.478)	0.326 (0.198)	0.403 ( <b>0.090</b> )	0.578 ( <b>0.021</b> )
Crime Latent	30 to Mid-30s	-0.171 (0.717)	-0.331 (0.894)	-0.459 (0.993)	-0.576 (0.973)	-0.115 (0.626)	-0.344 (0.810)
Hypertension Latent	Mid-30s	0.638 ( <b>0.017</b> )	0.727 ( <b>0.000</b> )	-0.131 (0.635)	0.436 (0.129)	1.041 ( <b>0.002</b> )	0.965 ( <b>0.000</b> )

**Note:** This table shows the treatment effects for “latent” outcomes, constructed from various related outcomes to the latent. Each column present estimates for the following parameters: (1)  $\mathbb{E}[\mathbf{Y}^1 - \mathbf{Y}^0|W = 1]$ ; (2)  $\mathbb{E}[\mathbf{Y}^1 - \mathbf{Y}^0|\mathbf{B}]$ ; (3)  $\mathbb{E}[\mathbf{Y}^1|D = 1] - \mathbb{E}[\mathbf{Y}^0|V = 0, D = 0]$ ; (4)  $\mathbb{E}[\mathbf{Y}^1 - \mathbf{Y}^0|\mathbf{B}, V = 0]$ ; (5)  $\mathbb{E}[\mathbf{Y}^1|D = 1] - \mathbb{E}[\mathbf{Y}^0|V = 1, D = 0]$ ; (6)  $\mathbb{E}[\mathbf{Y}^1 - \mathbf{Y}^0|\mathbf{B}, V = 1]$ . We account for the following background variables ( $\mathbf{B}$ ): Apgar scores at minutes 1 and 5 and the high-risk index. We define the high-risk index in Appendix A and explain how we choose the control variables in Appendix D.1. Inference is based on non-parametric, one-sided  $p$ -values from the empirical bootstrap distribution (1,000 bootstraps). We highlight  $p$ -values significant at the 10% level.

## D.4 Non-parametric Tests

In the paper, we present non-parametric tests with a more refined set of outcomes to remove extraneous outcomes and those that are not observed in CARE. Here, we display the same results with the full set of outcomes.

Table D.5: Age Summary of Treatment-Control Comparisons by Gender, Full Set of Outcomes

	Average Effect Size	% > 0 Treatment Effect	% > 0 , Significant Treatment Effect	Rosenbaum (2005) <i>p</i> -value
<b>Childhood</b>				
Females	<b>0.233</b>	<b>85.366</b>	<b>41.463</b>	.602
Males	<b>0.222</b>	<b>75.610</b>	<b>34.146</b>	.469
<b>School Age</b>				
Females	<b>0.413</b>	<b>88.889</b>	<b>55.556</b>	.004
Males	<b>0.236</b>	<b>100.000</b>	<b>18.519</b>	.343
<b>Adulthood</b>				
Females	<b>0.222</b>	<b>80.000</b>	<b>42.500</b>	.004
Males	<b>0.124</b>	<b>61.538</b>	<b>20.513</b>	.343
<b>All</b>				
Females	<b>0.274</b>	<b>84.259</b>	<b>45.370</b>	.235
Males	<b>0.190</b>	<b>76.636</b>	<b>25.234</b>	.343

Note: This table displays summaries of treatment effects by age and gender for the full set of outcomes. Each of the panels contains statistics calculated using outcomes measured at the indicated ages. Early childhood includes outcomes measured before age 6, school age includes outcomes measured between age 6 and 18, and adult includes outcomes measured between 21 and 35. All (panel d) is a combination of all the outcomes in panels (a) to (c). The average effect size is calculated by averaging over the effect sizes of the outcomes in the age category. The effect sizes of the individual outcomes are calculated by dividing the treatment-control mean difference by the standard deviation of the control group. We present bootstrapped *p*-values. For the proportion of outcomes that are positive and significant, we do a “double bootstrap” procedure. The null hypothesis for the average effect sizes is that they are 0. The null hypothesis for the proportion of outcomes that are (significantly) positive is that they are (10%) 50%. Bolded statistics are significant at the 10% level. The Rosenbaum (2005) *p*-value originates from a test where the null is a common joint distribution across treatment status of the variables in each category. A *p*-value less than 0.10 (bolded) indicates that the distributions are significantly different at the 10% level. More details on our inference procedure are in Section 3.

Table D.6: Category Summary of Treatment-Control Comparisons by Gender, Full Set of Outcomes

	Average Effect Size	% > 0 Treatment Effect	% > 0 , Significant Treatment Effect	Rosenbaum (2005) <i>p</i> -value
<b>IQ</b>				
Females	<b>0.674</b>	<b>100.000</b>	<b>75.000</b>	.046
Males	<b>0.421</b>	<b>100.000</b>	<b>58.333</b>	.235
<b>Achievement</b>				
Females	<b>0.804</b>	<b>100.000</b>	<b>100.000</b>	.01
Males	<b>0.217</b>	<b>100.000</b>	<b>40.000</b>	.812
<b>Social-emotional</b>				
Females	<b>0.176</b>	<b>75.000</b>	<b>37.500</b>	.01
Males	0.053	<b>65.625</b>	<b>12.500</b>	.812
<b>Parental Income</b>				
Females	<b>0.402</b>	<b>92.308</b>	<b>30.769</b>	.349
Males	<b>0.326</b>	<b>92.308</b>	<b>46.154</b>	.812
<b>Parenting</b>				
Females	<b>0.318</b>	<b>100.000</b>	<b>33.333</b>	.046
Males	<b>0.237</b>	<b>83.333</b>	0.000	.812
<b>Education</b>				
Females	<b>0.261</b>	<b>75.000</b>	<b>25.000</b>	.046
Males	0.075	<b>87.500</b>	0.000	.812
<b>Employment</b>				
Females	0.170	<b>100.000</b>	<b>33.333</b>	.046
Males	0.206	<b>66.667</b>	<b>33.333</b>	.812
<b>Crime</b>				
Females	<b>0.356</b>	<b>100.000</b>	<b>100.000</b>	.715
Males	0.004	<b>33.333</b>	0.000	.812
<b>Risky Behavior</b>				
Females	0.067	<b>100.000</b>	0.000	.469
Males	0.232	<b>25.000</b>	<b>25.000</b>	.086
<b>Health</b>				
Females	-0.010	<b>64.706</b>	<b>17.647</b>	.046
Males	-0.249	<b>68.750</b>	<b>25.000</b>	0

Note: This table displays summaries of treatment effects by outcome category and gender for the full set of outcomes. Each of the panels contains statistics calculated using outcomes measured at the indicated ages. Early childhood includes outcomes measured before age 6, school age includes outcomes measured between age 6 and 18, and adult includes outcomes measured between 21 and 35. All (panel d) is a combination of all the outcomes in panels (a) to (c). The average effect size is calculated by averaging over the effect sizes of the outcomes in the age category. The effect sizes of the individual outcomes are calculated by dividing the treatment-control mean difference by the standard deviation of the control group. We present bootstrapped *p*-values. For the proportion of outcomes that are positive and significant, we do a “double bootstrap” procedure. The null hypothesis for the average effect sizes is that they are 0. The null hypothesis for the proportion of outcomes that are (significantly) positive is that they are (10%) 50%. Bolded statistics are significant at the 10% level. The Rosenbaum (2005) *p*-value originates from a test where the null is a common joint distribution across treatment status of the variables in each category. A *p*-value less than 0.10 (bolded) indicates that the distributions are significantly different at the 10% level. More details on our inference procedure are in Section 3.

Table D.7: Age Summary of Treatment-Control (Stay at Home) Comparisons by Gender, Full Set of Outcomes

	Average Effect Size	% > 0 Treatment Effect	% > 0 , Significant Treatment Effect	Rosenbaum (2005) <i>p</i> -value
<b>Childhood</b>				
Females	<b>0.192</b>	<b>73.171</b>	<b>51.220</b>	.061
Males	<b>0.320</b>	<b>80.488</b>	<b>46.341</b>	.394
<b>School Age</b>				
Females	<b>0.366</b>	<b>96.296</b>	<b>66.667</b>	.061
Males	<b>0.315</b>	<b>100.000</b>	<b>59.259</b>	.287
<b>Adulthood</b>				
Females	0.093	<b>67.500</b>	<b>40.000</b>	0
Males	<b>0.206</b>	<b>76.923</b>	<b>38.462</b>	.053
<b>All</b>				
Females	<b>0.199</b>	<b>76.852</b>	<b>50.926</b>	.061
Males	<b>0.277</b>	<b>84.112</b>	<b>46.729</b>	.394

Note: This table displays summaries of treatment effects by age and gender for the full set of outcomes and compared to those who stayed at home. Each of the panels contains statistics calculated using outcomes measured at the indicated ages. Early childhood includes outcomes measured before age 6, school age includes outcomes measured between age 6 and 18, and adult includes outcomes measured between 21 and 35. All (panel d) is a combination of all the outcomes in panels (a) to (c). The average effect size is calculated by averaging over the effect sizes of the outcomes in the age category. The effect sizes of the individual outcomes are calculated by dividing the treatment-control mean difference by the standard deviation of the control group. We present bootstrapped *p*-values. For the proportion of outcomes that are positive and significant, we do a “double bootstrap” procedure. The null hypothesis for the average effect sizes is that they are 0. The null hypothesis for the proportion of outcomes that are (significantly) positive is that they are (10%) 50%. Bolded statistics are significant at the 10% level. The Rosenbaum (2005) *p*-value originates from a test where the null is a common joint distribution across treatment status of the variables in each category. A *p*-value less than 0.10 (bolded) indicates that the distributions are significantly different at the 10% level. More details on our inference procedure are in Section 3.

Table D.8: Category Summary of Treatment-Control (Stay at Home) Comparisons by Gender, Full Set of Outcomes

	Average Effect Size	% > 0 Treatment Effect	% > 0 , Significant Treatment Effect	Rosenbaum (2005) <i>p</i> -value
<b>IQ</b>				
Females	<b>0.518</b>	<b>100.000</b>	<b>83.333</b>	.83
Males	<b>0.661</b>	<b>100.000</b>	<b>91.667</b>	.859
<b>Achievement</b>				
Females	<b>0.437</b>	<b>100.000</b>	<b>100.000</b>	.061
Males	<b>0.401</b>	<b>100.000</b>	<b>80.000</b>	.394
<b>Social-emotional</b>				
Females	0.083	<b>65.625</b>	<b>28.125</b>	.061
Males	<b>0.224</b>	<b>78.125</b>	<b>31.250</b>	.394
<b>Parental Income</b>				
Females	<b>0.291</b>	<b>92.308</b>	<b>76.923</b>	.305
Males	<b>0.280</b>	<b>92.308</b>	<b>61.538</b>	.394
<b>Parenting</b>				
Females	<b>0.242</b>	<b>100.000</b>	16.667	.83
Males	<b>0.371</b>	<b>100.000</b>	<b>66.667</b>	.394
<b>Education</b>				
Females	<b>0.400</b>	<b>75.000</b>	<b>62.500</b>	.83
Males	<b>0.340</b>	<b>87.500</b>	12.500	.394
<b>Employment</b>				
Females	0.330	<b>100.000</b>	33.333	.83
Males	<b>0.257</b>	<b>66.667</b>	<b>33.333</b>	.394
<b>Crime</b>				
Females	-0.144	<b>33.333</b>	0.000	.024
Males	<b>0.281</b>	<b>66.667</b>	<b>33.333</b>	.394
<b>Risky Behavior</b>				
Females	0.049	<b>50.000</b>	25.000	.414
Males	0.076	<b>50.000</b>	<b>25.000</b>	.002
<b>Health</b>				
Females	<b>0.096</b>	<b>58.824</b>	<b>11.765</b>	.305
Males	0.098	<b>75.000</b>	<b>37.500</b>	0

Note: This table displays summaries of treatment effects by outcome category and gender for the full set of outcomes and compared to those who stayed at home. Each of the panels contains statistics calculated using outcomes measured at the indicated ages. Early childhood includes outcomes measured before age 6, school age includes outcomes measured between age 6 and 18, and adult includes outcomes measured between 21 and 35. All (panel d) is a combination of all the outcomes in panels (a) to (c). The average effect size is calculated by averaging over the effect sizes of the outcomes in the age category. The effect sizes of the individual outcomes are calculated by dividing the treatment-control mean difference by the standard deviation of the control group. We present bootstrapped *p*-values. For the proportion of outcomes that are positive and significant, we do a “double bootstrap” procedure. The null hypothesis for the average effect sizes is that they are 0. The null hypothesis for the proportion of outcomes that are (significantly) positive is that they are (10%) 50%. Bolded statistics are significant at the 10% level. The Rosenbaum (2005) *p*-value originates from a test where the null is a common joint distribution across treatment status of the variables in each category. A *p*-value less than 0.10 (bolded) indicates that the distributions are significantly different at the 10% level. More details on our inference procedure are in Section 3.



Table D.9: Age Summary of Treatment-Control (Alternative Care) Comparisons by Gender, Full Set of Outcomes

	Average Effect Size	% > 0 Treatment Effect	% > 0 , Significant Treatment Effect	Rosenbaum (2005) <i>p</i> -value
<b>Childhood</b>				
Females	<b>0.300</b>	<b>85.366</b>	<b>43.902</b>	.708
Males	0.111	<b>63.415</b>	<b>29.268</b>	.718
<b>School Age</b>				
Females	<b>0.466</b>	<b>92.593</b>	<b>70.370</b>	.025
Males	<b>0.285</b>	<b>96.296</b>	<b>44.444</b>	.448
<b>Adulthood</b>				
Females	<b>0.197</b>	<b>77.500</b>	<b>45.000</b>	.183
Males	0.100	<b>62.500</b>	<b>32.500</b>	.448
<b>All</b>				
Females	<b>0.304</b>	<b>84.259</b>	<b>50.926</b>	.429
Males	<b>0.150</b>	<b>71.296</b>	<b>34.259</b>	.448

Note: This table displays summaries of treatment effects by age and gender for the full set of outcomes and compared to those who attended alternative care. Each of the panels contains statistics calculated using outcomes measured at the indicated ages. Early childhood includes outcomes measured before age 6, school age includes outcomes measured between age 6 and 18, and adult includes outcomes measured between 21 and 35. All (panel d) is a combination of all the outcomes in panels (a) to (c). The average effect size is calculated by averaging over the effect sizes of the outcomes in the age category. The effect sizes of the individual outcomes are calculated by dividing the treatment-control mean difference by the standard deviation of the control group. We present bootstrapped *p*-values. For the proportion of outcomes that are positive and significant, we do a “double bootstrap” procedure. The null hypothesis for the average effect sizes is that they are 0. The null hypothesis for the proportion of outcomes that are (significantly) positive is that they are (10%) 50%. Bolded statistics are significant at the 10% level. The Rosenbaum (2005) *p*-value originates from a test where the null is a common joint distribution across treatment status of the variables in each category. A *p*-value less than 0.10 (bolded) indicates that the distributions are significantly different at the 10% level. More details on our inference procedure are in Section 3.

Table D.10: Category Summary of Treatment-Control (Alternative Care) Comparisons by Gender, Full Set of Outcomes

	Average Effect Size	% > 0 Treatment Effect	% > 0 , Significant Treatment Effect	Rosenbaum (2005) <i>p</i> -value
<b>IQ</b>				
Females	<b>0.737</b>	<b>100.000</b>	<b>91.667</b>	.183
Males	<b>0.440</b>	<b>100.000</b>	<b>83.333</b>	.448
<b>Achievement</b>				
Females	<b>0.638</b>	<b>100.000</b>	<b>80.000</b>	.311
Males	<b>0.345</b>	<b>100.000</b>	<b>40.000</b>	.718
<b>Social-emotional</b>				
Females	<b>0.220</b>	<b>75.000</b>	<b>46.875</b>	.025
Males	<b>0.146</b>	<b>59.375</b>	<b>15.625</b>	.718
<b>Parental Income</b>				
Females	<b>0.182</b>	<b>92.308</b>	<b>30.769</b>	.708
Males	<b>0.376</b>	<b>92.308</b>	<b>38.462</b>	.718
<b>Parenting</b>				
Females	0.179	<b>100.000</b>	16.667	.052
Males	-0.086	<b>66.667</b>	<b>16.667</b>	.718
<b>Education</b>				
Females	<b>0.345</b>	<b>87.500</b>	<b>62.500</b>	.052
Males	0.111	<b>75.000</b>	<b>25.000</b>	.718
<b>Employment</b>				
Females	0.033	<b>66.667</b>	0.000	.052
Males	<b>0.423</b>	<b>100.000</b>	<b>33.333</b>	.718
<b>Crime</b>				
Females	<b>0.450</b>	<b>100.000</b>	<b>100.000</b>	.898
Males	-0.546	<b>33.333</b>	0.000	.448
<b>Risky Behavior</b>				
Females	<b>0.208</b>	<b>100.000</b>	25.000	.708
Males	-0.019	<b>25.000</b>	<b>25.000</b>	.448
<b>Health</b>				
Females	0.025	<b>64.706</b>	<b>35.294</b>	.11
Males	<b>0.240</b>	<b>52.941</b>	<b>23.529</b>	.002

Note: This table displays summaries of treatment effects by outcome category and gender for the full set of outcomes compared to those who attended alternative preschool. Each of the panels contains statistics calculated using outcomes measured at the indicated ages. Early childhood includes outcomes measured before age 6, school age includes outcomes measured between age 6 and 18, and adult includes outcomes measured between 21 and 35. All (panel d) is a combination of all the outcomes in panels (a) to (c). The average effect size is calculated by averaging over the effect sizes of the outcomes in the age category. The effect sizes of the individual outcomes are calculated by dividing the treatment-control mean difference by the standard deviation of the control group. We present bootstrapped *p*-values. For the proportion of outcomes that are positive and significant, we do a “double bootstrap” procedure. The null hypothesis for the average effect sizes is that they are 0. The null hypothesis for the proportion of outcomes that are (significantly) positive is that they are (10%) 50%. Bolded statistics are significant at the 10% level. The Rosenbaum (2005) *p*-value originates from a test where the null is a common joint distribution across treatment status of the variables in each category. A *p*-value less than 0.10 (bolded) indicates that the distributions are significantly different at the 10% level. More details on our inference procedure are in Section 3.

## D.5 Combining Functions - % of Positive Treatment Effects, Aggregated

Table D.11: Combining Functions, Pooled Sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
% Pos. TE	77 (0.000)	77 (0.000)	77 (0.000)	75 (0.000)	74 (0.000)	80 (0.000)	72 (0.000)	79 (0.000)
% Pos. TE   10% Significance	52 (0.000)	43 (0.000)	38 (0.000)	42 (0.000)	42 (0.000)	45 (0.000)	36 (0.000)	47 (0.000)

Note: This table presents estimates of the counts (combining functions) of (i) beneficial treatment effects and (ii) beneficial and significant (at the 10% level) treatment effects. Counts for the different estimates described in Appendix D.3 are presented in each column. For each count we present a  $p$ -value underneath. For the counts of beneficial treatment effects, the null hypothesis is that the count is 50% (half of the treatment effects are positive). For the counts of significant at the 10% level treatment effects, the null hypotheses is that 10% of the treatment effects are positive and significant at the 10% level.

Table D.12: Combining Functions, Male Sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
% Pos. TE	72 (0.001)	69 (0.002)	53 (0.353)	61 (0.053)	49 (0.574)	75 (0.000)	72 (0.000)	76 (0.000)
% Pos. TE   10% Significance	29 (0.007)	28 (0.002)	18 (0.111)	17 (0.159)	16 (0.160)	30 (0.003)	27 (0.003)	28 (0.011)

Note: This table presents estimates of the counts (combining functions) of (i) beneficial treatment effects and (ii) beneficial and significant (at the 10% level) treatment effects. Counts for the different estimates described in Appendix D.3 are presented in each column. For each count we present a  $p$ -value underneath. For the counts of beneficial treatment effects, the null hypothesis is that the count is 50% (half of the treatment effects are positive). For the counts of significant at the 10% level treatment effects, the null hypotheses is that 10% of the treatment effects are positive and significant at the 10% level.

Table D.13: Combining Functions, Female Sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
% Pos. TE	83 (0.000)	73 (0.000)	78 (0.000)	78 (0.000)	79 (0.000)	82 (0.000)	69 (0.003)	79 (0.000)
% Pos. TE   10% Significance	50 (0.000)	31 (0.000)	50 (0.000)	48 (0.000)	53 (0.000)	39 (0.000)	19 (0.066)	29 (0.004)

Note: This table presents estimates of the counts (combining functions) of (i) beneficial treatment effects and (ii) beneficial and significant (at the 10% level) treatment effects. Counts for the different estimates described in Appendix D.3 are presented in each column. For each count we present a  $p$ -value underneath. For the

counts of beneficial treatment effects, the null hypothesis is that the count is 50% (half of the treatment effects are positive). For the counts of significant at the 10% level treatment effects, the null hypotheses is that 10% of the treatment effects are positive and significant at the 10% level.

## D.6 Combining Functions - % of Positive Treatment Effects, by Category

Table D.14: Combining Functions by Category, Pooled Sample

Category	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	N
Cognitive Skills	92 <b>(0.000)</b>	92 <b>(0.000)</b>	92 <b>(0.000)</b>	92 <b>(0.000)</b>	92 <b>(0.000)</b>	92 <b>(0.000)</b>	92 <b>(0.000)</b>	92 <b>(0.000)</b>	26
Childhood Household Environment	62 (0.194)	62 (0.237)	54 (0.194)	54 (0.113)	54 (0.155)	85 <b>(0.076)</b>	46 (0.604)	92 <b>(0.000)</b>	13
Mother's Employment, Education, and Income	87 <b>(0.000)</b>	87 <b>(0.000)</b>	87 <b>(0.000)</b>	87 <b>(0.000)</b>	93 <b>(0.000)</b>	87 <b>(0.000)</b>	73 <b>(0.085)</b>	87 <b>(0.000)</b>	15
Education, Employment, Income	87 <b>(0.000)</b>	80 <b>(0.000)</b>	87 <b>(0.000)</b>	80 <b>(0.000)</b>	80 <b>(0.000)</b>	87 <b>(0.000)</b>	87 <b>(0.000)</b>	87 <b>(0.000)</b>	15
Crime	25 (0.971)	25 (0.893)	75 <b>(0.000)</b>	50 (0.521)	25 (0.890)	25 (0.940)	25 (0.811)	25 (0.886)	4
Drugs and Alcohol	20 (0.986)	40 (0.661)	80 <b>(0.090)</b>	80 <b>(0.073)</b>	60 (0.307)	20 (0.938)	20 (0.909)	20 (0.942)	5
Adult Health	63 (0.193)	63 (0.175)	47 (0.611)	47 (0.636)	47 (0.585)	63 (0.197)	53 (0.412)	53 (0.488)	19
Mental Health	100 <b>(0.000)</b>	100 <b>(0.000)</b>	91 <b>(0.000)</b>	90 <b>(0.000)</b>	91 <b>(0.000)</b>	100 <b>(0.000)</b>	100 <b>(0.000)</b>	100 <b>(0.000)</b>	11

Note: This table presents estimates of the counts (combining functions) of beneficial treatment effects by the categories of outcomes in each row. The last column presents the number of outcomes per category. Counts for the different estimates described in Appendix D.3 are presented in each column. For each count we present a  $p$ -value underneath. The null hypothesis is that the count is 50% (half of the treatment effects are positive).

Table D.15: Combining Functions by Category | 10% Significance, Pooled Sample

Category	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	N
Cognitive Skills	88 <b>(0.000)</b>	85 <b>(0.000)</b>	58 <b>(0.000)</b>	69 <b>(0.000)</b>	65 <b>(0.000)</b>	88 <b>(0.000)</b>	81 <b>(0.000)</b>	88 <b>(0.000)</b>	26
Childhood Household Environment	23 (0.235)	0 (1.000)	38 <b>(0.000)</b>	38 <b>(0.000)</b>	46 <b>(0.000)</b>	8 (0.318)	0 (1.000)	15 (0.303)	13
Mother's Employment, Education, and Income	53 <b>(0.005)</b>	40 <b>(0.021)</b>	53 <b>(0.001)</b>	53 <b>(0.002)</b>	53 <b>(0.003)</b>	27 (0.145)	20 (0.175)	40 <b>(0.057)</b>	15
Education, Employment, Income	67 <b>(0.000)</b>	47 <b>(0.002)</b>	40 <b>(0.018)</b>	47 <b>(0.002)</b>	53 <b>(0.001)</b>	60 <b>(0.000)</b>	40 <b>(0.045)</b>	60 <b>(0.000)</b>	15
Crime	25 <b>(0.000)</b>	0 (1.000)	0 (1.000)	0 (1.000)	0 (1.000)	25 (0.356)	0 (1.000)	0 (1.000)	4
Drugs and Alcohol	20 (0.453)	20 <b>(0.019)</b>	20 <b>(0.069)</b>	20 <b>(0.099)</b>	20 (0.452)	0 (1.000)	0 (1.000)	0 (1.000)	5
Adult Health	21 (0.175)	26 <b>(0.048)</b>	16 (0.272)	11 (0.434)	11 (0.426)	26 <b>(0.032)</b>	26 <b>(0.010)</b>	21 <b>(0.044)</b>	19
Mental Health	64 <b>(0.007)</b>	55 <b>(0.044)</b>	27 (0.133)	40 <b>(0.047)</b>	36 <b>(0.080)</b>	55 <b>(0.054)</b>	36 (0.144)	64 <b>(0.002)</b>	11

Note: This table presents estimates of the counts (combining functions) of beneficial and significant (at the 10% level) treatment effects by the categories of outcomes in each row. The last column presents the number of outcomes per category. Counts for the different estimates described in Appendix D.3 are presented in each column. For each count we present a  $p$ -value underneath. The null hypothesis is that 10% of the treatment effects are positive and significant at the 10% level.

Table D.16: Combining Functions by Category, Male Sample

Category	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	N
Cognitive Skills	92 <b>(0.000)</b>	80 <b>(0.000)</b>	69 (0.128)	85 <b>(0.000)</b>	62 (0.318)	92 <b>(0.000)</b>	85 <b>(0.000)</b>	81 <b>(0.000)</b>	26
Childhood Household Environment	54 (0.385)	69 (0.189)	46 (0.669)	54 (0.386)	46 (0.613)	75 (0.153)	69 (0.120)	85 <b>(0.000)</b>	13
Mother’s Employment, Education, and Income	80 <b>(0.000)</b>	73 <b>(0.024)</b>	73 <b>(0.026)</b>	73 (0.101)	67 (0.209)	60 (0.395)	60 (0.356)	73 (0.111)	15
Education, Employment, Income	80 <b>(0.000)</b>	80 <b>(0.002)</b>	53 (0.429)	73 <b>(0.068)</b>	60 (0.356)	87 <b>(0.000)</b>	87 <b>(0.000)</b>	80 <b>(0.004)</b>	15
Crime	25 (0.879)	25 (0.731)	25 (1.000)	25 (1.000)	25 (1.000)	25 (0.908)	25 (0.722)	25 (0.881)	4
Drugs and Alcohol	20 (0.986)	20 (0.995)	40 (0.694)	40 (0.479)	20 (0.934)	20 (0.953)	20 (0.987)	20 (0.981)	5
Adult Health	58 (0.319)	63 (0.175)	37 (0.692)	42 (0.635)	32 (0.824)	68 <b>(0.082)</b>	74 <b>(0.010)</b>	74 <b>(0.017)</b>	19
Mental Health	82 (0.138)	82 <b>(0.095)</b>	36 (0.725)	27 (0.829)	36 (0.698)	91 <b>(0.000)</b>	91 <b>(0.000)</b>	100 <b>(0.000)</b>	11

Note: This table presents estimates of the counts (combining functions) of beneficial treatment effects by the categories of outcomes in each row. The last column presents the number of outcomes per category. Counts for the different estimates described in Appendix D.3 are presented in each column. For each count we present a  $p$ -value underneath. The null hypothesis is that the count is 50% (half of the treatment effects are positive).

Table D.17: Combining Functions by Category | 10% Significance, Male Sample

Category	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	N
Cognitive Skills	58 <b>(0.001)</b>	56 <b>(0.000)</b>	23 (0.219)	31 (0.129)	27 (0.127)	62 <b>(0.000)</b>	54 <b>(0.000)</b>	58 <b>(0.000)</b>	26
Childhood Household Environment	0 (1.000)	0 (1.000)	0 (0.680)	8 (0.463)	0 (1.000)	8 (0.357)	8 (0.500)	8 (0.404)	13
Mother’s Employment, Education, and Income	33 <b>(0.061)</b>	27 <b>(0.092)</b>	47 <b>(0.007)</b>	20 (0.181)	33 <b>(0.063)</b>	20 (0.152)	20 (0.141)	13 (0.249)	15
Education, Employment, Income	27 (0.144)	33 <b>(0.061)</b>	7 (0.497)	13 (0.390)	7 (0.502)	33 (0.102)	27 <b>(0.100)</b>	33 <b>(0.098)</b>	15
Crime	0 (1.000)	0 (1.000)	0 (1.000)	0 (1.000)	0 (1.000)	0 (1.000)	0 (1.000)	0 (1.000)	4
Drugs and Alcohol	20 <b>(0.006)</b>	20 <b>(0.005)</b>	0 (0.592)	20 (0.309)	20 <b>(0.000)</b>	0 (1.000)	20 <b>(0.031)</b>	20 <b>(0.000)</b>	5
Adult Health	32 <b>(0.049)</b>	26 <b>(0.073)</b>	21 (0.194)	11 (0.395)	11 (0.298)	32 <b>(0.048)</b>	32 <b>(0.034)</b>	32 <b>(0.033)</b>	19
Mental Health	9 (0.316)	9 (0.312)	18 (0.298)	9 (0.408)	9 (0.440)	9 (0.392)	0 (1.000)	9 (0.341)	11

Note: This table presents estimates of the counts (combining functions) of beneficial and significant (at the 10% level) treatment effects by the categories of outcomes in each row. The last column presents the number of outcomes per category. Counts for the different estimates described in Appendix D.3 are presented in each column. For each count we present a  $p$ -value underneath. The null hypothesis is that 10% of the treatment effects are positive and significant at the 10% level.

Table D.18: Combining Functions by Category, Female Sample

Category	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	N
Cognitive Skills	92 <b>(0.000)</b>	92 <b>(0.000)</b>	92 <b>(0.000)</b>	92 <b>(0.000)</b>	92 <b>(0.000)</b>	92 <b>(0.000)</b>	92 <b>(0.000)</b>	92 <b>(0.000)</b>	26
Childhood Household Environment	62 (0.215)	54 (0.489)	54 (0.146)	54 (0.370)	54 (0.401)	62 (0.374)	38 (0.650)	77 (0.180)	13
Mother’s Employment, Education, and Income	87 <b>(0.000)</b>	87 <b>(0.000)</b>	87 <b>(0.000)</b>	93 <b>(0.000)</b>	93 <b>(0.000)</b>	80 <b>(0.000)</b>	80 <b>(0.004)</b>	80 <b>(0.000)</b>	15
Education, Employment, Income	87 <b>(0.000)</b>	80 <b>(0.002)</b>	80 <b>(0.000)</b>	79 <b>(0.000)</b>	80 <b>(0.000)</b>	80 <b>(0.000)</b>	60 (0.386)	80 <b>(0.000)</b>	15
Crime	100 <b>(0.000)</b>	100 <b>(0.000)</b>	100 <b>(0.000)</b>	100 <b>(0.000)</b>	100 <b>(0.000)</b>	100 <b>(0.000)</b>	100 <b>(0.000)</b>	75 (0.402)	4
Drugs and Alcohol	80 (0.204)	20 (0.799)	80 <b>(0.060)</b>	60 (0.309)	80 <b>(0.045)</b>	100 <b>(0.000)</b>	0 (1.000)	60 (0.329)	5
Adult Health	74 <b>(0.053)</b>	53 (0.408)	50 (0.490)	50 (0.456)	56 (0.372)	74 <b>(0.043)</b>	58 (0.311)	63 (0.196)	19
Mental Health	82 <b>(0.000)</b>	73 <b>(0.069)</b>	91 <b>(0.000)</b>	100 <b>(0.000)</b>	82 <b>(0.000)</b>	82 <b>(0.000)</b>	82 <b>(0.000)</b>	82 <b>(0.000)</b>	11

Note: This table presents estimates of the counts (combining functions) of beneficial treatment effects by the categories of outcomes in each row. The last column presents the number of outcomes per category. Counts for the different estimates described in Appendix D.3 are presented in each column. For each count we present a  $p$ -value underneath. The null hypothesis is that the count is 50% (half of the treatment effects are positive).

Table D.19: Combining Functions by Category | 10% Significance, Female Sample

Category	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	N
Cognitive Skills	92 <b>(0.000)</b>	72 <b>(0.000)</b>	81 <b>(0.000)</b>	80 <b>(0.000)</b>	81 <b>(0.000)</b>	81 <b>(0.000)</b>	40 <b>(0.048)</b>	65 <b>(0.000)</b>	26
Childhood Household Environment	15 (0.341)	8 (0.455)	46 <b>(0.000)</b>	46 <b>(0.001)</b>	46 <b>(0.001)</b>	0 (1.000)	0 (1.000)	0 (0.582)	13
Mother’s Employment, Education, and Income	40 <b>(0.036)</b>	20 (0.274)	47 <b>(0.018)</b>	47 <b>(0.010)</b>	67 <b>(0.000)</b>	33 <b>(0.080)</b>	20 (0.134)	27 (0.119)	15
Education, Employment, Income	60 <b>(0.000)</b>	20 (0.277)	67 <b>(0.000)</b>	64 <b>(0.000)</b>	67 <b>(0.000)</b>	33 <b>(0.040)</b>	13 (0.290)	13 (0.350)	15
Crime	100 <b>(0.000)</b>	50 <b>(0.093)</b>	100 <b>(0.000)</b>	33 (0.199)	67 <b>(0.064)</b>	75 <b>(0.028)</b>	0 (1.000)	25 <b>(0.065)</b>	4
Drugs and Alcohol	0 (1.000)	0 (1.000)	0 (0.500)	0 (0.356)	0 (1.000)	0 (1.000)	0 (1.000)	0 (1.000)	5
Adult Health	21 (0.117)	16 (0.166)	17 (0.196)	17 (0.233)	22 <b>(0.074)</b>	11 (0.453)	11 (0.489)	11 (0.410)	19
Mental Health	55 <b>(0.000)</b>	36 <b>(0.092)</b>	36 <b>(0.080)</b>	36 <b>(0.038)</b>	36 <b>(0.052)</b>	55 <b>(0.025)</b>	36 <b>(0.089)</b>	55 <b>(0.016)</b>	11

Note: This table presents estimates of the counts (combining functions) of beneficial and significant (at the 10% level) treatment effects by the categories of outcomes in each row. The last column presents the number of outcomes per category. Counts for the different estimates described in Appendix D.3 are presented in each column. For each count we present a  $p$ -value underneath. The null hypothesis is that 10% of the treatment effects are positive and significant at the 10% level.

## D.7 Treatment Effects for Pooled Sample

Table D.20: Treatment Effects on IQ Scores, Pooled Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Std. IQ Test	2	10.116	10.121	10.609	10.826	11.810	9.863	9.937	10.216
		<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>
	3	13.450	13.557	19.242	19.794	21.539	11.314	11.507	11.778
		<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>
	3.5	8.387	7.881	11.255	11.234	12.349	7.276	6.727	7.006
		<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.001)</b>	<b>(0.000)</b>
	4	9.166	8.897	11.985	12.068	13.778	8.149	7.921	8.528
		<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.002)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.001)</b>
	4.5	8.380	7.911	13.287	13.110	14.416	6.717	6.130	6.825
		<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.001)</b>	<b>(0.001)</b>
	5	6.362	5.425	8.310	8.297	9.486	5.760	4.575	5.592
		<b>(0.000)</b>	<b>(0.002)</b>	<b>(0.008)</b>	<b>(0.008)</b>	<b>(0.007)</b>	<b>(0.002)</b>	<b>(0.009)</b>	<b>(0.006)</b>
	6.6	5.956	5.610	4.088	5.295	5.103	5.850	5.333	6.053
		<b>(0.003)</b>	<b>(0.006)</b>	(0.150)	<b>(0.066)</b>	<b>(0.084)</b>	<b>(0.009)</b>	<b>(0.014)</b>	<b>(0.003)</b>
7	5.373	5.248	6.575	6.343	5.188	5.066	5.005	5.531	
	<b>(0.007)</b>	<b>(0.006)</b>	<b>(0.037)</b>	<b>(0.035)</b>	<b>(0.079)</b>	<b>(0.016)</b>	<b>(0.010)</b>	<b>(0.011)</b>	
8	4.932	4.444	2.570	4.824	4.682	4.948	3.920	4.822	
	<b>(0.008)</b>	<b>(0.023)</b>	(0.280)	(0.119)	(0.126)	<b>(0.011)</b>	<b>(0.034)</b>	<b>(0.022)</b>	
12	4.524	2.691	3.251	2.785	2.752	4.766	2.792	3.574	
	<b>(0.007)</b>	<b>(0.080)</b>	(0.162)	(0.197)	(0.215)	<b>(0.010)</b>	<b>(0.075)</b>	<b>(0.046)</b>	
15	5.771	3.294	1.497	0.577	0.553	6.522	4.021	5.118	
	<b>(0.006)</b>	<b>(0.078)</b>	(0.340)	(0.446)	(0.441)	<b>(0.009)</b>	<b>(0.064)</b>	<b>(0.022)</b>	
21	4.425	1.670	4.549	2.747	3.129	4.353	1.682	2.340	
	<b>(0.011)</b>	(0.171)	<b>(0.006)</b>	<b>(0.071)</b>	<b>(0.041)</b>	<b>(0.020)</b>	(0.210)	(0.119)	
IQ Factor	2 to 5	0.785	0.752	1.056	1.061	1.177	0.705	0.660	0.714
		<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>
	6 to 12	0.446	0.368	0.432	0.492	0.460	0.449	0.336	0.447
		<b>(0.009)</b>	<b>(0.043)</b>	(0.118)	<b>(0.099)</b>	(0.102)	<b>(0.016)</b>	<b>(0.066)</b>	<b>(0.016)</b>
15 to 21	-0.489	-0.233	-0.312	-0.174	-0.194	-0.517	-0.264	-0.347	
	<b>(0.000)</b>	<b>(0.097)</b>	(0.106)	(0.254)	(0.194)	<b>(0.003)</b>	(0.107)	<b>(0.037)</b>	

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.21: Treatment Effects on Achievement Scores, Pooled Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Std. Achv. Test	5.5	8.029	7.480	14.284	15.582	14.192	6.223	4.844	5.818
		<b>(0.000)</b>	<b>(0.001)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.007)</b>	<b>(0.050)</b>	<b>(0.017)</b>
	6	4.543	4.670	6.178	6.638	6.639	4.075	4.035	4.412
		<b>(0.001)</b>	<b>(0.000)</b>	<b>(0.011)</b>	<b>(0.004)</b>	<b>(0.006)</b>	<b>(0.003)</b>	<b>(0.000)</b>	<b>(0.001)</b>
	6.5	2.767	2.706	2.049	1.922	2.103	2.931	2.962	3.606
		<b>(0.029)</b>	<b>(0.054)</b>	<b>(0.001)</b>	(0.243)	(0.221)	<b>(0.034)</b>	<b>(0.044)</b>	<b>(0.022)</b>
	7	3.435	3.349	5.227	5.591	5.812	3.025	2.705	3.589
		<b>(0.027)</b>	<b>(0.036)</b>	<b>(0.001)</b>	<b>(0.036)</b>	<b>(0.035)</b>	<b>(0.060)</b>	<b>(0.091)</b>	<b>(0.046)</b>
	7.5	1.937	2.741	0.667	2.883	3.019	2.308	2.643	3.408
		(0.146)	<b>(0.029)</b>	(0.443)	(0.160)	(0.157)	(0.120)	<b>(0.042)</b>	<b>(0.021)</b>
8	4.207	5.004	1.630	4.835	4.227	4.959	5.059	5.890	
	<b>(0.011)</b>	<b>(0.002)</b>	(0.339)	<b>(0.052)</b>	<b>(0.091)</b>	<b>(0.007)</b>	<b>(0.003)</b>	<b>(0.003)</b>	
8.5	5.938	7.288	5.046	5.780	4.914	5.507	7.217	7.470	
	<b>(0.000)</b>	<b>(0.000)</b>	(0.125)	<b>(0.081)</b>	(0.131)	<b>(0.001)</b>	<b>(0.000)</b>	<b>(0.000)</b>	
15	5.163	3.314	5.177	3.892	4.132	5.424	3.156	4.137	
	<b>(0.001)</b>	<b>(0.056)</b>	<b>(0.064)</b>	(0.118)	(0.115)	<b>(0.006)</b>	<b>(0.087)</b>	<b>(0.042)</b>	
21	5.217	2.166	4.504	2.099	2.804	5.521	2.184	3.478	
	<b>(0.016)</b>	(0.175)	(0.116)	(0.268)	(0.209)	<b>(0.018)</b>	(0.190)	(0.103)	
Achievement Factor	5.5 to 12	0.512	0.526	0.634	0.734	0.688	0.474	0.467	0.516
		<b>(0.001)</b>	<b>(0.000)</b>	<b>(0.052)</b>	<b>(0.029)</b>	<b>(0.051)</b>	<b>(0.004)</b>	<b>(0.007)</b>	<b>(0.009)</b>
15 to 21	-0.460	-0.246	-0.431	-0.271	-0.311	-0.485	-0.239	-0.340	
	<b>(0.002)</b>	(0.101)	<b>(0.085)</b>	(0.179)	(0.157)	<b>(0.005)</b>	(0.138)	<b>(0.057)</b>	



Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.22: Treatment Effects on HOME Scores, Pooled Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HOME Score	0.5	1.005	0.100	1.332	0.537	0.889	0.566	-0.148	0.194
		(0.129)	(0.464)	(0.150)	(0.338)	(0.244)	(0.286)	(0.453)	(0.433)
	1.5	1.126	0.434	2.706	1.984	2.964	0.368	-0.090	0.436
		(0.134)	(0.341)	<b>(0.065)</b>	(0.115)	<b>(0.048)</b>	(0.372)	(0.466)	(0.340)
	2.5	0.441	0.348	3.089	3.046	3.731	-0.588	-0.628	-0.048
		(0.316)	(0.363)	<b>(0.022)</b>	<b>(0.004)</b>	<b>(0.004)</b>	(0.300)	(0.266)	(0.484)
	3.5	2.112	1.211	8.288	7.537	8.850	0.306	-0.636	0.325
		(0.108)	(0.238)	<b>(0.005)</b>	<b>(0.005)</b>	<b>(0.000)</b>	(0.424)	(0.350)	(0.417)
4.5	1.927	0.758	8.156	6.735	8.375	0.146	-0.784	0.337	
	(0.119)	(0.329)	<b>(0.009)</b>	<b>(0.010)</b>	<b>(0.003)</b>	(0.475)	(0.326)	(0.429)	
8	1.004	0.590	3.102	4.081	3.646	0.492	-0.480	0.196	
	(0.260)	(0.328)	(0.143)	<b>(0.047)</b>	<b>(0.089)</b>	(0.395)	(0.380)	(0.439)	
HOME Factor	0.5 to 8	0.276	0.145	0.751	0.712	0.753	0.158	-0.018	0.199
		<b>(0.083)</b>	(0.260)	<b>(0.007)</b>	<b>(0.009)</b>	<b>(0.012)</b>	(0.222)	(0.452)	(0.167)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.23: Treatment Effects on Parental Income, Pooled Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Parental Labor Income	1.5	2,248	2,848	2,860	3,839	5,032	2,177	2,446	3,714
		(0.148)	(0.101)	(0.230)	(0.168)	<b>(0.084)</b>	(0.175)	(0.147)	<b>(0.050)</b>
	2.5	516	7,922	-2,177	-1,292	78.136	1,266	139	1,553
		(0.412)	(0.475)	(0.290)	(0.359)	(0.509)	(0.297)	(0.452)	(0.249)
	3.5	1,821	1,508	4,270	4,129	5,269	1,247	632	2,106
		(0.225)	(0.261)	(0.105)	(0.136)	<b>(0.069)</b>	(0.313)	(0.384)	(0.200)
	4.5	2,336	2,646	4,473	4,762	5,269	1,747	1,655	3,270
		(0.165)	(0.152)	<b>(0.085)</b>	<b>(0.063)</b>	<b>(0.053)</b>	(0.256)	(0.259)	(0.109)
	8	7,044	8,115	8,515	8,032	7,237	6,708	8,496	8,200
		<b>(0.043)</b>	<b>(0.040)</b>	<b>(0.001)</b>	<b>(0.099)</b>	(0.108)	<b>(0.051)</b>	<b>(0.039)</b>	<b>(0.034)</b>
12	10,100	13,739	18,585	21,785	18,761	7,929	10,958	11,324	
	<b>(0.015)</b>	<b>(0.000)</b>	<b>(0.003)</b>	<b>(0.003)</b>	<b>(0.003)</b>	<b>(0.063)</b>	<b>(0.019)</b>	<b>(0.010)</b>	
15	9,596	5,808	5,132	4,723	7,169	10,155	5,272	8,833	
	<b>(0.004)</b>	<b>(0.088)</b>	(0.328)	(0.312)	(0.211)	<b>(0.005)</b>	(0.118)	<b>(0.037)</b>	
21	9,008	7,627	10,316	12,687	7,952	9,461	7,326	6,880	
	<b>(0.009)</b>	<b>(0.044)</b>	(0.994)	(0.130)	(0.177)	<b>(0.009)</b>	<b>(0.049)</b>	<b>(0.059)</b>	
Parental Income Factor	1.5 to 21	0.074	0.005	0.450	0.602	0.473	0.013	-0.094	0.038
		(0.379)	(0.494)	<b>(0.003)</b>	(0.992)	(0.154)	(0.481)	(0.358)	(0.441)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.24: Treatment Effects on Mother’s Employment, Pooled Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Mother Works	2	0.114 <b>(0.041)</b>	0.084 <b>(0.100)</b>	0.296 <b>(0.010)</b>	0.277 <b>(0.019)</b>	0.289 <b>(0.015)</b>	0.048 (0.219)	0.027 (0.327)	0.039 (0.293)
	3	0.119 <b>(0.040)</b>	0.095 (0.106)	0.219 <b>(0.052)</b>	0.195 <b>(0.075)</b>	0.210 <b>(0.060)</b>	0.092 <b>(0.100)</b>	0.063 (0.210)	0.087 (0.144)
	4	0.127 <b>(0.025)</b>	0.106 <b>(0.053)</b>	0.306 <b>(0.007)</b>	0.288 <b>(0.012)</b>	0.303 <b>(0.008)</b>	0.076 (0.118)	0.053 (0.209)	0.071 (0.151)
	5	0.089 <b>(0.092)</b>	0.070 (0.170)	0.342 <b>(0.008)</b>	0.317 <b>(0.015)</b>	0.358 <b>(0.007)</b>	0.005 (0.456)	-0.024 (0.357)	0.017 (0.401)
	21	-0.040 (0.317)	-0.062 (0.245)	0.180 (0.161)	0.148 (0.194)	0.154 (0.188)	-0.075 (0.193)	-0.096 (0.159)	-0.089 (0.188)
Mother Works Factor	2 to 21	-0.275 <b>(0.085)</b>	-0.197 (0.156)	-0.793 <b>(0.053)</b>	-0.749 <b>(0.056)</b>	-0.796 <b>(0.046)</b>	-0.129 (0.232)	-0.020 (0.455)	-0.128 (0.254)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.25: Treatment Effects on Father at Home, Pooled Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Father at Home	2	-0.010 (0.460)	0.019 (0.397)	-0.187 <b>(0.080)</b>	-0.186 <b>(0.066)</b>	-0.173 (0.118)	0.047 (0.282)	0.102 (0.104)	0.130 <b>(0.052)</b>
	3	-0.076 (0.162)	-0.056 (0.224)	-0.291 <b>(0.011)</b>	-0.291 <b>(0.007)</b>	-0.285 <b>(0.016)</b>	0.002 (0.489)	0.040 (0.299)	0.079 (0.160)
	4	-0.071 (0.184)	-0.050 (0.273)	-0.331 <b>(0.006)</b>	-0.327 <b>(0.009)</b>	-0.320 <b>(0.007)</b>	0.021 (0.390)	0.054 (0.227)	0.101 (0.110)
	5	-0.093 (0.122)	-0.071 (0.185)	-0.369 <b>(0.004)</b>	-0.379 <b>(0.005)</b>	-0.367 <b>(0.004)</b>	-0.006 (0.467)	0.029 (0.356)	0.062 (0.200)
	8	0.052 (0.265)	-0.009 (0.473)	-0.124 (0.199)	-0.183 <b>(0.080)</b>	-0.181 (0.114)	0.113 <b>(0.075)</b>	0.070 (0.200)	0.096 (0.101)
Father at Home Factor	2 to 8	-0.139 (0.238)	-0.129 (0.260)	-0.776 <b>(0.004)</b>	-0.801 <b>(0.005)</b>	-0.781 <b>(0.001)</b>	0.069 (0.369)	0.114 (0.272)	0.241 (0.109)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.26: Treatment Effects on Education, Pooled Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Graduated High School	30	0.164 <b>(0.030)</b>	0.094 (0.142)	0.390 <b>(0.001)</b>	0.335 <b>(0.003)</b>	0.351 <b>(0.004)</b>	0.103 (0.120)	0.029 (0.385)	0.059 (0.267)
Attended Voc./Tech./Com. College	30	-0.091 (0.149)	-0.138 <b>(0.066)</b>	0.000 (0.501)	-0.016 (0.460)	-0.044 (0.385)	-0.100 (0.146)	-0.177 <b>(0.025)</b>	-0.152 <b>(0.041)</b>
Graduated 4-year College	30	0.161 <b>(0.011)</b>	0.124 <b>(0.058)</b>	0.188 <b>(0.014)</b>	0.148 <b>(0.063)</b>	0.175 <b>(0.020)</b>	0.148 <b>(0.022)</b>	0.114 <b>(0.095)</b>	0.120 <b>(0.068)</b>
Years of Edu.	30	1.367 <b>(0.000)</b>	1.156 <b>(0.002)</b>	2.513 <b>(0.000)</b>	2.380 <b>(0.001)</b>	2.424 <b>(0.000)</b>	0.986 <b>(0.011)</b>	0.785 <b>(0.050)</b>	0.886 <b>(0.020)</b>
Ever Had Special Education by Grade 5	21	0.001 (0.496)	0.024 (0.406)	0.153 (0.144)	0.118 (0.211)	0.127 (0.176)	-0.030 (0.350)	-0.005 (0.467)	-0.040 (0.322)
Total Number of Special Education by Grade 5	21	-0.547 (0.202)	-0.070 (0.464)	0.977 <b>(0.100)</b>	0.911 (0.141)	0.975 (0.105)	-0.844 (0.146)	-0.341 (0.331)	-0.849 (0.157)
Ever Retained by Grade 5	21	-0.170 <b>(0.016)</b>	-0.172 <b>(0.026)</b>	-0.175 (0.109)	-0.175 (0.121)	-0.176 (0.105)	-0.170 <b>(0.034)</b>	-0.173 <b>(0.028)</b>	-0.184 <b>(0.030)</b>
Total Number of Retention by Grade 5	21	-0.152 <b>(0.089)</b>	-0.097 (0.206)	-0.086 (0.291)	-0.062 (0.349)	-0.069 (0.341)	-0.156 (0.109)	-0.107 (0.199)	-0.156 (0.121)
Education Factor	21 to 30	0.449 <b>(0.014)</b>	0.337 <b>(0.050)</b>	0.557 <b>(0.024)</b>	0.505 <b>(0.041)</b>	0.504 <b>(0.034)</b>	0.380 <b>(0.040)</b>	0.279 (0.108)	0.331 <b>(0.082)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.27: Treatment Effects on Subject Employment and Income, Pooled Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Employed	30	0.125	0.131	0.164	0.193	0.204	0.111	0.128	0.162
		<b>(0.032)</b>	<b>(0.030)</b>	(0.111)	<b>(0.063)</b>	<b>(0.073)</b>	<b>(0.078)</b>	<b>(0.056)</b>	<b>(0.018)</b>
Labor Income	21	167	-1,173	1,577	1,296	1,250	-429	-2,210	-1,406
		(0.453)	(0.310)	(0.339)	(0.359)	(0.369)	(0.418)	(0.188)	(0.272)
Public-Transfer Income	30	12,377	10,821	17,677	16,943	18,512	10,847	8,383	11,000
		<b>(0.069)</b>	(0.119)	<b>(0.031)</b>	<b>(0.068)</b>	<b>(0.039)</b>	(0.104)	(0.165)	(0.107)
Public-Transfer Income	21	-728	-982	-247	-1,018	-1,615	-1,054	-948	-820
		(0.183)	(0.153)	(0.400)	(0.252)	(0.122)	(0.134)	(0.189)	(0.198)
Public-Transfer Income	30	-1,832	-927	-1,613	-1,344	-1,451	-1,483	-534	-1,125
		<b>(0.018)</b>	(0.126)	(0.108)	(0.147)	(0.125)	<b>(0.076)</b>	(0.265)	(0.142)
Employment Factor	21 to 30	0.513	0.416	0.568	0.596	0.612	0.464	0.344	0.468
		<b>(0.023)</b>	<b>(0.064)</b>	(0.105)	<b>(0.094)</b>	<b>(0.098)</b>	<b>(0.058)</b>	(0.127)	<b>(0.053)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.28: Treatment Effects on Marriage, Pooled Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Married	30	0.060	0.033	0.036	0.036	0.019	0.089	0.046	0.060
		(0.234)	(0.347)	(0.405)	(0.412)	(0.446)	(0.152)	(0.309)	(0.266)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.29: Treatment Effects on Crime, Pooled Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total Felony Arrests	Mid-30s	0.045	0.239	-0.132	0.231	0.210	0.112	0.228	0.187
		(0.437)	(0.285)	(0.391)	(0.343)	(0.349)	(0.393)	(0.303)	(0.328)
Total Misdemeanor Arrests	Mid-30s	-0.689	-0.425	-1.445	-1.164	-1.270	-0.546	-0.249	-0.308
		<b>(0.052)</b>	(0.149)	(0.106)	(0.150)	(0.129)	<b>(0.088)</b>	(0.254)	(0.181)
Total Years Incarcerated	30	0.167	0.231	0.284	0.320	0.369	0.157	0.227	0.216
		(0.101)	<b>(0.083)</b>	<b>(0.013)</b>	<b>(0.026)</b>	<b>(0.009)</b>	(0.142)	(0.103)	<b>(0.092)</b>
Crime Factor	30 to Mid-30s	0.035	0.100	-0.048	-0.001	0.001	0.068	0.136	0.153
		(0.453)	(0.359)	(0.412)	(0.465)	(0.540)	(0.396)	(0.342)	(0.287)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.30: Treatment Effects on Tobacco, Drugs, Alcohol, Pooled Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cig. Smoked per day last month	30	0.033 (0.477)	-0.054 (0.468)	-0.826 (0.296)	-0.966 (0.270)	-0.794 (0.311)	0.434 (0.361)	0.494 (0.342)	0.435 (0.386)
Days drank alcohol last month	30	0.244 (0.408)	0.406 (0.373)	-0.156 (0.443)	-0.052 (0.460)	0.127 (0.500)	0.208 (0.431)	0.390 (0.397)	0.627 (0.338)
Days binge drank alcohol last month	30	0.085 (0.431)	0.404 (0.220)	-0.267 (0.356)	-0.140 (0.414)	-0.116 (0.418)	0.151 (0.374)	0.606 (0.128)	0.393 (0.220)
Self-reported drug user	Mid-30s	-0.142 <b>(0.061)</b>	-0.154 <b>(0.046)</b>	-0.253 <b>(0.087)</b>	-0.269 <b>(0.066)</b>	-0.275 <b>(0.074)</b>	-0.090 (0.188)	-0.082 (0.176)	-0.115 (0.116)
Substance Use Factor	30 to Mid-30s	0.169 (0.249)	0.249 (0.187)	0.339 (0.157)	0.299 (0.230)	0.375 (0.162)	0.141 (0.290)	0.278 (0.165)	0.202 (0.245)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.31: Treatment Effects on Hypertension, Pooled Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Systolic Blood Pressure (mm Hg)	Mid-30s	-5.625 <b>(0.100)</b>	-7.664 <b>(0.064)</b>	5.375 (0.147)	4.815 (0.205)	3.749 (0.249)	-9.437 <b>(0.032)</b>	-12.818 <b>(0.020)</b>	-11.155 <b>(0.016)</b>
Diastolic Blood Pressure (mm Hg)	Mid-30s	-5.312 <b>(0.059)</b>	-5.556 <b>(0.069)</b>	-1.424 (0.343)	-0.497 (0.423)	-2.191 (0.281)	-7.219 <b>(0.040)</b>	-7.821 <b>(0.051)</b>	-8.195 <b>(0.025)</b>
Prehypertension	Mid-30s	-0.176 <b>(0.008)</b>	-0.182 <b>(0.018)</b>	-0.049 (0.396)	-0.068 (0.341)	-0.063 (0.359)	-0.240 <b>(0.000)</b>	-0.271 <b>(0.001)</b>	-0.252 <b>(0.002)</b>
Hypertension	Mid-30s	-0.036 (0.359)	-0.092 (0.218)	0.083 (0.343)	0.065 (0.369)	0.021 (0.454)	-0.083 (0.225)	-0.141 (0.138)	-0.136 (0.118)
Hypertension Factor	Mid-30s	-0.332 <b>(0.053)</b>	-0.382 <b>(0.052)</b>	0.077 (0.424)	0.103 (0.393)	0.017 (0.480)	-0.501 <b>(0.009)</b>	-0.604 <b>(0.008)</b>	-0.586 <b>(0.002)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.32: Treatment Effects on Cholesterol, Pooled Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High-Density Lipoprotein Chol. (mg/dL)	Mid-30s	3.872 <b>(0.088)</b>	5.756 <b>(0.032)</b>	5.806 <b>(0.051)</b>	7.595 <b>(0.032)</b>	5.785 <b>(0.063)</b>	2.964 (0.162)	5.156 <b>(0.057)</b>	3.302 (0.152)
Dyslipidemia	Mid-30s	0.013 (0.436)	-0.047 (0.287)	0.035 (0.440)	-0.031 (0.425)	-0.013 (0.441)	0.032 (0.333)	-0.020 (0.412)	0.007 (0.478)
Cholesterol Factor	Mid-30s	0.139 (0.233)	0.197 (0.184)	0.183 (0.252)	0.205 (0.256)	0.162 (0.284)	0.070 (0.362)	0.130 (0.292)	0.064 (0.387)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.33: Treatment Effects on Diabetes, Pooled Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hemoglobin Level (%)	Mid-30s	0.003	0.128	0.032	0.051	0.120	-0.029	0.103	0.046
		(0.514)	(0.299)	(0.418)	(0.383)	(0.294)	(0.413)	(0.355)	(0.461)
Prediabetes	Mid-30s	0.004	0.002	-0.040	-0.023	-0.034	0.004	0.001	0.008
		(0.485)	(0.488)	(0.409)	(0.444)	(0.410)	(0.482)	(0.487)	(0.463)
Diabetes	Mid-30s	-0.002	0.021	0.043	0.033	0.051	-0.015	0.014	-0.003
		(0.461)	(0.313)	<b>(0.059)</b>	(0.140)	<b>(0.045)</b>	(0.363)	(0.384)	(0.459)
Diabetes Factor	Mid-30s	-0.000	0.081	0.079	0.044	0.096	-0.040	0.062	-0.013
		(0.478)	(0.374)	(0.352)	(0.425)	(0.333)	(0.425)	(0.414)	(0.464)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.34: Treatment Effects on Obesity, Pooled Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Measured BMI	Mid-30s	0.999	2.819	-0.202	1.149	0.721	1.072	3.121	1.832
		(0.310)	<b>(0.084)</b>	(0.469)	(0.348)	(0.405)	(0.315)	<b>(0.071)</b>	(0.199)
Obesity	Mid-30s	-0.050	0.056	-0.256	-0.119	-0.143	-0.013	0.085	0.011
		(0.310)	(0.315)	<b>(0.010)</b>	(0.224)	(0.219)	(0.471)	(0.233)	(0.476)
Severe Obesity	Mid-30s	-0.126	-0.048	-0.093	-0.052	-0.065	-0.147	-0.058	-0.107
		<b>(0.083)</b>	(0.316)	(0.275)	(0.357)	(0.339)	<b>(0.074)</b>	(0.316)	(0.184)
Waist-hip Ratio	Mid-30s	-0.006	-0.001	-0.037	-0.041	-0.039	0.003	0.009	0.012
		(0.392)	(0.483)	(0.180)	(0.205)	(0.218)	(0.440)	(0.333)	(0.309)
Abdominal Obesity	Mid-30s	-0.091	-0.034	-0.230	-0.167	-0.191	-0.041	0.028	0.002
		(0.179)	(0.376)	<b>(0.023)</b>	<b>(0.087)</b>	<b>(0.053)</b>	(0.358)	(0.391)	(0.488)
Framingham Risk Score	Mid-30s	0.348	-0.323	0.948	0.350	0.905	0.351	-0.505	0.087
		(0.281)	(0.302)	<b>(0.086)</b>	(0.298)	<b>(0.095)</b>	(0.311)	(0.272)	(0.478)
Obesity Factor	Mid-30s	0.068	-0.090	0.360	0.251	0.337	0.002	-0.195	-0.061
		(0.381)	(0.359)	(0.244)	(0.303)	(0.250)	(0.485)	(0.261)	(0.406)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.35: Treatment Effects on Mental Health  $t$ -Score, Pooled Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Somatization $t$ -Score	21	-2.709	-2.978	-4.304	-4.393	-4.629	-2.258	-2.460	-3.004
		<b>(0.050)</b>	<b>(0.046)</b>	<b>(0.067)</b>	<b>(0.058)</b>	<b>(0.063)</b>	(0.104)	(0.115)	<b>(0.052)</b>
	Mid-30s	-1.057	-0.159	-2.144	-1.831	-2.072	-0.950	-0.055	-0.679
		(0.320)	(0.437)	(0.286)	(0.294)	(0.281)	(0.356)	(0.449)	(0.376)
Depression $t$ -Score	21	-4.213	-3.221	-4.297	-3.969	-4.334	-4.058	-3.061	-3.668
		<b>(0.014)</b>	<b>(0.057)</b>	<b>(0.086)</b>	(0.103)	(0.103)	<b>(0.016)</b>	<b>(0.075)</b>	<b>(0.029)</b>
	Mid-30s	-1.904	-1.789	1.064	0.448	0.468	-2.974	-3.163	-3.154
		(0.201)	(0.186)	(0.431)	(0.462)	(0.488)	(0.131)	<b>(0.081)</b>	(0.116)
Anxiety $t$ -Score	21	-2.749	-2.319	-2.996	-2.804	-2.941	-2.638	-2.092	-2.740
		<b>(0.069)</b>	(0.126)	(0.179)	(0.202)	(0.178)	(0.102)	(0.173)	<b>(0.099)</b>
	Mid-30s	-3.399	-3.378	-1.502	-2.337	-2.102	-4.155	-4.473	-4.712
		<b>(0.083)</b>	<b>(0.057)</b>	(0.341)	(0.272)	(0.280)	<b>(0.069)</b>	<b>(0.029)</b>	<b>(0.036)</b>
Hostility $t$ -Score	21	-3.256	-2.543	-4.552	-4.015	-4.629	-2.894	-1.852	-2.549
		<b>(0.028)</b>	<b>(0.071)</b>	<b>(0.087)</b>	(0.103)	<b>(0.084)</b>	<b>(0.051)</b>	(0.167)	<b>(0.088)</b>
	Mid-30s	-1.091	-0.375	-2.076		-2.428	-1.082	-0.461	-0.834
		(0.315)	(0.397)	(0.299)		(0.248)	(0.334)	(0.396)	(0.360)
Global Severity Index $t$ -Score	21	-3.146	-2.736	-4.917	-4.235	-5.096	-2.564	-1.870	-2.851
		<b>(0.042)</b>	<b>(0.067)</b>	<b>(0.035)</b>	<b>(0.049)</b>	<b>(0.040)</b>	<b>(0.085)</b>	(0.200)	<b>(0.093)</b>
Global Severity Index $t$ -Score (BSI 18)	Mid-30s	-2.516	-1.571	-0.151	-0.306	-0.532	-3.477	-2.696	-3.436
		(0.165)	(0.246)	(0.443)	(0.428)	(0.398)	(0.115)	(0.149)	(0.124)
BSI Factor	21 to Mid-30s	-0.507	-0.323	-0.527	-0.458	-0.478	-0.500	-0.353	-0.468
		<b>(0.006)</b>	<b>(0.076)</b>	(0.102)	(0.145)	(0.134)	<b>(0.021)</b>	<b>(0.086)</b>	<b>(0.032)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

## D.8 Treatment Effects for Male Sample

Table D.36: Treatment Effects on IQ Scores, Male Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Std. IQ Test	2	9.528	10.360	6.875	8.336	7.950	10.286	10.890	11.078
		<b>(0.000)</b>	<b>(0.000)</b>	(0.999)	<b>(0.001)</b>	<b>(0.024)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>
	3	13.410	14.748	13.896	16.532	15.487	13.271	14.145	14.301
		<b>(0.000)</b>	<b>(0.000)</b>	(0.999)	<b>(0.001)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>
	3.5	8.756	8.415	6.354	6.916	6.812	9.443	8.821	9.040
		<b>(0.002)</b>	<b>(0.001)</b>	(0.999)	<b>(0.001)</b>	<b>(0.053)</b>	<b>(0.003)</b>	<b>(0.002)</b>	<b>(0.002)</b>
	4	12.089	12.124	8.950	9.742	9.725	12.986	12.743	13.489
		<b>(0.000)</b>	<b>(0.000)</b>	(0.999)	<b>(0.001)</b>	<b>(0.025)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>
	4.5	8.508	8.583	10.411	11.182	10.668	7.964	7.748	7.795
		<b>(0.001)</b>	<b>(0.000)</b>	(0.999)	<b>(0.001)</b>	<b>(0.008)</b>	<b>(0.004)</b>	<b>(0.003)</b>	<b>(0.006)</b>
	5	7.697	7.067	4.643	5.116	5.034	8.679	7.716	8.174
		<b>(0.000)</b>	<b>(0.005)</b>	<b>(0.001)</b>	(0.999)	(0.182)	<b>(0.000)</b>	<b>(0.002)</b>	<b>(0.005)</b>
	6.6	5.803	7.865	0.831	5.791	3.506	5.916	7.543	7.496
		<b>(0.024)</b>	<b>(0.007)</b>	(0.998)	(0.175)	(0.300)	<b>(0.020)</b>	<b>(0.009)</b>	<b>(0.012)</b>
	7	4.390	7.015	5.323	9.798	4.834	4.156	6.457	6.525
	<b>(0.073)</b>	<b>(0.008)</b>	<b>(0.002)</b>	<b>(0.033)</b>	(0.219)	(0.103)	<b>(0.012)</b>	<b>(0.021)</b>	
8	4.160	5.055	-2.514	2.223	-0.470	4.754	4.986	5.012	
	<b>(0.094)</b>	<b>(0.053)</b>	<b>(0.002)</b>	(0.369)	(0.471)	<b>(0.043)</b>	<b>(0.047)</b>	<b>(0.075)</b>	
12	0.686	-1.041	-0.343	0.210	-0.945	0.943	-1.477	-0.802	
	(0.403)	(0.344)	(0.999)	<b>(0.002)</b>	(0.430)	(0.359)	(0.278)	(0.395)	
15	4.447	3.635	-2.057	-1.598	-2.949	6.202	4.701	4.512	
	<b>(0.066)</b>	(0.105)	<b>(0.003)</b>	(0.994)	(0.224)	<b>(0.022)</b>	<b>(0.081)</b>	(0.101)	
21	1.550	-0.561	0.471	-0.373	-1.522	2.307	-0.512	-0.479	
	(0.269)	(0.394)	(0.995)	<b>(0.001)</b>	(0.254)	(0.210)	(0.415)	(0.425)	
IQ Factor	2 to 5	0.865	0.875	0.735	0.823	0.793	0.903	0.886	0.913
		<b>(0.000)</b>	<b>(0.000)</b>	(0.999)	<b>(0.001)</b>	<b>(0.016)</b>	<b>(0.000)</b>	<b>(0.000)</b>	<b>(0.000)</b>
	6 to 12	0.329	0.333	0.349	0.584	0.348	0.323	0.250	0.291
	(0.120)	(0.128)	(0.998)	<b>(0.001)</b>	(0.249)	(0.149)	(0.181)	(0.174)	
15 to 21	-0.276	-0.126	0.063	0.089	0.210	-0.392	-0.175	-0.168	
	(0.141)	(0.300)	<b>(0.003)</b>	<b>(0.001)</b>	(0.227)	<b>(0.082)</b>	(0.278)	(0.280)	

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.37: Treatment Effects on Achievement Scores, Male Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Std. Achv. Test	5.5	5.108	4.236	10.088	12.508	11.727	3.863	1.942	2.391
		<b>(0.037)</b>	(0.134)	<b>(0.004)</b>	<b>(0.009)</b>	<b>(0.009)</b>	(0.123)	(0.310)	(0.260)
	6	3.091	3.560	2.271	4.243	3.318	3.312	3.535	3.668
		<b>(0.060)</b>	<b>(0.035)</b>	(0.999)	(0.187)	(0.247)	<b>(0.050)</b>	<b>(0.030)</b>	<b>(0.026)</b>
	6.5	1.708		-0.892	-0.143	-0.680	2.521	2.599	2.326
		(0.271)		(0.994)	(0.477)	(0.447)	(0.204)	(0.189)	(0.239)
	7	0.622	1.918	0.219	3.342	1.067	0.748	1.280	0.791
		(0.433)	(0.215)	(0.997)	(0.152)	(0.416)	(0.437)	(0.331)	(0.420)
	7.5	0.019	1.586	-2.767	0.422	-1.214	0.799	2.120	2.383
		(0.505)	(0.224)	<b>(0.002)</b>	(0.472)	(0.353)	(0.379)	(0.145)	(0.140)
	8	2.309	4.641	-3.386	1.778	-1.475	3.903	5.691	5.656
		(0.198)	<b>(0.025)</b>	<b>(0.001)</b>	(0.353)	(0.355)	<b>(0.066)</b>	<b>(0.003)</b>	<b>(0.018)</b>
8.5	3.910	6.433	-1.771	1.923	-0.993	4.199	6.804	6.512	
	<b>(0.099)</b>	<b>(0.010)</b>	<b>(0.002)</b>	(0.364)	(0.441)	<b>(0.058)</b>	<b>(0.002)</b>	<b>(0.019)</b>	
15	2.231	1.428	1.379	2.254	0.551	2.532	0.859	0.909	
	(0.205)	(0.291)	<b>(0.004)</b>	(0.993)	(0.444)	(0.204)	(0.405)	(0.404)	
21	1.181	-0.705	1.168	0.489	-0.297	1.356	-1.243	-0.894	
	(0.358)	(0.404)	<b>(0.002)</b>	(0.993)	(0.500)	(0.347)	(0.347)	(0.403)	
Achievement Factor	5.5 to 12	0.271	0.234	0.104	0.199	0.121	0.315	0.245	0.293
		(0.144)	(0.204)	<b>(0.004)</b>	(0.997)	(0.429)	(0.105)	(0.181)	(0.138)
	15 to 21	-0.154	-0.038	-0.114	-0.126	-0.014	-0.176	0.011	-0.006
		(0.277)	(0.442)	<b>(0.003)</b>	(0.993)	(0.485)	(0.273)	(0.467)	(0.500)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.38: Treatment Effects on HOME Scores, Male Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HOME Score	0.5	0.372	-0.085	0.944	0.286	0.454	0.143	-0.304	-0.087
		(0.387)	(0.468)	(0.999)	<b>(0.001)</b>	(0.429)	(0.457)	(0.425)	(0.484)
	1.5	-0.500	-0.942	0.431	0.153	0.258	-0.766	-1.280	-0.880
		(0.342)	(0.233)	(0.999)	<b>(0.001)</b>	(0.451)	(0.277)	(0.181)	(0.282)
	2.5	0.141	0.429	1.654	2.263	2.228	-0.292	-0.153	0.144
		(0.455)	(0.372)	(0.999)	<b>(0.001)</b>	(0.195)	(0.430)	(0.465)	(0.483)
	3.5	1.404	0.819	2.897	3.020	2.906	0.962	0.231	0.732
		(0.273)	(0.355)	(0.999)	(0.211)	(0.258)	(0.349)	(0.445)	(0.388)
4.5	1.146	0.286	3.312	2.310	2.833	0.527	-0.301	0.217	
	(0.305)	(0.428)	(0.201)	(0.181)	(0.210)	(0.408)	(0.453)	(0.474)	
8	1.548	0.400	-0.898	0.346	-1.538	2.062	0.363	0.133	
	(0.248)	(0.396)	<b>(0.008)</b>	(0.378)	(0.386)	(0.182)	(0.393)	(0.466)	
HOME Factor	0.5 to 8	0.287	0.157	0.131	0.225	0.086	0.320	0.126	0.282
		(0.124)	(0.246)	(0.986)	(0.986)	(0.422)	(0.125)	(0.298)	(0.174)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.39: Treatment Effects on Parental Income, Male Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Parental Labor Income	1.5	330 (0.470)	274 (0.446)	-1,046 (0.998)	-2,304 (0.375)	-1,154 (0.411)	-9,244 (0.491)	282 (0.454)	860 (0.400)
	2.5	673 (0.415)	-535 (0.428)	-1,167 (0.998)	-2,991 (0.298)	-1,844 (0.362)	478 (0.460)	-527 (0.418)	221 (0.469)
	3.5	1,036 (0.374)	494 (0.411)	3,085 (0.995)	73,862 (0.474)	1,462 (0.390)	112 (0.498)	123 (0.479)	690 (0.417)
	4.5	821 (0.418)	1,213 (0.358)	1,561 (0.998)	2,215 (0.998)	2,570 (0.272)	-81,743 (0.477)	-55,767 (0.489)	1,167 (0.413)
	8	11,786 <b>(0.034)</b>	12,512 <b>(0.047)</b>	6,832 <b>(0.002)</b>	4,631 (0.244)	4,867 (0.240)	13,438 <b>(0.027)</b>	14,709 <b>(0.046)</b>	13,485 <b>(0.039)</b>
	12	7,085 <b>(0.092)</b>	9,625 <b>(0.020)</b>	15,563 (0.998)	18,050 <b>(0.038)</b>	12,639 <b>(0.074)</b>	4,773 (0.219)	6,620 <b>(0.098)</b>	5,383 (0.139)
	15	8,488 <b>(0.071)</b>	4,495 (0.221)	6,697 (0.985)	5,540 (0.243)	4,805 (0.264)	7,603 (0.144)	2,885 (0.354)	4,345 (0.296)
	21	12,732 <b>(0.005)</b>	8,809 <b>(0.098)</b>	1,568 <b>(0.017)</b>	122 (0.448)	-933 (0.456)	15,124 <b>(0.003)</b>	10,784 <b>(0.056)</b>	10,283 <b>(0.041)</b>
	Parental Income Factor	1.5 to 21	-0.078 (0.431)	-0.108 (0.362)	0.368 (0.892)	0.807 (0.903)	0.363 (0.301)	-0.125 (0.383)	-0.225 (0.240)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.40: Treatment Effects on Mother's Employment, Male Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Mother Works	2	0.056 (0.267)	0.040 (0.341)	0.264 (0.998)	0.240 <b>(0.001)</b>	0.242 <b>(0.096)</b>	-0.004 (0.480)	-0.024 (0.389)	-0.018 (0.417)
	3	0.150 <b>(0.066)</b>	0.145 <b>(0.091)</b>	0.261 (0.998)	0.240 <b>(0.001)</b>	0.242 <b>(0.096)</b>	0.116 (0.114)	0.110 (0.154)	0.117 (0.153)
	4	0.134 <b>(0.066)</b>	0.125 <b>(0.099)</b>	0.287 (0.998)	0.273 <b>(0.083)</b>	0.272 <b>(0.073)</b>	0.090 (0.156)	0.077 (0.217)	0.089 (0.161)
	5	0.111 (0.121)	0.100 (0.171)	0.311 (0.995)	0.289 (0.999)	0.291 <b>(0.071)</b>	0.061 (0.234)	0.041 (0.347)	0.054 (0.322)
	21	-0.058 (0.315)	-0.102 (0.223)	-0.086 (0.995)	-0.129 <b>(0.002)</b>	-0.136 (0.310)	-0.036 (0.393)	-0.082 (0.298)	-0.067 (0.362)
Mother Works Factor	2 to 21	-0.341 <b>(0.097)</b>	-0.314 (0.140)	-0.932 (0.999)	-0.893 (0.999)	-0.875 <b>(0.094)</b>	-0.182 (0.219)	-0.115 (0.320)	-0.165 (0.263)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.41: Treatment Effects on Father at Home, Male Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Father at Home	2	-0.018 (0.444)	0.080 (0.249)	-0.282 (0.998)	-0.205 <b>(0.001)</b>	-0.226 (0.127)	0.057 (0.315)	0.169 <b>(0.079)</b>	0.171 <b>(0.068)</b>
	3	-0.076 (0.217)	-0.007 (0.464)	-0.243 (0.999)	-0.192 <b>(0.001)</b>	-0.201 (0.145)	-0.029 (0.397)	0.049 (0.326)	0.071 (0.283)
	4	-0.075 (0.240)	-0.000 (0.500)	-0.339 (0.999)	-0.281 <b>(0.001)</b>	-0.290 <b>(0.070)</b>		0.082 (0.217)	0.104 (0.201)
	5	-0.057 (0.297)	0.021 (0.438)	-0.429 (0.999)	-0.383 <b>(0.001)</b>	-0.379 <b>(0.012)</b>	0.036 (0.381)	0.127 (0.120)	0.143 (0.111)
	8	0.037 (0.374)	0.012 (0.463)	-0.177 <b>(0.001)</b>	-0.240 (0.123)	-0.300 <b>(0.073)</b>	0.123 (0.175)	0.126 (0.163)	0.129 (0.141)
Father at Home Factor	2 to 8	-0.122 (0.325)	0.048 (0.439)	-0.750 <b>(0.001)</b>	-0.674 (0.129)	-0.647 <b>(0.083)</b>	0.097 (0.381)	0.330 (0.132)	0.372 (0.109)



Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.42: Treatment Effects on Education, Male Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Graduated High School	30	0.073 (0.262)	0.044 (0.375)	0.114 <b>(0.001)</b>	0.116 <b>(0.001)</b>	0.083 (0.346)	0.077 (0.268)	0.040 (0.407)	0.063 (0.317)
Attended Voc./Tech./Com. College	30	-0.099 (0.214)	-0.169 (0.113)	0.086 (0.356)	0.050 <b>(0.001)</b>	0.020 (0.469)	-0.138 (0.144)	-0.235 <b>(0.051)</b>	-0.233 <b>(0.038)</b>
Graduated 4-year College	30	0.170 <b>(0.055)</b>	0.138 (0.128)	0.124 (0.996)	0.149 (0.216)	0.099 (0.338)	0.179 <b>(0.053)</b>	0.135 (0.154)	0.143 (0.130)
Years of Edu.	30	0.525 (0.151)	0.541 (0.163)	0.857 <b>(0.002)</b>	1.010 (0.998)	0.777 (0.136)	0.385 (0.230)	0.351 (0.280)	0.344 (0.256)
Ever Had Special Education by Grade 5	21	-0.035 (0.380)	-0.062 (0.311)	0.158 (0.998)	0.050 <b>(0.002)</b>	0.128 (0.266)	-0.085 (0.210)	-0.095 (0.215)	-0.100 (0.192)
Total Number of Special Education by Grade 5	21	-0.544 (0.252)	-0.342 (0.343)	0.019 (0.999)	-0.807 (0.998)	0.154 (0.457)	-0.690 (0.215)	-0.300 (0.380)	-0.458 (0.325)
Ever Retained by Grade 5	21	-0.095 (0.216)	-0.150 (0.117)	-0.023 <b>(0.001)</b>	-0.134 (0.998)	-0.061 (0.383)	-0.113 (0.185)	-0.146 (0.139)	-0.154 (0.139)
Total Number of Retention by Grade 5	21	-0.070 (0.311)	-0.114 (0.214)	0.031 (0.997)	-0.094 (0.998)	0.006 (0.499)	-0.096 (0.275)	-0.109 (0.240)	-0.128 (0.221)
Education Factor	21 to 30	0.344 <b>(0.081)</b>	0.328 (0.105)	0.230 (0.999)	0.420 (0.999)	0.219 (0.283)	0.385 <b>(0.078)</b>	0.295 (0.150)	0.375 (0.101)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.43: Treatment Effects on Subject Employment and Income, Male Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Employed	30	0.119 (0.128)	0.196 <b>(0.025)</b>	-0.029 <b>(0.002)</b>	0.108 <b>(0.001)</b>	0.040 (0.383)	0.176 <b>(0.071)</b>	0.237 <b>(0.025)</b>	0.261 <b>(0.013)</b>
Labor Income	21	-1,672 (0.306)	-3,084 (0.178)	-3,951 <b>(0.001)</b>	-5,462 <b>(0.001)</b>	-4,787 (0.205)	-1,527 (0.329)	-3,199 (0.200)	-3,240 (0.201)
	30	19,810 <b>(0.091)</b>	24,365 <b>(0.092)</b>	17,909 <b>(0.002)</b>	25,220 (0.998)	20,611 (0.122)	20,065 <b>(0.091)</b>	23,072 (0.107)	21,836 <b>(0.094)</b>
Public-Transfer Income	21	315 (0.372)	375 (0.372)	1,376 <b>(0.002)</b>	1,543 (0.162)	1,543 <b>(0.100)</b>	-58.901 (0.497)	-51.112 (0.522)	90.060 (0.461)
	30	-530 (0.183)	-462 (0.228)	287 <b>(0.001)</b>	337 (0.622)	347 <b>(0.069)</b>	-279 (0.264)	-215 (0.346)	-245 (0.331)
Employment Factor	21 to 30	0.501 (0.106)	0.635 <b>(0.083)</b>	0.053 (0.997)	0.251 <b>(0.004)</b>	0.102 (0.410)	0.644 <b>(0.077)</b>	0.724 <b>(0.083)</b>	0.693 <b>(0.069)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.44: Treatment Effects on Marriage, Male Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Married	30	0.024 (0.423)	-0.026 (0.420)	0.029 <b>(0.002)</b>	0.053 (0.999)	-0.009 (0.481)	0.053 (0.356)	-0.023 (0.418)	0.003 (0.494)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.45: Treatment Effects on Crime, Male Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total Felony Arrests	Mid-30s	0.196 (0.368)	0.685 (0.183)	0.946 <b>(0.002)</b>	1.523 <b>(0.064)</b>	1.340 <b>(0.026)</b>	0.017 (0.489)	0.481 (0.284)	0.188 (0.410)
Total Misdemeanor Arrests	Mid-30s	-0.501 (0.171)	-0.244 (0.289)	-0.251 <b>(0.001)</b>	-0.298 (0.314)	-0.034 (0.422)	-0.666 (0.147)	-0.246 (0.329)	-0.507 (0.168)
Total Years Incarcerated	30	0.348 <b>(0.088)</b>	0.548 <b>(0.058)</b>	0.553 <b>(0.013)</b>	0.772 <b>(0.014)</b>	0.701 <b>(0.009)</b>	0.338 (0.103)	0.538 <b>(0.070)</b>	0.471 <b>(0.066)</b>
Crime Factor	30 to Mid-30s	0.192 (0.304)	0.397 (0.212)	0.560 <b>(0.002)</b>	0.690 (0.998)	0.649 <b>(0.051)</b>	0.116 (0.402)	0.371 (0.252)	0.226 (0.313)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.46: Treatment Effects on Tobacco, Drugs, Alcohol, Male Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cig. Smoked per day last month	30	0.826 (0.247)	0.395 (0.389)	0.757 <b>(0.002)</b>	-0.259 <b>(0.002)</b>	0.643 (0.428)	1.429 (0.121)	1.270 (0.164)	1.216 (0.172)
Days drank alcohol last month	30	0.805 (0.328)	1.191 (0.278)	-0.186 <b>(0.001)</b>	0.650 <b>(0.001)</b>	0.087 (0.514)	0.944 (0.310)	1.210 (0.302)	1.337 (0.276)
Days binge drank alcohol last month	30	0.500 (0.162)	0.657 (0.141)	0.543 (0.998)	0.458 (0.999)	0.695 (0.184)	0.491 (0.178)	0.729 (0.157)	0.702 (0.131)
Self-reported drug user	Mid-30s	-0.333 <b>(0.019)</b>	-0.438 <b>(0.002)</b>	-0.500 (0.962)	-0.673 <b>(0.000)</b>	-0.557 <b>(0.000)</b>	-0.233 (0.104)	-0.326 <b>(0.039)</b>	-0.330 <b>(0.023)</b>
Substance Use Factor	30 to Mid-30s	0.261 (0.280)	0.237 (0.323)	0.055 (0.965)	0.011 <b>(0.015)</b>	0.074 (0.472)	0.389 (0.155)	0.367 (0.238)	0.414 (0.174)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.47: Treatment Effects on Hypertension, Male Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Systolic Blood Pressure (mm Hg)	Mid-30s	-9.791 (0.113)	-13.275 <b>(0.049)</b>	15.280 (0.961)	14.196 <b>(0.013)</b>	14.976 <b>(0.000)</b>	-19.920 <b>(0.028)</b>	-24.166 <b>(0.000)</b>	-18.559 <b>(0.011)</b>
Diastolic Blood Pressure (mm Hg)	Mid-30s	-10.854 <b>(0.032)</b>	-14.134 <b>(0.004)</b>	-8.640 <b>(0.030)</b>	-9.709 <b>(0.049)</b>	-8.741 <b>(0.032)</b>	-14.240 <b>(0.028)</b>	-18.387 <b>(0.000)</b>	-13.987 <b>(0.007)</b>
Prehypertension	Mid-30s	-0.137 (0.142)	-0.159 (0.153)	0.053 (0.960)	0.082 (0.363)	0.077 (0.376)	-0.280 <b>(0.001)</b>	-0.311 <b>(0.021)</b>	-0.283 <b>(0.003)</b>
Hypertension	Mid-30s	-0.291 <b>(0.042)</b>	-0.377 <b>(0.009)</b>	-0.053 (0.964)	-0.120 (0.302)	-0.074 (0.353)	-0.420 <b>(0.007)</b>	-0.492 <b>(0.006)</b>	-0.434 <b>(0.006)</b>
Hypertension Factor	Mid-30s	-0.643 <b>(0.026)</b>	-0.875 <b>(0.007)</b>	0.070 (0.963)	-0.062 <b>(0.022)</b>	-0.025 (0.474)	-1.044 <b>(0.002)</b>	-1.334 <b>(0.000)</b>	-1.140 <b>(0.004)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.48: Treatment Effects on Cholesterol, Male Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High-Density Lipoprotein Chol. (mg/dL)	Mid-30s	7.753 <b>(0.015)</b>	6.583 <b>(0.059)</b>	-0.267 (0.959)	-2.328 (0.344)	-3.489 (0.277)	9.015 <b>(0.008)</b>	7.542 <b>(0.046)</b>	6.795 <b>(0.032)</b>
Dyslipidemia	Mid-30s	-0.094 (0.245)	-0.165 (0.154)	0.200 (0.956)	0.192 <b>(0.087)</b>	0.198 <b>(0.018)</b>	-0.108 (0.241)	-0.181 (0.161)	-0.150 (0.172)
Cholesterol Factor	Mid-30s	0.477 <b>(0.073)</b>	0.446 (0.123)	-0.344 (0.959)	-0.417 (0.949)	-0.421 <b>(0.094)</b>	0.552 <b>(0.062)</b>	0.514 (0.131)	0.477 (0.105)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.49: Treatment Effects on Diabetes, Male Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hemoglobin Level (%)	Mid-30s	0.322 (0.153)	0.449 (0.154)	0.240 (0.961)	0.320 (0.196)	0.359 (0.195)	0.286 (0.184)	0.416 (0.178)	0.417 (0.160)
Prediabetes	Mid-30s	-0.129 (0.217)	-0.149 (0.196)	-0.267 <b>(0.021)</b>	-0.358 (0.119)	-0.309 (0.199)	-0.138 (0.223)	-0.161 (0.207)	-0.143 (0.200)
Diabetes	Mid-30s	0.080 <b>(0.050)</b>	0.093 <b>(0.070)</b>	0.080 <b>(0.022)</b>	0.078 (0.118)	0.095 <b>(0.045)</b>	0.080 <b>(0.050)</b>	0.097 <b>(0.063)</b>	0.095 <b>(0.048)</b>
Diabetes Factor	Mid-30s	0.218 (0.236)	0.271 (0.223)	0.106 <b>(0.019)</b>	0.076 <b>(0.013)</b>	0.163 (0.329)	0.199 (0.247)	0.267 (0.245)	0.259 (0.234)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.50: Treatment Effects on Obesity, Male Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Measured BMI	Mid-30s	-0.125 (0.481)	0.427 (0.419)	-0.684 (0.962)	0.694 (0.420)	0.903 (0.438)	-0.627 (0.407)	-0.208 (0.485)	-0.481 (0.438)
Obesity	Mid-30s	0.000 (0.491)	0.017 (0.458)	-0.128 (0.960)	-0.011 (0.429)	0.034 (0.463)	-0.017 (0.469)	-0.026 (0.462)	-0.060 (0.394)
Severe Obesity	Mid-30s	-0.160 (0.142)	-0.106 (0.247)	-0.185 <b>(0.024)</b>	-0.122 (0.300)	-0.125 (0.291)	-0.185 (0.154)	-0.122 (0.264)	-0.131 (0.217)
Waist-hip Ratio	Mid-30s	0.005 (0.444)	-0.002 (0.453)	0.018 <b>(0.026)</b>	0.031 (0.269)	0.022 (0.332)	-0.002 (0.462)	-0.015 (0.321)	-0.006 (0.436)
Abdominal Obesity	Mid-30s	0.003 (0.495)	-0.071 (0.346)	0.029 <b>(0.023)</b>	-0.005 (0.469)	0.046 (0.399)	0.029 (0.435)	-0.049 (0.411)	-0.021 (0.475)
Framingham Risk Score	Mid-30s	-0.766 (0.235)	-0.294 (0.382)	1.491 <b>(0.026)</b>	1.874 <b>(0.100)</b>	1.811 (0.111)	-1.202 (0.177)	-0.717 (0.308)	-0.700 (0.305)
Obesity Factor	Mid-30s	0.054 (0.441)	0.087 (0.423)	0.064 (0.959)	0.014 <b>(0.015)</b>	0.087 (0.418)	0.122 (0.399)	0.170 (0.386)	0.143 (0.403)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.51: Treatment Effects on Mental Health  $t$ -Score, Male Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Somatization $t$ -Score	21	-2.804 (0.110)	-3.813 <b>(0.063)</b>	-3.718 <b>(0.001)</b>	-4.711 <b>(0.001)</b>	-4.358 <b>(0.098)</b>	-2.295 (0.189)	-3.255 (0.136)	-3.818 <b>(0.086)</b>
	Mid-30s	-3.066 (0.228)	-2.950 (0.191)	-4.852 (0.959)	-4.501 (0.165)	-4.912 (0.175)	-3.252 (0.239)	-2.867 (0.244)	-3.046 (0.233)
Depression $t$ -Score	21	-2.515 (0.165)	-1.499 (0.280)	1.649 (0.998)	1.632 (0.999)	1.645 (0.382)	-3.636 <b>(0.087)</b>	-2.460 (0.197)	-3.121 (0.138)
	Mid-30s	-1.042 (0.400)	-1.436 (0.349)	3.148 <b>(0.026)</b>	3.760 (0.113)	1.942 (0.261)	-2.985 (0.270)	-3.246 (0.243)	-2.961 (0.265)
Anxiety $t$ -Score	21	0.400 (0.446)	0.352 (0.449)	3.857 (0.999)	2.356 <b>(0.001)</b>	3.396 (0.222)	-0.333 (0.458)	-0.301 (0.466)	-1.366 (0.353)
	Mid-30s	-1.847 (0.301)	-2.114 (0.269)	1.630 <b>(0.026)</b>	2.105 (0.188)	0.720 (0.419)	-3.504 (0.236)	-3.559 (0.205)	-3.390 (0.227)
Hostility $t$ -Score	21	-1.471 (0.259)	-0.687 (0.398)	2.941 (0.999)	1.813 (0.999)	2.618 (0.309)	-2.251 (0.206)	-0.950 (0.369)	-1.812 (0.252)
	Mid-30s	-1.556 (0.324)	-2.073 (0.268)	-1.889 (0.959)	-1.396 (0.331)	-2.708 (0.273)	-2.156 (0.306)	-2.639 (0.271)	-2.486 (0.281)
Global Severity Index $t$ -Score	21	0.246 (0.454)	0.477 (0.412)	1.978 <b>(0.002)</b>	1.551 (0.334)	0.495 (0.435)	0.330 (0.441)	0.989 (0.358)	-0.970 (0.398)
	Mid-30s	-1.675 (0.325)	-1.771 (0.316)	0.111 <b>(0.026)</b>	0.866 (0.371)	-0.584 (0.420)	-2.989 (0.275)	-2.916 (0.246)	-2.793 (0.270)
BSI Factor	21 to Mid-30s	-0.130 (0.341)	-0.008 (0.468)	-0.025 (0.961)	0.107 (0.951)	0.005 (0.459)	-0.170 (0.345)	-0.032 (0.435)	-0.140 (0.348)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

## D.9 Treatment Effects for Female Sample

Table D.52: Treatment Effects on IQ Scores, Female Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Std. IQ Test	2	10.700 <b>(0.000)</b>	9.752 <b>(0.000)</b>	13.949 <b>(0.000)</b>	15.675 <b>(0.000)</b>	15.284 <b>(0.000)</b>	9.431 <b>(0.000)</b>	8.035 <b>(0.002)</b>	9.353 <b>(0.000)</b>	
	3	13.333 <b>(0.000)</b>	12.462 <b>(0.000)</b>	23.729 <b>(0.000)</b>	26.222 <b>(0.000)</b>	26.738 <b>(0.000)</b>	9.211 <b>(0.005)</b>	8.146 <b>(0.017)</b>	9.189 <b>(0.008)</b>	
	3.5	8.049 <b>(0.003)</b>	6.899 <b>(0.004)</b>	16.187 <b>(0.000)</b>	19.211 <b>(0.000)</b>	18.019 <b>(0.000)</b>	5.049 <b>(0.046)</b>	3.115 <b>(0.156)</b>	4.968 <b>(0.053)</b>	
	4	6.035 <b>(0.026)</b>	5.190 <b>(0.055)</b>	14.812 <b>(0.000)</b>	17.597 <b>(0.002)</b>	17.630 <b>(0.000)</b>	3.007 <b>(0.181)</b>	1.654 <b>(0.333)</b>	3.484 <b>(0.152)</b>	
	4.5	8.162 <b>(0.002)</b>	7.081 <b>(0.001)</b>	16.058 <b>(0.000)</b>	18.631 <b>(0.001)</b>	18.185 <b>(0.000)</b>	5.773 <b>(0.063)</b>	3.121 <b>(0.176)</b>	5.820 <b>(0.051)</b>	
	5	4.921 <b>(0.053)</b>	3.614 <b>(0.132)</b>	12.425 <b>(0.005)</b>	14.882 <b>(0.006)</b>	14.489 <b>(0.003)</b>	2.698 <b>(0.195)</b>	0.374 <b>(0.472)</b>	3.000 <b>(0.173)</b>	
	6.6	6.127 <b>(0.038)</b>		7.339 <b>(0.045)</b>	8.939 <b>(0.022)</b>	6.883 <b>(0.035)</b>	5.773 <b>(0.060)</b>	2.344 <b>(0.256)</b>	4.438 <b>(0.092)</b>	
	7	6.365 <b>(0.036)</b>	3.751 <b>(0.155)</b>	7.796 <b>(0.998)</b>	7.034 <b>(0.079)</b>	5.568 <b>(0.118)</b>	5.992 <b>(0.055)</b>	3.274 <b>(0.208)</b>	4.369 <b>(0.117)</b>	
	8	5.906 <b>(0.034)</b>	4.050 <b>(0.117)</b>	7.857 <b>(0.015)</b>	10.599 <b>(0.007)</b>	9.880 <b>(0.010)</b>	5.360 <b>(0.060)</b>	2.237 <b>(0.274)</b>	4.660 <b>(0.092)</b>	
	12	8.688 <b>(0.001)</b>	6.843 <b>(0.008)</b>	6.850 <b>(0.018)</b>	6.468 <b>(0.030)</b>	6.435 <b>(0.033)</b>	9.120 <b>(0.004)</b>	7.244 <b>(0.017)</b>	8.432 <b>(0.005)</b>	
	15	6.467 <b>(0.034)</b>	2.695 <b>(0.229)</b>	6.110 <b>(0.984)</b>	3.413 <b>(0.986)</b>	5.083 <b>(0.144)</b>	6.315 <b>(0.052)</b>	2.481 <b>(0.290)</b>	5.069 <b>(0.113)</b>	
	21	7.261 <b>(0.005)</b>	4.337 <b>(0.066)</b>	9.440 <b>(0.984)</b>	7.413 <b>(0.985)</b>	8.713 <b>(0.000)</b>	6.485 <b>(0.017)</b>	3.583 <b>(0.132)</b>	5.312 <b>(0.045)</b>	
	IQ Factor	2 to 5	0.694 <b>(0.002)</b>	0.615 <b>(0.004)</b>	1.367 <b>(0.000)</b>	1.606 <b>(0.001)</b>	1.561 <b>(0.000)</b>	0.488 <b>(0.024)</b>	0.328 <b>(0.112)</b>	0.508 <b>(0.019)</b>
		6 to 12	0.567 <b>(0.046)</b>	0.439 <b>(0.075)</b>	0.523 <b>(0.998)</b>	0.698 <b>(0.998)</b>	0.580 <b>(0.107)</b>	0.579 <b>(0.052)</b>	0.398 <b>(0.137)</b>	0.606 <b>(0.041)</b>
		15 to 21	-0.673 <b>(0.001)</b>	-0.352 <b>(0.110)</b>	-0.776 <b>(0.984)</b>	-0.550 <b>(0.985)</b>	-0.692 <b>(0.004)</b>	-0.624 <b>(0.016)</b>	-0.301 <b>(0.190)</b>	-0.507 <b>(0.044)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.53: Treatment Effects on Achievement Scores, Female Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Std. Achv. Test	5.5	12.314 <b>(0.000)</b>	9.870 <b>(0.007)</b>	19.650 <b>(0.000)</b>		18.482 <b>(0.000)</b>	9.869 <b>(0.009)</b>	5.326 <b>(0.132)</b>	11.035 <b>(0.007)</b>
	6	6.269 <b>(0.005)</b>	6.135 <b>(0.002)</b>	10.379 <b>(0.002)</b>	10.918 <b>(0.005)</b>	9.862 <b>(0.003)</b>	5.018 <b>(0.019)</b>		5.255 <b>(0.009)</b>
	6.5	3.909 <b>(0.028)</b>	3.859 <b>(0.022)</b>	6.394 <b>(0.026)</b>	6.809 <b>(0.066)</b>	6.030 <b>(0.018)</b>	3.517 <b>(0.048)</b>	3.415 <b>(0.042)</b>	4.934 <b>(0.014)</b>
	7	6.411 <b>(0.002)</b>	6.411 <b>(0.000)</b>	12.724 <b>(0.025)</b>	12.732 <b>(0.003)</b>	12.633 <b>(0.000)</b>	5.415 <b>(0.013)</b>	5.110 <b>(0.011)</b>	6.476 <b>(0.005)</b>
	7.5	4.133 <b>(0.083)</b>	2.960 <b>(0.126)</b>	4.300 <b>(0.199)</b>	6.192 <b>(0.075)</b>	6.927 <b>(0.044)</b>	4.082 <b>(0.108)</b>	1.933 <b>(0.255)</b>	4.625 <b>(0.078)</b>
	8	6.619 <b>(0.013)</b>	5.012 <b>(0.046)</b>	7.125 <b>(0.098)</b>	9.324 <b>(0.025)</b>	9.541 <b>(0.016)</b>	6.465 <b>(0.028)</b>	3.291 <b>(0.164)</b>	6.190 <b>(0.037)</b>
	8.5	8.407 <b>(0.000)</b>	8.542 <b>(0.001)</b>	12.299 <b>(0.005)</b>	12.302 <b>(0.004)</b>	11.963 <b>(0.007)</b>	7.223 <b>(0.016)</b>	7.668 <b>(0.006)</b>	8.736 <b>(0.000)</b>
	15	8.275 <b>(0.008)</b>	5.583 <b>(0.032)</b>	9.618 <b>(0.984)</b>	7.114 <b>(0.984)</b>	8.384 <b>(0.003)</b>	8.477 <b>(0.010)</b>	5.120 <b>(0.068)</b>	7.417 <b>(0.025)</b>
	21	9.116 <b>(0.006)</b>	4.546 <b>(0.082)</b>	8.420 <b>(0.984)</b>	3.921 <b>(0.984)</b>	6.495 <b>(0.032)</b>	9.420 <b>(0.011)</b>	4.554 <b>(0.103)</b>	7.475 <b>(0.025)</b>
	Achievement Factor	5.5 to 12	0.880 <b>(0.001)</b>	0.875 <b>(0.005)</b>	1.244 <b>(0.003)</b>	1.141 <b>(0.005)</b>	1.330 <b>(0.003)</b>	0.739 <b>(0.006)</b>	0.735 <b>(0.012)</b>
15 to 21		-0.769 <b>(0.000)</b>	-0.452 <b>(0.038)</b>	-0.803 <b>(0.984)</b>	-0.498 <b>(0.984)</b>	-0.665 <b>(0.004)</b>	-0.791 <b>(0.002)</b>	-0.431 <b>(0.073)</b>	-0.660 <b>(0.010)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.54: Treatment Effects on HOME Scores, Female Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HOME Score	0.5	1.581 <b>(0.088)</b>	0.380 <b>(0.396)</b>	1.684 <b>(0.168)</b>	0.946 <b>(0.307)</b>	1.264 <b>(0.235)</b>	0.980 <b>(0.220)</b>	-0.045 <b>(0.480)</b>	0.440 <b>(0.377)</b>
	1.5	2.668 <b>(0.026)</b>	2.107 <b>(0.092)</b>	4.729 <b>(0.023)</b>	3.783 <b>(0.069)</b>	5.472 <b>(0.014)</b>	1.544 <b>(0.167)</b>	1.237 <b>(0.239)</b>	1.756 <b>(0.140)</b>
	2.5	0.762 <b>(0.285)</b>	0.760 <b>(0.300)</b>	4.434 <b>(0.004)</b>	5.322 <b>(0.007)</b>	5.173 <b>(0.001)</b>	-0.899 <b>(0.277)</b>	-1.068 <b>(0.228)</b>	-0.252 <b>(0.435)</b>
	3.5	2.858 <b>(0.096)</b>	2.354 <b>(0.188)</b>	13.719 <b>(0.000)</b>	14.981 <b>(0.002)</b>	14.927 <b>(0.001)</b>	-0.309 <b>(0.441)</b>	-1.804 <b>(0.237)</b>	-0.048 <b>(0.500)</b>
	4.5	2.736 <b>(0.140)</b>	1.505 <b>(0.297)</b>	12.957 <b>(0.002)</b>	13.445 <b>(0.014)</b>	13.953 <b>(0.002)</b>	-0.273 <b>(0.437)</b>	-1.703 <b>(0.275)</b>	0.470 <b>(0.422)</b>
	8	0.659 <b>(0.383)</b>	1.112 <b>(0.304)</b>	5.909 <b>(0.998)</b>	8.035 <b>(0.016)</b>	7.078 <b>(0.031)</b>	-0.773 <b>(0.359)</b>	-1.326 <b>(0.265)</b>	0.447 <b>(0.428)</b>
	HOME Factor	0.5 to 8	0.266 <b>(0.196)</b>	0.179 <b>(0.312)</b>	1.162 <b>(0.004)</b>	1.281 <b>(0.021)</b>	1.218 <b>(0.005)</b>	0.010 <b>(0.478)</b>	-0.169 <b>(0.336)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.55: Treatment Effects on Parental Income, Female Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Parental Labor Income	1.5	4,516 <b>(0.068)</b>	6,640 <b>(0.036)</b>	5,865 <b>(0.999)</b>	8,164 <b>(0.079)</b>	9,688 <b>(0.014)</b>	5,069 <b>(0.051)</b>	6,136 <b>(0.055)</b>	7,346 <b>(0.013)</b>
	2.5	222 <b>(0.463)</b>	591 <b>(0.429)</b>	-3,056 <b>(0.001)</b>	109 <b>(0.481)</b>	1,761 <b>(0.422)</b>	2,254 <b>(0.214)</b>	884 <b>(0.406)</b>	3,240 <b>(0.183)</b>
	3.5	2,756 <b>(0.189)</b>	2,986 <b>(0.213)</b>	5,146 <b>(0.999)</b>	6,864 <b>(0.122)</b>	8,584 <b>(0.045)</b>	2,802 <b>(0.203)</b>	1,521 <b>(0.332)</b>	3,773 <b>(0.154)</b>
	4.5	4,039 <b>(0.080)</b>	5,715 <b>(0.054)</b>	7,094 <b>(0.058)</b>	8,260 <b>(0.069)</b>	7,646 <b>(0.050)</b>	3,852 <b>(0.090)</b>	4,953 <b>(0.078)</b>	5,599 <b>(0.019)</b>
	8	2,181 <b>(0.291)</b>	3,826 <b>(0.210)</b>	13,195 <b>(0.960)</b>	12,683 <b>(0.083)</b>	13,456 <b>(0.009)</b>	528 <b>(0.455)</b>	2,034 <b>(0.339)</b>	2,963 <b>(0.245)</b>
	12	13,633 <b>(0.054)</b>	19,592 <b>(0.027)</b>	22,294 <b>(0.002)</b>	28,328 <b>(0.027)</b>	26,489 <b>(0.009)</b>	11,570 <b>(0.090)</b>	15,343 <b>(0.064)</b>	18,678 <b>(0.019)</b>
	15	8,565 <b>(0.060)</b>	7,159 <b>(0.137)</b>	2,829 <b>(0.989)</b>	2,713 <b>(0.480)</b>	8,441 <b>(0.345)</b>	9,819 <b>(0.030)</b>	7,465 <b>(0.134)</b>	10,487 <b>(0.064)</b>
	21	5,708 <b>(0.136)</b>	8,670 <b>(0.140)</b>	25,270 <b>(0.048)</b>	45,697 <b>(0.000)</b>	25,142 <b>(0.000)</b>	4,446 <b>(0.182)</b>	6,251 <b>(0.224)</b>	3,943 <b>(0.261)</b>
Parental Income Factor	1.5 to 21	0.286 <b>(0.181)</b>	0.286 <b>(0.239)</b>	0.554 <b>(0.960)</b>	0.506 <b>(0.011)</b>	0.635 <b>(0.138)</b>	0.219 <b>(0.247)</b>	0.227 <b>(0.278)</b>	0.298 <b>(0.200)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.56: Treatment Effects on Mother’s Employment, Female Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Mother Works	2	0.168 <b>(0.035)</b>	0.112 <b>(0.137)</b>	0.323 <b>(0.050)</b>	0.297 <b>(0.084)</b>	0.333 <b>(0.051)</b>	0.101 <b>(0.158)</b>	0.066 <b>(0.245)</b>	0.097 <b>(0.174)</b>
	3	0.087 <b>(0.194)</b>	0.027 <b>(0.399)</b>	0.177 <b>(0.174)</b>	0.139 <b>(0.237)</b>	0.179 <b>(0.176)</b>	0.066 <b>(0.263)</b>	-0.001 <b>(0.512)</b>	0.058 <b>(0.306)</b>
	4	0.118 <b>(0.097)</b>	0.071 <b>(0.245)</b>	0.319 <b>(0.052)</b>	0.287 <b>(0.087)</b>	0.328 <b>(0.052)</b>	0.060 <b>(0.267)</b>	0.025 <b>(0.390)</b>	0.054 <b>(0.282)</b>
	5	0.067 <b>(0.243)</b>	0.038 <b>(0.350)</b>	0.367 <b>(0.028)</b>	0.276 <b>(0.082)</b>	0.422 <b>(0.018)</b>	-0.056 <b>(0.232)</b>	-0.076 <b>(0.162)</b>	-0.024 <b>(0.382)</b>
	21	-0.018 <b>(0.441)</b>	-0.005 <b>(0.478)</b>	0.510 <b>(0.985)</b>	0.497 <b>(0.985)</b>	0.512 <b>(0.000)</b>	-0.097 <b>(0.207)</b>	-0.107 <b>(0.214)</b>	-0.088 <b>(0.239)</b>
Mother Works Factor	2 to 21	-0.207 <b>(0.208)</b>	-0.069 <b>(0.381)</b>	-0.662 <b>(0.098)</b>	-0.527 <b>(0.156)</b>	-0.731 <b>(0.088)</b>	-0.071 <b>(0.385)</b>	0.081 <b>(0.375)</b>	-0.092 <b>(0.361)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.57: Treatment Effects on Father at Home, Female Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Father at Home	2	-0.012 <b>(0.452)</b>	-0.033 <b>(0.390)</b>	-0.115 <b>(0.274)</b>	-0.118 <b>(0.273)</b>	-0.149 <b>(0.217)</b>	0.034 <b>(0.376)</b>	0.023 <b>(0.426)</b>	0.087 <b>(0.215)</b>
	3	-0.079 <b>(0.226)</b>	-0.098 <b>(0.180)</b>	-0.337 <b>(0.036)</b>	-0.336 <b>(0.029)</b>	-0.371 <b>(0.022)</b>	0.034 <b>(0.376)</b>	0.023 <b>(0.426)</b>	0.087 <b>(0.215)</b>
	4	-0.071 <b>(0.256)</b>	-0.100 <b>(0.186)</b>	-0.330 <b>(0.038)</b>	-0.344 <b>(0.024)</b>	-0.364 <b>(0.025)</b>	0.041 <b>(0.351)</b>	0.025 <b>(0.421)</b>	0.096 <b>(0.192)</b>
	5	-0.139 <b>(0.088)</b>	-0.152 <b>(0.076)</b>	-0.333 <b>(0.048)</b>	-0.324 <b>(0.063)</b>	-0.385 <b>(0.031)</b>	-0.056 <b>(0.293)</b>	-0.069 <b>(0.261)</b>	-0.020 <b>(0.416)</b>
	8	0.056 <b>(0.299)</b>	-0.007 <b>(0.455)</b>	-0.063 <b>(0.997)</b>	-0.072 <b>(0.328)</b>	-0.061 <b>(0.335)</b>	0.092 <b>(0.190)</b>	0.025 <b>(0.401)</b>	0.058 <b>(0.280)</b>
Father at Home Factor	2 to 8	-0.184 <b>(0.236)</b>	-0.253 <b>(0.171)</b>	-0.820 <b>(0.999)</b>	-0.819 <b>(0.999)</b>	-0.943 <b>(0.012)</b>	0.010 <b>(0.479)</b>	-0.042 <b>(0.440)</b>	0.097 <b>(0.382)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.58: Treatment Effects on Education, Female Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Graduated High School	30	0.253 <b>(0.009)</b>	0.131 <b>(0.152)</b>	0.642 <b>(0.000)</b>	0.553 <b>(0.003)</b>	0.595 <b>(0.000)</b>	0.137 <b>(0.129)</b>	-0.026 <b>(0.413)</b>	0.066 <b>(0.320)</b>
Attended Voc./Tech./Com. College	30	-0.057 <b>(0.303)</b>	-0.115 <b>(0.177)</b>	-0.050 <b>(0.418)</b>	-0.109 <b>(0.298)</b>	-0.071 <b>(0.374)</b>	-0.041 <b>(0.374)</b>	-0.127 <b>(0.157)</b>	-0.051 <b>(0.354)</b>
Graduated 4-year College	30	0.134 <b>(0.072)</b>	0.131 <b>(0.112)</b>	0.217 <b>(0.010)</b>		0.219 <b>(0.012)</b>	0.106 <b>(0.145)</b>	0.100 <b>(0.230)</b>	0.093 <b>(0.208)</b>
Years of Edu.	30	2.143 <b>(0.001)</b>	1.843 <b>(0.002)</b>	4.025 <b>(0.000)</b>	3.861 <b>(0.000)</b>	3.923 <b>(0.000)</b>	1.567 <b>(0.006)</b>	1.163 <b>(0.054)</b>	1.409 <b>(0.017)</b>
Ever Had Special Education by Grade 5	21	0.022 <b>(0.434)</b>	0.141 <b>(0.154)</b>	0.133 <b>(0.262)</b>	0.172 <b>(0.211)</b>	0.115 <b>(0.290)</b>	0.018 <b>(0.458)</b>	0.117 <b>(0.203)</b>	0.015 <b>(0.478)</b>
Total Number of Special Education by Grade 5	21	-0.622 <b>(0.273)</b>	0.382 <b>(0.380)</b>	1.725 <b>(0.002)</b>	2.012 <b>(0.029)</b>	2.012 <b>(0.018)</b>	1.585 <b>(0.212)</b>	-1.054 <b>(0.427)</b>	-1.297 <b>(0.177)</b>
Ever Retained by Grade 5	21	-0.256 <b>(0.016)</b>	-0.237 <b>(0.033)</b>	-0.325 <b>(0.059)</b>	-0.221 <b>(0.168)</b>	-0.279 <b>(0.089)</b>	-0.238 <b>(0.042)</b>	-0.257 <b>(0.038)</b>	-0.214 <b>(0.063)</b>
Total Number of Retention by Grade 5	21	-0.233 <b>(0.098)</b>	-0.098 <b>(0.303)</b>	-0.192 <b>(0.203)</b>	-0.019 <b>(0.458)</b>	-0.125 <b>(0.307)</b>	-0.221 <b>(0.134)</b>	-0.132 <b>(0.263)</b>	-0.180 <b>(0.204)</b>
Education Factor	21 to 30	0.561 <b>(0.034)</b>	0.356 <b>(0.139)</b>	0.841 <b>(0.012)</b>	0.688 <b>(0.064)</b>	0.726 <b>(0.022)</b>	0.420 <b>(0.113)</b>	0.243 <b>(0.253)</b>	0.309 <b>(0.189)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.59: Treatment Effects on Subject Employment and Income, Female Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Employed	30	0.131	0.081	0.333	0.381	0.340	0.056	-0.010	0.070
		<b>(0.096)</b>	(0.206)	<b>(0.047)</b>	<b>(0.039)</b>	<b>(0.057)</b>	(0.312)	(0.465)	(0.264)
Labor Income	21	1,741	315	6,932	6,270	7,210	496	-1,741	263
		(0.230)	(0.456)	<b>(0.001)</b>	<b>(0.077)</b>	<b>(0.011)</b>	(0.417)	(0.267)	(0.465)
Public-Transfer Income	30	2,548	1,884	14,356	15,094	13,096	-425	-2,677	-2,122
		(0.335)	(0.382)	<b>(0.028)</b>	<b>(0.056)</b>	<b>(0.022)</b>	(0.496)	(0.330)	(0.363)
	21	-1,424	-2,389	-1,322	-2,862	-2,875	-1,751	-1,536	-1,481
		<b>(0.069)</b>	<b>(0.020)</b>	<b>(0.001)</b>	<b>(0.025)</b>	<b>(0.039)</b>	<b>(0.068)</b>	(0.119)	<b>(0.095)</b>
30	-2,672	-953	-3,053	-2,762	-2,775	-2,269	-333	-1,603	
	<b>(0.042)</b>	(0.270)	<b>(0.078)</b>	<b>(0.093)</b>	(0.108)	(0.108)	(0.413)	(0.192)	
Employment Factor	21 to 30	0.434	0.292	0.970	1.077	0.999	0.274	0.004	0.244
		(0.103)	(0.185)	(0.997)	(0.997)	<b>(0.031)</b>	(0.222)	(0.505)	(0.236)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.60: Treatment Effects on Marriage, Female Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Married	30	0.109	0.122	0.058	0.104	0.065	0.137	0.120	0.132
		(0.183)	(0.180)	(0.391)	(0.309)	(0.410)	(0.131)	(0.194)	(0.166)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.61: Treatment Effects on Crime, Female Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total Felony Arrests	Mid-30s	-0.328	-0.351	-1.345	-0.944	-0.965	-0.077	-0.059	0.004
		<b>(0.077)</b>	<b>(0.087)</b>	<b>(0.002)</b>	<b>(0.095)</b>	<b>(0.095)</b>	(0.234)	(0.287)	(0.500)
Total Misdemeanor Arrests	Mid-30s	-0.973	-0.737	-2.708	-2.010	-2.451	-0.588	-0.269	-0.201
		<b>(0.057)</b>	(0.134)	<b>(0.001)</b>	(0.134)	(0.120)	(0.107)	(0.273)	(0.289)
Total Years Incarcerated	30	-0.024	-0.015				-0.037	-0.019	-0.038
		<b>(0.067)</b>	(0.120)				<b>(0.074)</b>	(0.135)	<b>(0.066)</b>
Crime Factor	30 to Mid-30s	-0.239	-0.226	-0.735	-0.677	-0.725	-0.124	-0.052	-0.070
		<b>(0.078)</b>	(0.126)	<b>(0.001)</b>	(0.998)	(0.129)	(0.144)	(0.271)	(0.244)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.



Table D.62: Treatment Effects on Tobacco, Drugs, Alcohol, Female Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cig. Smoked per day last month	30	-0.765 (0.290)	-0.164 (0.449)	-2.338 (0.175)	-2.086 (0.196)	-2.137 (0.196)	-0.530 (0.360)	0.759 (0.325)	-0.296 (0.391)
Days drank alcohol last month	30	-0.742 (0.300)	0.135 (0.468)	-0.567 (0.385)	0.585 (0.402)	-0.259 (0.442)	-0.919 (0.275)	0.196 (0.446)	-0.464 (0.380)
Days binge drank alcohol last month	30	-0.358 (0.319)	0.249 (0.378)	-1.063 (0.253)	-0.106 (0.431)	-0.913 (0.292)	-0.231 (0.363)	0.531 (0.229)	0.035 (0.478)
Self-reported drug user	Mid-30s	-0.033 (0.381)	0.004 (0.478)	-0.116 (0.996)	-0.114 (0.273)	-0.101 (0.323)	-0.010 (0.450)	0.020 (0.443)	0.033 (0.406)
Substance Use Factor	30 to Mid-30s	0.001 (0.508)	0.462 (0.114)	0.362 ( <b>0.002</b> )	0.738 ( <b>0.040</b> )	0.413 ( <b>0.066</b> )	-0.098 (0.362)	0.422 (0.147)	-0.015 (0.476)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.63: Treatment Effects on Hypertension, Female Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Systolic Blood Pressure (mm Hg)	Mid-30s	-2.899 (0.307)	-5.407 (0.241)	1.065 (0.997)	-0.488 (0.488)	-0.822 (0.457)	-3.980 (0.257)	-6.239 (0.249)	-6.784 (0.170)
Diastolic Blood Pressure (mm Hg)	Mid-30s	-0.002 (0.483)	-0.179 (0.438)	4.725 (0.997)	4.091 (0.245)	4.122 (0.222)	-1.291 (0.386)	-1.347 (0.392)	-2.160 (0.339)
Prehypertension	Mid-30s	-0.189 ( <b>0.035</b> )	-0.257 ( <b>0.017</b> )	-0.094 ( <b>0.002</b> )	-0.151 (0.256)	-0.125 (0.252)	-0.215 ( <b>0.020</b> )	-0.289 ( <b>0.013</b> )	-0.233 ( <b>0.016</b> )
Hypertension	Mid-30s	0.172 (0.111)	0.085 (0.293)	0.232 (0.997)	0.077 (0.331)	0.162 (0.245)	0.156 (0.155)	0.102 (0.299)	0.107 (0.255)
Hypertension Factor	Mid-30s	-0.061 (0.416)	-0.172 (0.322)	0.195 (0.997)	0.069 (0.409)	0.177 (0.327)	-0.131 (0.331)	-0.238 (0.283)	-0.177 (0.303)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.64: Treatment Effects on Cholesterol, Female Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High-Density Lipoprotein Chol. (mg/dL)	Mid-30s	2.884 (0.200)	6.218 ( <b>0.073</b> )	10.514 ( <b>0.002</b> )	12.253 ( <b>0.026</b> )	13.513 ( <b>0.003</b> )	0.802 (0.415)	3.996 (0.172)	3.235 (0.250)
Dyslipidemia	Mid-30s	0.051 (0.222)	0.023 (0.404)	-0.080 (0.949)	-0.167 (0.241)	-0.146 (0.230)	0.087 ( <b>0.077</b> )	0.105 ( <b>0.073</b> )	0.089 ( <b>0.055</b> )
Cholesterol Factor	Mid-30s	0.034 (0.443)	0.104 (0.348)	0.568 ( <b>0.002</b> )	0.611 (0.112)	0.599 ( <b>0.090</b> )	-0.111 (0.291)	-0.090 (0.356)	-0.078 (0.376)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.65: Treatment Effects on Diabetes, Female Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hemoglobin Level (%)	Mid-30s	-0.277 (0.159)	-0.063 (0.329)	-0.176 (0.997)	-0.063 (0.294)	-0.143 (0.165)	-0.305 (0.183)	-0.074 (0.331)	-0.313 (0.210)
Prediabetes	Mid-30s	0.088 (0.264)	0.222 <b>(0.044)</b>	0.076 <b>(0.001)</b>	0.207 (0.111)	0.088 (0.361)	0.091 (0.261)	0.217 <b>(0.073)</b>	0.109 (0.233)
Diabetes	Mid-30s	-0.071 <b>(0.072)</b>	-0.047 <b>(0.096)</b>				-0.091 <b>(0.078)</b>	-0.064 <b>(0.094)</b>	-0.092 <b>(0.063)</b>
Diabetes Factor	Mid-30s	-0.207 (0.205)	-0.016 (0.453)	-0.024 (0.975)	0.058 (0.386)	-0.048 (0.376)	-0.257 (0.186)	-0.065 (0.371)	-0.269 (0.195)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.66: Treatment Effects on Obesity, Female Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Measured BMI	Mid-30s	3.545 (0.111)	5.382 <b>(0.045)</b>	1.937 (0.997)	3.345 (0.213)	1.970 (0.271)	3.983 <b>(0.097)</b>	6.187 <b>(0.040)</b>	4.710 <b>(0.063)</b>
Obesity	Mid-30s	-0.111 (0.462)	0.099 (0.231)	-0.261 <b>(0.002)</b>	-0.173 <b>(0.070)</b>	-0.199 <b>(0.023)</b>	0.057 (0.348)	0.183 (0.112)	0.109 (0.212)
Severe Obesity	Mid-30s	-0.045 (0.373)	0.017 (0.451)	0.014 (0.997)	0.062 (0.398)	0.019 (0.481)	-0.061 (0.337)	0.006 (0.460)	-0.039 (0.402)
Waist-hip Ratio	Mid-30s	-0.022 (0.255)	0.008 (0.427)	-0.076 <b>(0.001)</b>	-0.077 (0.181)	-0.072 (0.147)	-0.007 (0.410)	0.040 (0.146)	0.015 (0.323)
Abdominal Obesity	Mid-30s	-0.159 (0.119)	0.015 (0.444)	-0.381 <b>(0.001)</b>	-0.261 <b>(0.049)</b>	-0.285 <b>(0.009)</b>	-0.095 (0.260)	0.106 (0.260)	0.022 (0.446)
Framingham Risk Score	Mid-30s	-0.259 (0.121)	-0.233 (0.151)	-0.488 <b>(0.001)</b>	-0.596 <b>(0.080)</b>	-0.525 (0.115)	-0.197 (0.199)	-0.155 (0.239)	-0.220 (0.179)
Obesity Factor	Mid-30s	-0.006 (0.484)	-0.272 (0.262)	0.433 (0.997)	0.299 <b>(0.002)</b>	0.365 (0.218)	-0.132 (0.336)	-0.480 (0.230)	-0.256 (0.256)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.67: Treatment Effects on Mental Health  $t$ -Score, Female Sample

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Somatization $t$ -Score	21	-2.671 (0.143)	-1.944 (0.254)	-4.893 (0.169)	-3.896 (0.229)	-4.836 (0.159)	-2.258 (0.181)	-1.475 (0.330)	-2.169 (0.222)
	Mid-30s	0.724 (0.402)	2.858 (0.134)	-0.014 <b>(0.002)</b>	-0.715 (0.385)	0.571 (0.495)	0.925 (0.385)	2.425 (0.173)	1.715 (0.319)
Depression $t$ -Score	21	-5.649 <b>(0.007)</b>	-5.129 <b>(0.033)</b>	-9.358 <b>(0.005)</b>	-8.953 <b>(0.018)</b>	-9.421 <b>(0.006)</b>	-4.406 <b>(0.050)</b>	-3.599 (0.129)	-4.090 <b>(0.080)</b>
	Mid-30s	-2.466 (0.202)	-1.186 (0.339)	-0.109 <b>(0.002)</b>	-1.014 (0.354)	-0.058 (0.462)	-3.109 (0.146)	-2.385 (0.194)	-3.032 (0.169)
Anxiety $t$ -Score	21	-6.163 <b>(0.009)</b>	-5.724 <b>(0.023)</b>	-9.552 <b>(0.012)</b>	-8.196 <b>(0.056)</b>	-8.964 <b>(0.021)</b>	-5.244 <b>(0.024)</b>	-4.317 <b>(0.096)</b>	-4.381 <b>(0.068)</b>
	Mid-30s	-4.564 <b>(0.056)</b>	-3.287 (0.125)	-3.457 (0.996)	-4.824 (0.205)	-3.764 (0.250)	-4.866 <b>(0.052)</b>	-4.313 <b>(0.074)</b>	-5.627 <b>(0.045)</b>
Hostility $t$ -Score	21	-4.721 <b>(0.008)</b>	-5.636 <b>(0.001)</b>	-10.732 <b>(0.000)</b>	-9.838 <b>(0.000)</b>	-10.536 <b>(0.000)</b>	-3.299 <b>(0.061)</b>	-3.851 <b>(0.061)</b>	-2.934 <b>(0.097)</b>
	Mid-30s	0.512 (0.435)	1.341 (0.331)	-0.797 <b>(0.002)</b>	-2.840 (0.310)	-0.701 (0.433)	0.870 (0.409)	1.276 (0.349)	1.561 (0.318)
Global Severity Index $t$ -Score	21	-6.436 <b>(0.006)</b>	-5.741 <b>(0.017)</b>	-11.241 <b>(0.000)</b>	-8.981 <b>(0.010)</b>	-10.878 <b>(0.001)</b>	-5.472 <b>(0.017)</b>	-4.092 <b>(0.099)</b>	-4.605 <b>(0.051)</b>
Global Severity Index $t$ -Score (BSI 18)	Mid-30s	-2.365 (0.272)	0.006 (0.479)	0.290 (0.998)	-0.886 (0.386)	0.330 (0.515)	-3.089 (0.206)	-1.529 (0.310)	-3.112 (0.202)
BSI Factor	21 to Mid-30s	-0.624 <b>(0.007)</b>	-0.289 (0.197)	-0.747 <b>(0.001)</b>	-0.669 (0.997)	-0.677 (0.145)	-0.589 <b>(0.023)</b>	-0.283 (0.216)	-0.552 <b>(0.035)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

## D.10 Treatment Effects for Pooled Sample, Step Down

In the tables with step down, we follow Romano and Wolf (2005) to account for multiple hypotheses. This method allows us to confirm that we are not falsely rejecting hypotheses by virtue of the number of hypotheses alone.

Table D.68: Treatment Effects on IQ Scores, Pooled Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Std. IQ Test	2	10.116 <b>(0.001)</b>	10.121 <b>(0.001)</b>	10.609 <b>(0.001)</b>	10.826 <b>(0.001)</b>	11.810 <b>(0.002)</b>	9.863 <b>(0.001)</b>	9.937 <b>(0.001)</b>	10.216 <b>(0.001)</b>	
	3	13.450 <b>(0.001)</b>	13.557 <b>(0.001)</b>	19.242 <b>(0.001)</b>	19.794 <b>(0.001)</b>	21.539 <b>(0.001)</b>	11.314 <b>(0.001)</b>	11.507 <b>(0.001)</b>	11.778 <b>(0.001)</b>	
	3.5	8.387 <b>(0.001)</b>	7.881 <b>(0.001)</b>	11.255 <b>(0.001)</b>	11.234 <b>(0.001)</b>	12.349 <b>(0.002)</b>	7.276 <b>(0.003)</b>	6.727 <b>(0.010)</b>	7.006 <b>(0.008)</b>	
	4	9.166 <b>(0.001)</b>	8.897 <b>(0.001)</b>	11.985 <b>(0.004)</b>	12.068 <b>(0.005)</b>	13.778 <b>(0.002)</b>	8.149 <b>(0.002)</b>	7.921 <b>(0.008)</b>	8.528 <b>(0.004)</b>	
	4.5	8.380 <b>(0.001)</b>	7.911 <b>(0.001)</b>	13.287 <b>(0.001)</b>	13.110 <b>(0.001)</b>	14.416 <b>(0.002)</b>	6.717 <b>(0.006)</b>	6.130 <b>(0.013)</b>	6.825 <b>(0.014)</b>	
	5	6.362 <b>(0.004)</b>	5.425 <b>(0.019)</b>	8.310 <b>(0.040)</b>	8.297 <b>(0.047)</b>	9.486 <b>(0.030)</b>	5.760 <b>(0.016)</b>	4.575 <b>(0.077)</b>	5.592 <b>(0.024)</b>	
	6.6	5.956 <b>(0.013)</b>	5.610 <b>(0.031)</b>	4.088 <b>(0.371)</b>	5.295 <b>(0.247)</b>	5.103 <b>(0.284)</b>	5.850 <b>(0.024)</b>	5.333 <b>(0.055)</b>	6.053 <b>(0.023)</b>	
	7	5.373 <b>(0.028)</b>	5.248 <b>(0.038)</b>	6.575 <b>(0.131)</b>	6.343 <b>(0.137)</b>	5.188 <b>(0.284)</b>	5.066 <b>(0.038)</b>	5.005 <b>(0.077)</b>	5.531 <b>(0.047)</b>	
	8	4.932 <b>(0.028)</b>	4.444 <b>(0.071)</b>	2.570 <b>(0.490)</b>	4.824 <b>(0.324)</b>	4.682 <b>(0.323)</b>	4.948 <b>(0.038)</b>	3.920 <b>(0.120)</b>	4.822 <b>(0.059)</b>	
	12	4.524 <b>(0.028)</b>	2.691 <b>(0.196)</b>	3.251 <b>(0.371)</b>	2.785 <b>(0.389)</b>	2.752 <b>(0.392)</b>	4.766 <b>(0.038)</b>	2.792 <b>(0.174)</b>	3.574 <b>(0.094)</b>	
	15	5.771 <b>(0.026)</b>	3.294 <b>(0.196)</b>	1.497 <b>(0.490)</b>	0.577 <b>(0.446)</b>	0.553 <b>(0.441)</b>	6.522 <b>(0.035)</b>	4.021 <b>(0.164)</b>	5.118 <b>(0.068)</b>	
	21	4.425 <b>(0.028)</b>	1.670 <b>(0.196)</b>	4.549 <b>(0.048)</b>	2.747 <b>(0.254)</b>	3.129 <b>(0.176)</b>	4.353 <b>(0.038)</b>	1.682 <b>(0.211)</b>	2.340 <b>(0.120)</b>	
	IQ Factor	2 to 5	0.785 <b>(0.001)</b>	0.752 <b>(0.001)</b>	1.056 <b>(0.003)</b>	1.061 <b>(0.005)</b>	1.177 <b>(0.006)</b>	0.705 <b>(0.002)</b>	0.660 <b>(0.003)</b>	0.714 <b>(0.005)</b>
		6 to 12	0.446 <b>(0.028)</b>	0.368 <b>(0.196)</b>	0.432 <b>(0.371)</b>	0.492 <b>(0.324)</b>	0.460 <b>(0.320)</b>	0.449 <b>(0.038)</b>	0.336 <b>(0.193)</b>	0.447 <b>(0.096)</b>
		15 to 21	-0.489 <b>(0.013)</b>	-0.233 <b>(0.196)</b>	-0.312 <b>(0.305)</b>	-0.174 <b>(0.389)</b>	-0.194 <b>(0.392)</b>	-0.517 <b>(0.028)</b>	-0.264 <b>(0.193)</b>	-0.347 <b>(0.094)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.69: Treatment Effects on Achievement Scores, Pooled Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Std. Achv. Test	5.5	8.029 <b>(0.005)</b>	7.480 <b>(0.020)</b>	14.284 <b>(0.002)</b>	15.582 <b>(0.001)</b>	14.192 <b>(0.002)</b>	6.223 <b>(0.037)</b>	4.844 (0.193)	5.818 <b>(0.094)</b>	
	6	4.543 <b>(0.008)</b>	4.670 <b>(0.002)</b>	6.178 <b>(0.067)</b>	6.638 <b>(0.045)</b>	6.639 <b>(0.040)</b>	4.075 <b>(0.021)</b>	4.035 <b>(0.003)</b>	4.412 <b>(0.005)</b>	
	6.5	2.767 <b>(0.068)</b>	2.706 (0.132)	2.049 (0.444)	1.922 (0.363)	2.103 (0.358)	2.931 <b>(0.100)</b>	2.962 (0.193)	3.606 <b>(0.094)</b>	
	7	3.435 <b>(0.068)</b>	3.349 (0.132)	5.227 (0.444)	5.591 (0.145)	5.812 (0.159)	3.025 (0.119)	2.705 (0.193)	3.589 <b>(0.099)</b>	
	7.5	1.937 (0.147)	2.741 (0.132)	0.667 (0.444)	2.883 (0.362)	3.019 (0.358)	2.838 (0.121)	3.019 (0.193)	3.408 <b>(0.094)</b>	
	8	4.207 <b>(0.050)</b>	5.004 <b>(0.020)</b>	1.630 (0.402)	4.835 (0.204)	4.227 (0.303)	4.959 <b>(0.037)</b>	5.059 <b>(0.025)</b>	5.890 <b>(0.018)</b>	
	8.5	5.938 <b>(0.010)</b>	7.288 <b>(0.002)</b>	5.046 (0.269)	5.780 (0.239)	4.914 (0.353)	5.507 <b>(0.025)</b>	7.217 <b>(0.001)</b>	7.470 <b>(0.004)</b>	
	15	5.163 <b>(0.028)</b>	3.314 (0.132)	5.177 (0.180)	3.892 (0.320)	4.132 (0.303)	5.424 <b>(0.037)</b>	3.156 (0.193)	4.137 <b>(0.094)</b>	
	21	5.217 <b>(0.050)</b>	2.166 (0.176)	4.504 (0.269)	2.099 (0.363)	2.804 (0.358)	5.521 <b>(0.057)</b>	2.184 (0.193)	3.478 (0.104)	
	Achievement Factor	5.5 to 12	0.512 <b>(0.050)</b>	0.526 <b>(0.053)</b>	0.634 (0.180)	0.734 (0.158)	0.688 (0.198)	0.474 <b>(0.057)</b>	0.467 <b>(0.098)</b>	0.516 <b>(0.088)</b>
		15 to 21	-0.460 <b>(0.028)</b>	-0.246 (0.132)	-0.431 (0.218)	-0.271 (0.362)	-0.311 (0.353)	-0.485 <b>(0.037)</b>	-0.239 (0.193)	-0.340 <b>(0.099)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.70: Treatment Effects on HOME Scores, Pooled Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
HOME Score	0.5	1.005 (0.363)	0.100 (0.708)	1.332 (0.254)	0.537 (0.338)	0.889 (0.245)	0.566 (0.830)	-0.148 (0.746)	0.194 (0.949)	
	1.5	1.126 (0.363)	0.434 (0.708)	2.706 (0.161)	1.984 (0.179)	2.964 (0.138)	0.368 (0.830)	-0.090 (0.746)	0.436 (0.908)	
	2.5	0.441 (0.403)	0.348 (0.708)	3.089 <b>(0.063)</b>	3.046 <b>(0.030)</b>	3.731 <b>(0.020)</b>	-0.588 (0.830)	-0.628 (0.693)	-0.048 (0.949)	
	3.5	2.112 (0.363)	1.211 (0.638)	8.288 <b>(0.019)</b>	7.537 <b>(0.024)</b>	8.850 <b>(0.004)</b>	0.306 (0.830)	-0.636 (0.746)	0.325 (0.949)	
	4.5	1.927 (0.363)	0.758 (0.708)	8.156 <b>(0.024)</b>	6.735 <b>(0.024)</b>	8.375 <b>(0.016)</b>	0.146 (0.830)	-0.784 (0.746)	0.337 (0.949)	
	8	1.004 (0.403)	0.590 (0.708)	3.102 (0.254)	4.081 (0.119)	3.646 (0.192)	0.492 (0.830)	-0.480 (0.746)	0.196 (0.949)	
	HOME Factor	0.5 to 8	0.276 (0.323)	0.145 (0.638)	0.751 <b>(0.060)</b>	0.712 <b>(0.048)</b>	0.753 <b>(0.057)</b>	0.158 (0.745)	-0.018 (0.746)	0.199 (0.644)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.71: Treatment Effects on Parental Income, Pooled Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Parental Labor Income	1.5	2,248 (0.336)	2,848 (0.293)	2,860 (0.559)	3,839 (0.438)	5,032 (0.348)	2,177 (0.364)	2,446 (0.463)	3,714 (0.171)
	2.5	516 (0.490)	7,922 (0.639)	-2,177 (0.559)	-1,292 (0.494)	78.136 (0.510)	1,266 (0.449)	139 (0.738)	1,553 (0.370)
	3.5	1,821 (0.356)	1,508 (0.424)	4,270 (0.325)	4,129 (0.434)	5,269 (0.305)	1,247 (0.449)	632 (0.738)	2,106 (0.340)
	4.5	2,336 (0.336)	2,646 (0.338)	4,473 (0.285)	4,762 (0.311)	5,269 (0.256)	1,747 (0.449)	1,655 (0.728)	3,270 (0.250)
	8	7,044 (0.116)	8,115 (0.182)	8,515 (0.995)	8,032 (0.425)	7,237 (0.378)	6,708 (0.181)	8,496 (0.206)	8,200 (0.154)
	12	10,100 <b>(0.092)</b>	13,739 <b>(0.028)</b>	18,585 <b>(0.015)</b>	21,785 <b>(0.024)</b>	18,761 <b>(0.020)</b>	7,929 (0.188)	10,958 (0.128)	11,324 <b>(0.072)</b>
	15	9,596 <b>(0.058)</b>	5,808 (0.293)	5,132 (0.559)	4,723 (0.494)	7,169 (0.473)	10,155 <b>(0.044)</b>	5,272 (0.458)	8,833 (0.171)
	21	9,008 <b>(0.066)</b>	7,627 (0.211)	10,316 (0.995)	12,687 (0.434)	7,952 (0.473)	9,461 <b>(0.059)</b>	7,326 (0.254)	6,880 (0.193)
	Parental Income Factor	1.5 to 21	0.074 (0.490)	0.005 (0.639)	0.450 (0.995)	0.602 (0.992)	0.473 (0.473)	0.013 (0.481)	-0.094 (0.738)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.72: Treatment Effects on Mother's Employment, Pooled Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Mother Works	2	0.114 (0.175)	0.084 (0.381)	0.296 <b>(0.077)</b>	0.277 <b>(0.098)</b>	0.289 <b>(0.074)</b>	0.048 (0.626)	0.027 (0.740)	0.039 (0.632)
	3	0.119 (0.177)	0.095 (0.381)	0.219 (0.143)	0.195 (0.171)	0.210 (0.134)	0.092 (0.376)	0.063 (0.598)	0.087 (0.522)
	4	0.127 (0.127)	0.106 (0.251)	0.306 <b>(0.070)</b>	0.288 <b>(0.098)</b>	0.303 <b>(0.061)</b>	0.076 (0.413)	0.053 (0.598)	0.071 (0.543)
	5	0.089 (0.245)	0.070 (0.418)	0.342 <b>(0.060)</b>	0.317 <b>(0.098)</b>	0.358 <b>(0.049)</b>	0.005 (0.626)	-0.024 (0.740)	0.017 (0.632)
	21	-0.040 (0.317)	-0.062 (0.418)	0.180 (0.162)	0.148 (0.195)	0.154 (0.189)	-0.075 (0.626)	-0.096 (0.573)	-0.089 (0.610)
Mother Works Factor	2 to 21	-0.275 (0.245)	-0.197 (0.418)	-0.793 (0.143)	-0.749 (0.171)	-0.796 (0.134)	-0.129 (0.626)	-0.020 (0.740)	-0.128 (0.632)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.73: Treatment Effects on Father at Home, Pooled Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Father at Home	2	-0.010 (0.523)	0.019 (0.714)	-0.187 (0.144)	-0.186 (0.126)	-0.173 (0.207)	0.047 (0.667)	0.102 (0.233)	0.130 (0.135)
	3	-0.076 (0.377)	-0.056 (0.618)	-0.291 <b>(0.035)</b>	-0.291 <b>(0.034)</b>	-0.285 <b>(0.052)</b>	0.002 (0.855)	0.040 (0.394)	0.079 (0.226)
	4	-0.071 (0.427)	-0.050 (0.662)	-0.331 <b>(0.025)</b>	-0.327 <b>(0.034)</b>	-0.320 <b>(0.025)</b>	0.021 (0.801)	0.054 (0.363)	0.101 (0.218)
	5	-0.093 (0.321)	-0.071 (0.520)	-0.369 <b>(0.019)</b>	-0.379 <b>(0.019)</b>	-0.367 <b>(0.013)</b>	-0.006 (0.855)	0.029 (0.394)	0.062 (0.226)
	8	0.052 (0.523)	-0.009 (0.714)	-0.124 (0.200)	-0.183 (0.126)	-0.181 (0.207)	0.113 (0.244)	0.070 (0.354)	0.096 (0.218)
Father at Home Factor	2 to 8	-0.139 (0.523)	-0.129 (0.662)	-0.776 <b>(0.031)</b>	-0.801 <b>(0.034)</b>	-0.781 <b>(0.023)</b>	0.069 (0.794)	0.114 (0.394)	0.241 (0.218)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.74: Treatment Effects on Education, Pooled Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Graduated High School	30	0.164 (0.111)	0.094 (0.479)	0.390 <b>(0.011)</b>	0.335 <b>(0.034)</b>	0.351 <b>(0.029)</b>	0.103 (0.382)	0.029 (0.634)	0.059 (0.443)
Attended Voc./Tech./Com. College	30	-0.091 (0.402)	-0.138 (0.298)	0.000 (0.525)	-0.016 (0.549)	-0.044 (0.526)	-0.100 (0.382)	-0.177 (0.175)	-0.152 (0.246)
Graduated 4-year College	30	0.161 <b>(0.073)</b>	0.124 (0.298)	0.188 (0.118)	0.148 (0.272)	0.175 (0.132)	0.148 (0.157)	0.114 (0.363)	0.120 (0.263)
Years of Edu.	30	1.367 <b>(0.004)</b>	1.156 <b>(0.021)</b>	2.513 <b>(0.002)</b>	2.380 <b>(0.002)</b>	2.424 <b>(0.001)</b>	0.986 <b>(0.058)</b>	0.785 (0.205)	0.886 (0.113)
Ever Had Special Education by Grade 5	21	0.001 (0.496)	0.024 (0.715)	0.153 (0.384)	0.118 (0.509)	0.127 (0.446)	-0.030 (0.382)	-0.005 (0.634)	-0.040 (0.443)
Total Number of Special Education by Grade 5	21	-0.547 (0.402)	-0.070 (0.715)	0.977 (0.362)	0.911 (0.416)	0.975 (0.357)	-0.844 (0.382)	-0.341 (0.634)	-0.849 (0.352)
Ever Retained by Grade 5	21	-0.170 (0.111)	-0.172 (0.148)	-0.175 (0.362)	-0.175 (0.370)	-0.176 (0.357)	-0.170 (0.157)	-0.173 (0.175)	-0.184 (0.175)
Total Number of Retention by Grade 5	21	-0.152 (0.307)	-0.097 (0.501)	-0.086 (0.525)	-0.062 (0.549)	-0.069 (0.526)	-0.156 (0.370)	-0.107 (0.493)	-0.156 (0.336)
Education Factor	21 to 30	0.449 (0.124)	0.337 (0.298)	0.557 (0.166)	0.505 (0.214)	0.504 (0.214)	0.380 (0.251)	0.279 (0.363)	0.331 (0.270)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.75: Treatment Effects on Subject Employment and Income, Pooled Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Employed	30	0.125 (0.142)	0.131 (0.136)	0.164 (0.321)	0.193 (0.215)	0.204 (0.236)	0.111 (0.296)	0.128 (0.254)	0.162 (0.104)
Labor Income	21	167 (0.453)	-1,173 (0.379)	1,577 (0.536)	1,296 (0.420)	1,250 (0.369)	-429 (0.418)	-2,210 (0.543)	-1,406 (0.395)
	30	12,377 (0.181)	10,821 (0.379)	17,677 (0.133)	16,943 (0.215)	18,512 (0.155)	10,847 (0.296)	8,383 (0.543)	11,000 (0.395)
Public-Transfer Income	21	-728 (0.333)	-982 (0.379)	-247 (0.536)	-1,018 (0.420)	-1,615 (0.346)	-1,054 (0.296)	-948 (0.543)	-820 (0.395)
	30	-1,832 <b>(0.083)</b>	-927 (0.379)	-1,613 (0.321)	-1,344 (0.376)	-1,451 (0.346)	-1,483 (0.296)	-534 (0.543)	-1,125 (0.395)
Employment Factor	21 to 30	0.513 (0.223)	0.416 (0.379)	0.568 (0.321)	0.596 (0.376)	0.612 (0.346)	0.464 (0.296)	0.344 (0.532)	0.468 (0.395)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.76: Treatment Effects on Marriage, Pooled Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Married	30	0.060 (0.235)	0.033 (0.347)	0.036 (0.405)	0.036 (0.412)	0.019 (0.446)	0.089 (0.153)	0.046 (0.309)	0.060 (0.266)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.77: Treatment Effects on Crime, Pooled Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total Felony Arrests	Mid-30s	0.045 (0.554)	0.239 (0.417)	-0.132 (0.488)	0.231 (0.624)	0.210 (0.493)	0.112 (0.501)	0.228 (0.583)	0.187 (0.449)
Total Misdemeanor Arrests	Mid-30s	-0.689 (0.149)	-0.425 (0.376)	-1.445 (0.203)	-1.164 (0.382)	-1.270 (0.333)	-0.546 (0.238)	-0.249 (0.583)	-0.308 (0.449)
Total Years Incarcerated	30	0.167 (0.200)	0.231 (0.251)	0.284 <b>(0.038)</b>	0.320 <b>(0.077)</b>	0.369 <b>(0.035)</b>	0.157 (0.263)	0.227 (0.307)	0.216 (0.279)
Crime Factor	30 to Mid-30s	0.035 (0.554)	0.100 (0.417)	-0.048 (0.488)	-0.001 (0.624)	0.001 (0.541)	0.068 (0.501)	0.136 (0.583)	0.153 (0.449)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.78: Treatment Effects on Tobacco, Drugs, Alcohol, Pooled Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cig. Smoked per day last month	30	0.033 (0.726)	-0.054 (0.631)	-0.826 (0.532)	-0.966 (0.631)	-0.794 (0.703)	0.434 (0.653)	0.494 (0.549)	0.435 (0.569)
Days drank alcohol last month	30	0.244 (0.726)	0.406 (0.631)	-0.156 (0.544)	-0.052 (0.631)	0.127 (0.749)	0.208 (0.653)	0.390 (0.549)	0.627 (0.569)
Days binge drank alcohol last month	30	0.085 (0.726)	0.404 (0.538)	-0.267 (0.544)	-0.140 (0.631)	-0.116 (0.749)	0.151 (0.653)	0.606 (0.397)	0.393 (0.508)
Self-reported drug user	Mid-30s	-0.142 (0.231)	-0.154 (0.164)	-0.253 (0.305)	-0.269 (0.273)	-0.275 (0.248)	-0.090 (0.571)	-0.082 (0.503)	-0.115 (0.406)
Substance Use Factor	30 to Mid-30s	0.169 (0.527)	0.249 (0.538)	0.339 (0.478)	0.299 (0.631)	0.375 (0.528)	0.141 (0.594)	0.278 (0.503)	0.202 (0.508)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.79: Treatment Effects on Hypertension, Pooled Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Systolic Blood Pressure (mm Hg)	Mid-30s	-5.625 (0.173)	-7.664 (0.139)	5.375 (0.501)	4.815 (0.621)	3.749 (0.708)	-9.437 <b>(0.064)</b>	-12.818 <b>(0.039)</b>	-11.155 <b>(0.035)</b>
Diastolic Blood Pressure (mm Hg)	Mid-30s	-5.312 (0.117)	-5.556 (0.139)	-1.424 (0.842)	-0.497 (0.831)	-2.191 (0.740)	-7.219 <b>(0.064)</b>	-7.821 <b>(0.081)</b>	-8.195 <b>(0.040)</b>
Prehypertension	Mid-30s	-0.176 <b>(0.039)</b>	-0.182 <b>(0.062)</b>	-0.049 (0.842)	-0.068 (0.831)	-0.063 (0.740)	-0.240 <b>(0.004)</b>	-0.271 <b>(0.007)</b>	-0.252 <b>(0.004)</b>
Hypertension	Mid-30s	-0.036 (0.359)	-0.092 (0.219)	0.083 (0.832)	0.065 (0.831)	0.021 (0.740)	-0.083 (0.226)	-0.141 (0.139)	-0.136 (0.119)
Hypertension Factor	Mid-30s	-0.332 (0.117)	-0.382 (0.139)	0.077 (0.842)	0.103 (0.831)	0.017 (0.740)	-0.501 <b>(0.051)</b>	-0.604 <b>(0.043)</b>	-0.586 <b>(0.040)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.80: Treatment Effects on Cholesterol, Pooled Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High-Density Lipoprotein Chol. (mg/dL)	Mid-30s	3.872 (0.188)	5.756 <b>(0.062)</b>	5.806 (0.114)	7.595 <b>(0.077)</b>	5.785 (0.132)	2.964 (0.358)	5.156 (0.109)	3.302 (0.367)
Dyslipidemia	Mid-30s	0.013 (0.468)	-0.047 (0.287)	0.035 (0.559)	-0.031 (0.425)	-0.013 (0.441)	0.032 (0.647)	-0.020 (0.412)	0.007 (0.750)
Cholesterol Factor	Mid-30s	0.139 (0.468)	0.197 (0.245)	0.183 (0.559)	0.205 (0.326)	0.162 (0.359)	0.070 (0.647)	0.130 (0.376)	0.064 (0.750)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.81: Treatment Effects on Diabetes, Pooled Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hemoglobin Level (%)	Mid-30s	0.003 (0.971)	0.128 (0.574)	0.032 (0.728)	0.051 (0.791)	0.120 (0.659)	-0.029 (0.788)	0.103 (0.635)	0.046 (0.939)
Prediabetes	Mid-30s	0.004 (0.971)	0.002 (0.574)	-0.040 (0.728)	-0.023 (0.791)	-0.034 (0.659)	0.004 (0.788)	0.001 (0.635)	0.008 (0.939)
Diabetes	Mid-30s	-0.002 (0.971)	0.021 (0.574)	0.043 (0.130)	0.033 (0.423)	0.051 (0.127)	-0.015 (0.746)	0.014 (0.635)	-0.003 (0.939)
Diabetes Factor	Mid-30s	-0.000 (0.971)	0.081 (0.574)	0.079 (0.724)	0.044 (0.791)	0.096 (0.659)	-0.040 (0.788)	0.062 (0.635)	-0.013 (0.939)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.82: Treatment Effects on Obesity, Pooled Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Measured BMI	Mid-30s	0.999 (0.834)	2.819 (0.378)	-0.202 (0.469)	1.149 (0.797)	0.721 (0.695)	1.072 (0.892)	3.121 (0.331)	1.832 (0.699)
Obesity	Mid-30s	-0.050 (0.834)	0.056 (0.871)	-0.256 (0.129)	-0.119 (0.759)	-0.143 (0.676)	-0.013 (0.892)	0.085 (0.764)	0.011 (0.899)
Severe Obesity	Mid-30s	-0.126 (0.406)	-0.048 (0.871)	-0.093 (0.451)	-0.052 (0.797)	-0.065 (0.695)	-0.147 (0.375)	-0.058 (0.764)	-0.107 (0.699)
Waist-hip Ratio	Mid-30s	-0.006 (0.834)	-0.001 (0.871)	-0.037 (0.451)	-0.041 (0.759)	-0.039 (0.676)	0.003 (0.892)	0.009 (0.764)	0.012 (0.801)
Abdominal Obesity	Mid-30s	-0.091 (0.663)	-0.034 (0.871)	-0.230 (0.176)	-0.167 (0.478)	-0.191 (0.361)	-0.041 (0.892)	0.028 (0.764)	0.002 (0.899)
Framingham Risk Score	Mid-30s	0.348 (0.834)	-0.323 (0.871)	0.948 (0.345)	0.350 (0.797)	0.905 (0.492)	0.351 (0.892)	-0.505 (0.764)	0.087 (0.899)
Obesity Factor	Mid-30s	0.068 (0.834)	-0.090 (0.871)	0.360 (0.451)	0.251 (0.797)	0.337 (0.676)	0.002 (0.892)	-0.195 (0.764)	-0.061 (0.899)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.



Table D.83: Treatment Effects on Mental Health  $t$ -Score, Pooled Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Somatization $t$ -Score	21	-2.709 (0.181)	-2.978 (0.250)	-4.304 (0.324)	-4.393 (0.281)	-4.629 (0.277)	-2.258 (0.303)	-2.460 (0.389)	-3.004 (0.247)
	Mid-30s	-1.057 (0.418)	-0.159 (0.535)	-2.144 (0.727)	-1.831 (0.734)	-2.072 (0.676)	-0.950 (0.441)	-0.055 (0.508)	-0.679 (0.454)
Depression $t$ -Score	21	-4.213 <b>(0.061)</b>	-3.221 (0.250)	-4.297 (0.352)	-3.969 (0.415)	-4.334 (0.323)	-4.058 <b>(0.100)</b>	-3.061 (0.330)	-3.668 (0.172)
	Mid-30s	-1.904 (0.329)	-1.789 (0.333)	1.064 (0.738)	0.448 (0.734)	0.468 (0.676)	-2.974 (0.303)	-3.163 (0.335)	-3.154 (0.307)
Anxiety $t$ -Score	21	-2.749 (0.217)	-2.319 (0.326)	-2.996 (0.534)	-2.804 (0.559)	-2.941 (0.529)	-2.638 (0.303)	-2.092 (0.445)	-2.740 (0.307)
	Mid-30s	-3.399 (0.217)	-3.378 (0.250)	-1.502 (0.738)	-2.337 (0.734)	-2.102 (0.676)	-4.155 (0.230)	-4.473 (0.156)	-4.712 (0.168)
Hostility $t$ -Score	21	-3.256 (0.114)	-2.543 (0.264)	-4.552 (0.352)	-4.015 (0.415)	-4.629 (0.323)	-2.894 (0.230)	-1.852 (0.445)	-2.549 (0.307)
	Mid-30s	-1.091 (0.418)	-0.375 (0.535)	-2.076 (0.727)		-2.428 (0.624)	-1.082 (0.441)	-0.461 (0.508)	-0.834 (0.454)
Global Severity Index $t$ -Score	21	-3.146 (0.157)	-2.736 (0.264)	-4.917 (0.203)	-4.235 (0.276)	-5.096 (0.192)	-2.564 (0.303)	-1.870 (0.445)	-2.851 (0.307)
Global Severity Index $t$ -Score (BSI 18)	Mid-30s	-2.516 (0.166)	-1.571 (0.247)	-0.151 (0.443)	-0.306 (0.428)	-0.532 (0.398)	-3.477 (0.116)	-2.696 (0.150)	-3.436 (0.125)
BSI Factor	21 to Mid-30s	-0.507 <b>(0.028)</b>	-0.323 (0.120)	-0.527 (0.136)	-0.458 (0.185)	-0.478 (0.165)	-0.500 <b>(0.054)</b>	-0.353 (0.134)	-0.468 <b>(0.070)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

## D.11 Treatment Effects for Male Sample, Step Down

Table D.84: Treatment Effects on IQ Scores, Male Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Std. IQ Test	2	9.528	10.360	6.875	8.336	7.950	10.286	10.890	11.078
		<b>(0.003)</b>	<b>(0.003)</b>	(1.000)	(1.000)	(0.183)	<b>(0.004)</b>	<b>(0.002)</b>	<b>(0.002)</b>
	3	13.410	14.748	13.896	16.532	15.487	13.271	14.145	14.301
		<b>(0.001)</b>	<b>(0.001)</b>	(1.000)	(1.000)	<b>(0.027)</b>	<b>(0.001)</b>	<b>(0.001)</b>	<b>(0.001)</b>
	3.5	8.756	8.415	6.354	6.916	6.812	9.443	8.821	9.040
		<b>(0.004)</b>	<b>(0.011)</b>	(1.000)	(1.000)	(0.267)	<b>(0.012)</b>	<b>(0.023)</b>	<b>(0.010)</b>
	4	12.089	12.124	8.950	9.742	9.725	12.986	12.743	13.489
		<b>(0.001)</b>	<b>(0.001)</b>	(1.000)	(1.000)	(0.195)	<b>(0.001)</b>	<b>(0.001)</b>	<b>(0.001)</b>
	4.5	8.508	8.583	10.411	11.182	10.668	7.964	7.748	7.795
		<b>(0.004)</b>	<b>(0.007)</b>	(1.000)	(1.000)	(0.111)	<b>(0.018)</b>	<b>(0.029)</b>	<b>(0.041)</b>
	5	7.697	7.067	4.643	5.116	5.034	8.679	7.716	8.174
		<b>(0.007)</b>	<b>(0.045)</b>	(1.000)	(1.000)	(0.686)	<b>(0.010)</b>	<b>(0.029)</b>	<b>(0.024)</b>
	6.6	5.803	7.865	0.831	5.791	3.506	5.916	7.543	7.496
		(0.131)	<b>(0.038)</b>	(1.000)	(0.237)	(0.747)	<b>(0.097)</b>	<b>(0.048)</b>	<b>(0.061)</b>
	7	4.390	7.015	5.323	9.798	4.834	4.156	6.457	6.525
(0.250)		<b>(0.045)</b>	(1.000)	<b>(0.067)</b>	(0.686)	(0.274)	(0.101)	(0.139)	
8	4.160	5.055	-2.514	2.223	-0.470	4.754	4.986	5.012	
	(0.305)	(0.244)	(1.000)	(0.372)	(0.747)	(0.163)	(0.192)	(0.297)	
12	0.686	-1.041	-0.343	0.210	-0.945	0.943	-1.477	-0.802	
	(0.466)	(0.708)	(1.000)	(1.000)	(0.747)	(0.378)	(0.662)	(0.678)	
15	4.447	3.635	-2.057	-1.598	-2.949	6.202	4.701	4.512	
	(0.232)	(0.400)	(1.000)	(1.000)	(0.711)	(0.111)	(0.323)	(0.371)	
21	1.550	-0.561	0.471	-0.373	-1.522	2.307	-0.512	-0.479	
	(0.466)	(0.708)	(1.000)	(1.000)	(0.747)	(0.378)	(0.662)	(0.678)	
IQ Factor	2 to 5	0.865	0.875	0.735	0.823	0.793	0.903	0.886	0.913
		<b>(0.001)</b>	<b>(0.004)</b>	(1.000)	(1.000)	(0.191)	<b>(0.002)</b>	<b>(0.002)</b>	<b>(0.004)</b>
	6 to 12	0.329	0.333	0.349	0.584	0.348	0.323	0.250	0.291
		(0.332)	(0.506)	(1.000)	(1.000)	(0.747)	(0.352)	(0.635)	(0.594)
15 to 21	-0.276	-0.126	0.063	0.089	0.210	-0.392	-0.175	-0.168	
	(0.321)	(0.708)	(1.000)	(1.000)	(0.712)	(0.247)	(0.662)	(0.678)	

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.85: Treatment Effects on Achievement Scores, Male Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Std. Achv. Test	5.5	5.108	4.236	10.088	12.508	11.727	3.863	1.942	2.391
		(0.241)	(0.623)	(1.000)	<b>(0.080)</b>	(0.128)	(0.398)	(0.834)	(0.726)
	6	3.091	3.560	2.271	4.243	3.318	3.312	3.535	3.668
		(0.280)	(0.242)	(1.000)	(0.492)	(0.860)	(0.228)	(0.202)	(0.141)
	6.5	1.708		-0.892	-0.143	-0.680	2.521	2.599	2.326
		(0.604)		(1.000)	(0.994)	(0.994)	(0.501)	(0.678)	(0.699)
	7	0.622	1.918	0.219	3.342	1.067	0.748	1.280	0.791
		(0.682)	(0.727)	(1.000)	(0.632)	(0.994)	(0.679)	(0.834)	(0.875)
	7.5	0.019	1.586	-2.767	0.422	-1.214	0.799	2.120	2.383
		(0.682)	(0.727)	(1.000)	(0.700)	(0.993)	(0.679)	(0.649)	(0.574)
	8	2.309	4.641	-3.386	1.778	-1.475	3.903	5.691	5.656
		(0.536)	(0.207)	(1.000)	(0.654)	(0.983)	(0.279)	<b>(0.074)</b>	(0.125)
8.5	3.910	6.433	-1.771	1.923	-0.993	4.199	6.804	6.512	
	(0.370)	(0.122)	(1.000)	(0.663)	(0.994)	(0.300)	<b>(0.052)</b>	(0.103)	
15	2.231	1.428	1.379	2.254	0.551	2.532	0.859	0.909	
	(0.536)	(0.727)	(1.000)	(1.000)	(0.994)	(0.501)	(0.834)	(0.875)	
21	1.181	-0.705	1.168	0.489	-0.297	1.356	-1.243	-0.894	
	(0.679)	(0.876)	(1.000)	(1.000)	(0.994)	(0.679)	(0.834)	(0.875)	
Achievement Factor	5.5 to 12	0.271	0.234	0.104	0.199	0.121	0.315	0.245	0.293
		(0.469)	(0.720)	(1.000)	(1.000)	(0.994)	(0.398)	(0.678)	(0.574)
15 to 21	-0.154	-0.038	-0.114	-0.126	-0.014	-0.176	0.011	-0.006	
	(0.604)	(0.876)	(1.000)	(1.000)	(0.994)	(0.590)	(0.834)	(0.875)	

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.86: Treatment Effects on HOME Scores, Male Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HOME Score	0.5	0.372 (0.793)	-0.085 (0.864)	0.944 (0.999)	0.286 (0.987)	0.454 (0.817)	0.143 (0.832)	-0.304 (0.936)	-0.087 (0.920)
	1.5	-0.500 (0.793)	-0.942 (0.803)	0.431 (0.999)	0.153 (0.987)	0.258 (0.817)	-0.766 (0.826)	-1.280 (0.717)	-0.880 (0.843)
	2.5	0.141 (0.793)	0.429 (0.864)	1.654 (0.999)	2.263 (0.987)	2.228 (0.602)	-0.292 (0.832)	-0.153 (0.936)	0.144 (0.920)
	3.5	1.404 (0.761)	0.819 (0.864)	2.897 (0.999)	3.020 (0.350)	2.906 (0.673)	0.962 (0.832)	0.231 (0.936)	0.732 (0.886)
	4.5	1.146 (0.761)	0.286 (0.864)	3.312 (0.209)	2.310 (0.350)	2.833 (0.631)	0.527 (0.832)	-0.301 (0.936)	0.217 (0.920)
	8	1.548 (0.756)	0.400 (0.864)	-0.898 (0.999)	0.346 (0.383)	-1.538 (0.817)	2.062 (0.682)	0.363 (0.936)	0.133 (0.920)
	HOME Factor	0.5 to 8	0.287 (0.554)	0.157 (0.803)	0.131 (0.999)	0.225 (0.987)	0.086 (0.817)	0.320 (0.550)	0.126 (0.891)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.87: Treatment Effects on Parental Income, Male Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Parental Labor Income	1.5	330 (0.915)	274 (0.927)	-1,046 (1.000)	-2,304 (0.830)	-1,154 (0.857)	-9,244 (0.959)	282 (0.955)	860 (0.891)
	2.5	673 (0.915)	-535 (0.927)	-1,167 (1.000)	-2,991 (0.805)	-1,844 (0.855)	478 (0.959)	-527 (0.955)	221 (0.891)
	3.5	1,036 (0.892)	494 (0.927)	3,085 (1.000)	73,862 (1.000)	1,462 (0.857)	112 (0.959)	123 (0.955)	690 (0.891)
	4.5	821 (0.915)	1,213 (0.927)	1,561 (1.000)	2,215 (1.000)	2,570 (0.855)	-81,743 (0.959)	-55,767 (0.955)	1,167 (0.891)
	8	11,786 (0.135)	12,512 (0.226)	6,832 (1.000)	4,631 (0.765)	4,867 (0.855)	13,438 (0.093)	14,709 (0.218)	13,485 (0.189)
	12	7,085 (0.318)	9,625 (0.192)	15,563 (1.000)	18,050 (0.206)	12,639 (0.425)	4,773 (0.670)	6,620 (0.472)	5,383 (0.564)
	15	8,488 (0.288)	4,495 (0.778)	6,697 (1.000)	5,540 (0.825)	4,805 (0.855)	7,603 (0.537)	2,885 (0.911)	4,345 (0.839)
	21	12,732 (0.068)	8,809 (0.456)	1,568 (1.000)	122 (1.000)	-933 (0.857)	15,124 (0.032)	10,784 (0.367)	10,283 (0.240)
Parental Income Factor	1.5 to 21	-0.078 (0.915)	-0.108 (0.927)	0.368 (1.000)	0.807 (1.000)	0.363 (0.855)	-0.125 (0.901)	-0.225 (0.763)	-0.124 (0.891)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.88: Treatment Effects on Mother’s Employment, Male Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Mother Works	2	0.056 (0.445)	0.040 (0.483)	0.264 (1.000)	0.240 (1.000)	0.242 (0.236)	-0.004 (0.653)	-0.024 (0.700)	-0.018 (0.699)
	3	0.150 (0.263)	0.145 (0.366)	0.261 (1.000)	0.240 (1.000)	0.242 (0.236)	0.116 (0.482)	0.110 (0.617)	0.117 (0.567)
	4	0.134 (0.263)	0.125 (0.366)	0.287 (1.000)	0.273 ( <b>0.087</b> )	0.272 (0.203)	0.090 (0.523)	0.077 (0.676)	0.089 (0.578)
	5	0.111 (0.368)	0.100 (0.483)	0.311 (1.000)	0.289 (1.000)	0.291 (0.231)	0.061 (0.592)	0.041 (0.700)	0.054 (0.699)
	21	-0.058 (0.445)	-0.102 (0.483)	-0.086 (1.000)	-0.129 (1.000)	-0.136 (0.310)	-0.036 (0.653)	-0.082 (0.700)	-0.067 (0.699)
Mother Works Factor	2 to 21	-0.341 (0.368)	-0.314 (0.483)	-0.932 (1.000)	-0.893 (1.000)	-0.875 (0.236)	-0.182 (0.592)	-0.115 (0.700)	-0.165 (0.676)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.89: Treatment Effects on Father at Home, Male Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Father at Home	2	-0.018 (0.705)	0.080 (0.723)	-0.282 (1.000)	-0.205 (0.171)	-0.226 (0.184)	0.057 (0.751)	0.169 (0.206)	0.171 (0.197)
	3	-0.076 (0.595)	-0.007 (0.937)	-0.243 (1.000)	-0.192 (0.171)	-0.201 (0.184)	-0.029 (0.832)	0.049 (0.326)	0.071 (0.283)
	4	-0.075 (0.595)	-0.000 (0.937)	-0.339 (1.000)	-0.281 (0.171)	-0.290 (0.171)		0.082 (0.282)	0.104 (0.273)
	5	-0.057 (0.678)	0.021 (0.937)	-0.429 (1.000)	-0.383 (0.171)	-0.379 ( <b>0.072</b> )	0.036 (0.832)	0.127 (0.259)	0.143 (0.252)
	8	0.037 (0.705)	0.012 (0.937)	-0.177 (1.000)	-0.240 (0.171)	-0.300 (0.175)	0.123 (0.495)	0.126 (0.282)	0.129 (0.273)
Father at Home Factor	2 to 8	-0.122 (0.688)	0.048 (0.937)	-0.750 (1.000)	-0.674 (0.171)	-0.647 (0.175)	0.097 (0.832)	0.330 (0.263)	0.372 (0.252)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.90: Treatment Effects on Education, Male Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Graduated High School	30	0.073 (0.653)	0.044 (0.582)	0.114 (1.000)	0.116 (1.000)	0.083 (0.908)	0.077 (0.591)	0.040 (0.597)	0.063 (0.565)
Attended Voc./Tech./Com. College	30	-0.099 (0.653)	-0.169 (0.505)	0.086 (1.000)	0.050 (1.000)	0.020 (0.909)	-0.138 (0.591)	-0.235 (0.278)	-0.233 (0.215)
Graduated 4-year College	30	0.170 (0.280)	0.138 (0.505)	0.124 (1.000)	0.149 (0.219)	0.099 (0.896)	0.179 (0.292)	0.135 (0.538)	0.143 (0.473)
Years of Edu.	30	0.525 (0.564)	0.541 (0.505)	0.857 (1.000)	1.010 (1.000)	0.777 (0.638)	0.385 (0.591)	0.351 (0.597)	0.344 (0.565)
Ever Had Special Education by Grade 5	21	-0.035 (0.653)	-0.062 (0.582)	0.158 (1.000)	0.050 (1.000)	0.128 (0.883)	-0.085 (0.591)	-0.095 (0.597)	-0.100 (0.565)
Total Number of Special Education by Grade 5	21	-0.544 (0.653)	-0.342 (0.582)	0.019 (1.000)	-0.807 (1.000)	0.154 (0.909)	-0.690 (0.591)	-0.300 (0.597)	-0.458 (0.565)
Ever Retained by Grade 5	21	-0.095 (0.653)	-0.150 (0.505)	-0.023 (1.000)	-0.134 (1.000)	-0.061 (0.909)	-0.113 (0.591)	-0.146 (0.504)	-0.154 (0.473)
Total Number of Retention by Grade 5	21	-0.070 (0.653)	-0.114 (0.541)	0.031 (1.000)	-0.094 (1.000)	0.006 (0.909)	-0.096 (0.591)	-0.109 (0.597)	-0.128 (0.565)
Education Factor	21 to 30	0.344 (0.437)	0.328 (0.505)	0.230 (1.000)	0.420 (1.000)	0.219 (0.896)	0.385 (0.431)	0.295 (0.538)	0.375 (0.437)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.91: Treatment Effects on Subject Employment and Income, Male Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Employed	30	0.119 (0.456)	0.196 (0.136)	-0.029 (0.999)	0.108 (1.000)	0.040 (0.567)	0.176 (0.320)	0.237 (0.113)	0.261 <b>(0.080)</b>
Labor Income	21	-1,672 (0.501)	-3,084 (0.449)	-3,951 (0.999)	-5,462 (1.000)	-4,787 (0.475)	-1,527 (0.661)	-3,199 (0.491)	-3,240 (0.461)
	30	19,810 (0.357)	24,365 (0.293)	17,909 (0.999)	25,220 (1.000)	20,611 (0.390)	20,065 (0.324)	23,072 (0.339)	21,836 (0.321)
Public-Transfer Income	21	315 (0.501)	375 (0.449)	1,376 (0.999)	1,543 (0.168)	1,543 (0.390)	-58.901 (0.661)	-51.112 (0.636)	90.060 (0.546)
	30	-530 (0.456)	-462 (0.449)	287 (0.999)	337 (1.000)	347 (0.390)	-279 (0.661)	-215 (0.636)	-245 (0.546)
Employment Factor	21 to 30	0.501 (0.456)	0.635 (0.408)	0.053 (0.999)	0.251 (1.000)	0.102 (0.567)	0.644 (0.408)	0.724 (0.414)	0.693 (0.365)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.92: Treatment Effects on Marriage, Male Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Married	30	0.024 (0.423)	-0.026 (0.420)	0.029 <b>(0.003)</b>	0.053 (0.999)	-0.009 (0.481)	0.053 (0.356)	-0.023 (0.418)	0.003 (0.494)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.93: Treatment Effects on Crime, Male Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total Felony Arrests	Mid-30s	0.196 (0.396)	0.685 (0.429)	0.946 <b>(0.016)</b>	1.523 (0.120)	1.340 <b>(0.081)</b>	0.017 (0.514)	0.481 (0.562)	0.188 (0.434)
Total Misdemeanor Arrests	Mid-30s	-0.501 (0.395)	-0.244 (0.429)	-0.251 <b>(0.016)</b>	-0.298 (0.314)	-0.034 (0.422)	-0.666 (0.337)	-0.246 (0.562)	-0.507 (0.411)
Total Years Incarcerated	30	0.348 (0.261)	0.548 (0.144)	0.553 <b>(0.016)</b>	0.772 <b>(0.052)</b>	0.701 <b>(0.030)</b>	0.338 (0.310)	0.538 (0.194)	0.471 (0.213)
Crime Factor	30 to Mid-30s	0.192 (0.396)	0.397 (0.429)	0.560 <b>(0.016)</b>	0.690 (0.998)	0.649 (0.183)	0.116 (0.514)	0.371 (0.562)	0.226 (0.434)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.94: Treatment Effects on Tobacco, Drugs, Alcohol, Male Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cig. Smoked per day last month	30	0.826 (0.520)	0.395 (0.572)	0.757 (1.000)	-0.259 (1.000)	0.643 (0.695)	1.429 (0.343)	1.270 (0.361)	1.216 (0.384)
Days drank alcohol last month	30	0.805 (0.520)	1.191 (0.572)	-0.186 (1.000)	0.650 (1.000)	0.087 (0.695)	0.944 (0.343)	1.210 (0.368)	1.337 (0.384)
Days binge drank alcohol last month	30	0.500 (0.421)	0.657 (0.369)	0.543 (1.000)	0.458 (1.000)	0.695 (0.421)	0.491 (0.343)	0.729 (0.361)	0.702 (0.347)
Self-reported drug user	Mid-30s	-0.333 <b>(0.092)</b>	-0.438 <b>(0.014)</b>	-0.500 (1.000)	-0.673 <b>(0.010)</b>	-0.557 <b>(0.067)</b>	-0.233 (0.343)	-0.326 (0.102)	-0.330 (0.112)
Substance Use Factor	30 to Mid-30s	0.261 (0.520)	0.237 (0.572)	0.055 (1.000)	0.011 (1.000)	0.074 (0.695)	0.389 (0.343)	0.367 (0.368)	0.414 (0.384)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.95: Treatment Effects on Hypertension, Male Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Systolic Blood Pressure (mm Hg)	Mid-30s	-9.791 (0.196)	-13.275 <b>(0.086)</b>	15.280 (0.990)	14.196 (0.116)	14.976 <b>(0.001)</b>	-19.920 <b>(0.035)</b>	-24.166 <b>(0.010)</b>	-18.559 <b>(0.014)</b>
Diastolic Blood Pressure (mm Hg)	Mid-30s	-10.854 <b>(0.089)</b>	-14.134 <b>(0.012)</b>	-8.640 (0.990)	-9.709 (0.200)	-8.741 (0.168)	-14.240 <b>(0.035)</b>	-18.387 <b>(0.011)</b>	-13.987 <b>(0.014)</b>
Prehypertension	Mid-30s	-0.137 (0.196)	-0.159 (0.154)	0.053 (0.990)	0.082 (0.610)	0.077 (0.771)	-0.280 <b>(0.006)</b>	-0.311 <b>(0.022)</b>	-0.283 <b>(0.012)</b>
Hypertension	Mid-30s	-0.291 (0.115)	-0.377 <b>(0.036)</b>	-0.053 (0.990)	-0.120 (0.610)	-0.074 (0.771)	-0.420 <b>(0.035)</b>	-0.492 <b>(0.018)</b>	-0.434 <b>(0.014)</b>
Hypertension Factor	Mid-30s	-0.643 (0.115)	-0.875 <b>(0.036)</b>	0.070 (0.990)	-0.062 (0.610)	-0.025 (0.771)	-1.044 <b>(0.031)</b>	-1.334 <b>(0.014)</b>	-1.140 <b>(0.014)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.96: Treatment Effects on Cholesterol, Male Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High-Density Lipoprotein Chol. (mg/dL)	Mid-30s	7.753 <b>(0.034)</b>	6.583 (0.104)	-0.267 (0.971)	-2.328 (0.353)	-3.489 (0.277)	9.015 <b>(0.018)</b>	7.542 <b>(0.091)</b>	6.795 <b>(0.060)</b>
Dyslipidemia	Mid-30s	-0.094 (0.246)	-0.165 (0.156)	0.200 (0.971)	0.192 (0.235)	0.198 <b>(0.035)</b>	-0.108 (0.242)	-0.181 (0.163)	-0.150 (0.173)
Cholesterol Factor	Mid-30s	0.477 <b>(0.100)</b>	0.446 (0.156)	-0.344 (0.971)	-0.417 (0.949)	-0.421 (0.135)	0.552 <b>(0.086)</b>	0.514 (0.163)	0.477 (0.132)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.97: Treatment Effects on Diabetes, Male Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hemoglobin Level (%)	Mid-30s	0.322 (0.366)	0.449 (0.389)	0.240 (0.980)	0.320 (0.245)	0.359 (0.445)	0.286 (0.422)	0.416 (0.456)	0.417 (0.380)
Prediabetes	Mid-30s	-0.129 (0.433)	-0.149 (0.389)	-0.267 (0.980)	-0.358 (0.245)	-0.309 (0.445)	-0.138 (0.439)	-0.161 (0.456)	-0.143 (0.419)
Diabetes	Mid-30s	0.080 (0.109)	0.093 (0.177)	0.080 (0.980)	0.078 (0.245)	0.095 (0.079)	0.080 (0.124)	0.097 (0.181)	0.095 (0.115)
Diabetes Factor	Mid-30s	0.218 (0.433)	0.271 (0.389)	0.106 (0.980)	0.076 (0.245)	0.163 (0.445)	0.199 (0.439)	0.267 (0.456)	0.259 (0.419)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.98: Treatment Effects on Obesity, Male Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Measured BMI	Mid-30s	-0.125 (0.952)	0.427 (0.895)	-0.684 (0.996)	0.694 (0.828)	0.903 (0.778)	-0.627 (0.917)	-0.208 (0.791)	-0.481 (0.851)
Obesity	Mid-30s	0.000 (0.952)	0.017 (0.895)	-0.128 (0.996)	-0.011 (0.828)	0.034 (0.778)	-0.017 (0.917)	-0.026 (0.791)	-0.060 (0.851)
Severe Obesity	Mid-30s	-0.160 (0.537)	-0.106 (0.772)	-0.185 (0.996)	-0.122 (0.824)	-0.125 (0.778)	-0.185 (0.519)	-0.122 (0.698)	-0.131 (0.673)
Waist-hip Ratio	Mid-30s	0.005 (0.952)	-0.002 (0.895)	0.018 (0.996)	0.031 (0.824)	0.022 (0.778)	-0.002 (0.917)	-0.015 (0.759)	-0.006 (0.851)
Abdominal Obesity	Mid-30s	0.003 (0.952)	-0.071 (0.861)	0.029 (0.996)	-0.005 (0.828)	0.046 (0.778)	0.029 (0.917)	-0.049 (0.791)	-0.021 (0.851)
Framingham Risk Score	Mid-30s	-0.766 (0.736)	-0.294 (0.895)	1.491 (0.996)	1.874 (0.395)	1.811 (0.348)	-1.202 (0.569)	-0.717 (0.759)	-0.700 (0.812)
Obesity Factor	Mid-30s	0.054 (0.952)	0.087 (0.895)	0.064 (0.996)	0.014 (0.828)	0.087 (0.778)	0.122 (0.917)	0.170 (0.791)	0.143 (0.851)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.99: Treatment Effects on Mental Health  $t$ -Score, Male Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Somatization $t$ -Score	21	-2.804 (0.518)	-3.813 (0.352)	-3.718 (1.000)	-4.711 (1.000)	-4.358 (0.527)	-2.295 (0.649)	-3.255 (0.539)	-3.818 (0.326)
	Mid-30s	-3.066 (0.706)	-2.950 (0.703)	-4.852 (1.000)	-4.501 (0.532)	-4.912 (0.585)	-3.252 (0.672)	-2.867 (0.752)	-3.046 (0.611)
Depression $t$ -Score	21	-2.515 (0.620)	-1.499 (0.830)	1.649 (1.000)	1.632 (1.000)	1.645 (0.703)	-3.636 (0.389)	-2.460 (0.692)	-3.121 (0.424)
	Mid-30s	-1.042 (0.750)	-1.436 (0.836)	3.148 (1.000)	3.760 (0.485)	1.942 (0.700)	-2.985 (0.677)	-3.246 (0.752)	-2.961 (0.611)
Anxiety $t$ -Score	21	0.400 (0.750)	0.352 (0.836)	3.857 (1.000)	2.356 (1.000)	3.396 (0.676)	-0.333 (0.784)	-0.301 (0.817)	-1.366 (0.611)
	Mid-30s	-1.847 (0.750)	-2.114 (0.830)	1.630 (1.000)	2.105 (0.608)	0.720 (0.703)	-3.504 (0.672)	-3.559 (0.719)	-3.390 (0.611)
Hostility $t$ -Score	21	-1.471 (0.750)	-0.687 (0.836)	2.941 (1.000)	1.813 (1.000)	2.618 (0.700)	-2.251 (0.649)	-0.950 (0.817)	-1.812 (0.611)
	Mid-30s	-1.556 (0.750)	-2.073 (0.830)	-1.889 (1.000)	-1.396 (0.608)	-2.708 (0.700)	-2.156 (0.739)	-2.639 (0.782)	-2.486 (0.611)
Global Severity Index $t$ -Score	21	0.246 (0.750)	0.477 (0.836)	1.978 (1.000)	1.551 (0.608)	0.495 (0.703)	0.330 (0.784)	0.989 (0.817)	-0.970 (0.611)
Global Severity Index $t$ -Score (BSI 18)	Mid-30s	-1.675 (0.438)	-1.771 (0.430)	0.111 (0.978)	0.866 (0.382)	-0.584 (0.740)	-2.989 (0.371)	-2.916 (0.360)	-2.793 (0.372)
BSI Factor	21 to Mid-30s	-0.130 (0.438)	-0.008 (0.468)	-0.025 (0.978)	0.107 (0.951)	0.005 (0.740)	-0.170 (0.371)	-0.032 (0.435)	-0.140 (0.372)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

## D.12 Treatment Effects for Female Sample, Step Down

Table D.100: Treatment Effects on IQ Scores, Female Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Std. IQ Test	2	10.700	9.752	13.949	15.675	15.284	9.431	8.035	9.353
		<b>(0.001)</b>	<b>(0.002)</b>	<b>(0.003)</b>	<b>(0.004)</b>	<b>(0.001)</b>	<b>(0.007)</b>	<b>(0.010)</b>	<b>(0.007)</b>
	3	13.333	12.462	23.729	26.222	26.738	9.211	8.146	9.189
		<b>(0.004)</b>	<b>(0.002)</b>	<b>(0.003)</b>	<b>(0.004)</b>	<b>(0.001)</b>	<b>(0.037)</b>	(0.106)	<b>(0.049)</b>
	3.5	8.049	6.899	16.187	19.211	18.019	5.049	3.115	4.968
		<b>(0.012)</b>	<b>(0.056)</b>	<b>(0.003)</b>	<b>(0.003)</b>	<b>(0.001)</b>	(0.168)	(0.551)	(0.228)
	4	6.035	5.190	14.812	17.597	17.630	3.007	1.654	3.484
		<b>(0.097)</b>	(0.248)	<b>(0.004)</b>	<b>(0.007)</b>	<b>(0.003)</b>	(0.245)	(0.626)	(0.326)
	4.5	8.162	7.081	16.058	18.631	18.185	5.318	3.121	5.820
		<b>(0.024)</b>	<b>(0.064)</b>	<b>(0.003)</b>	<b>(0.004)</b>	<b>(0.001)</b>	(0.203)	(0.576)	(0.228)
	5	4.921	3.614	12.425	14.882	14.489	2.698	0.374	3.000
		(0.106)	(0.383)	<b>(0.010)</b>	<b>(0.013)</b>	<b>(0.009)</b>	(0.245)	(0.626)	(0.326)
	6.6	6.127		7.339	8.939	6.883	5.773	2.344	4.438
		(0.106)		<b>(0.049)</b>	<b>(0.045)</b>	(0.117)	(0.203)	(0.626)	(0.326)
	7	6.365	3.751	7.796	7.034	5.568	5.992	3.274	4.369
	(0.106)	(0.383)	(1.000)	<b>(0.082)</b>	(0.259)	(0.203)	(0.594)	(0.326)	
8	5.906	4.050	7.857	10.599	9.880	5.360	2.237	4.660	
	(0.106)	(0.383)	<b>(0.049)</b>	<b>(0.021)</b>	<b>(0.047)</b>	(0.203)	(0.626)	(0.326)	
12	8.688	6.843	6.850	6.468	6.435	9.120	7.244	8.432	
	<b>(0.012)</b>	<b>(0.042)</b>	<b>(0.049)</b>	<b>(0.061)</b>	(0.117)	<b>(0.013)</b>	<b>(0.076)</b>	<b>(0.031)</b>	
15	6.467	2.695	6.110	3.413	5.083	6.315	2.481	5.069	
	(0.106)	(0.383)	(1.000)	(1.000)	(0.259)	(0.203)	(0.626)	(0.326)	
21	7.261	4.337	9.440	7.413	8.713	6.485	3.583	5.312	
	<b>(0.024)</b>	(0.248)	(1.000)	(1.000)	<b>(0.007)</b>	<b>(0.095)</b>	(0.483)	(0.195)	
IQ Factor	2 to 5	0.694	0.615	1.367	1.606	1.561	0.488	0.328	0.508
		<b>(0.017)</b>	<b>(0.056)</b>	<b>(0.003)</b>	<b>(0.004)</b>	<b>(0.004)</b>	(0.121)	(0.457)	(0.150)
	6 to 12	0.567	0.439	0.523	0.698	0.580	0.579	0.398	0.606
	(0.106)	(0.383)	(1.000)	(1.000)	(0.259)	(0.203)	(0.541)	(0.305)	
15 to 21	-0.673	-0.352	-0.776	-0.550	-0.692	-0.624	-0.301	-0.507	
	<b>(0.029)</b>	(0.373)	(1.000)	(1.000)	<b>(0.040)</b>	<b>(0.099)</b>	(0.576)	(0.228)	

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.



Table D.101: Treatment Effects on Achievement Scores, Female Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Std. Achv. Test	5.5	12.314 <b>(0.006)</b>	9.870 <b>(0.036)</b>	19.650 <b>(0.010)</b>		18.482 <b>(0.001)</b>	9.869 <b>(0.054)</b>	5.326 (0.353)	11.035 <b>(0.033)</b>	
	6	6.269 <b>(0.023)</b>	6.135 <b>(0.016)</b>	10.379 <b>(0.019)</b>	10.918 <b>(0.014)</b>	9.862 <b>(0.005)</b>	5.018 <b>(0.070)</b>		5.255 <b>(0.047)</b>	
	6.5	3.909 <b>(0.055)</b>	3.859 (0.104)	6.394 (0.994)	6.809 (0.156)	6.030 <b>(0.057)</b>	3.517 <b>(0.094)</b>	3.415 (0.263)	4.934 <b>(0.071)</b>	
	7	6.411 <b>(0.011)</b>	6.411 <b>(0.019)</b>	12.724 (0.994)	12.732 <b>(0.014)</b>	12.633 <b>(0.001)</b>	5.415 <b>(0.054)</b>	5.110 (0.118)	6.476 <b>(0.033)</b>	
	7.5	4.133 <b>(0.084)</b>	2.960 (0.159)	4.300 (0.220)	6.192 (0.156)	6.927 <b>(0.057)</b>	4.082 (0.109)	1.933 (0.375)	4.625 <b>(0.079)</b>	
	8	6.619 <b>(0.049)</b>	5.012 (0.113)	7.125 (0.139)	9.324 <b>(0.082)</b>	9.541 <b>(0.057)</b>	6.465 <b>(0.070)</b>	3.291 (0.353)	6.190 <b>(0.071)</b>	
	8.5	8.407 <b>(0.013)</b>	8.542 <b>(0.016)</b>	12.299 <b>(0.026)</b>	12.302 <b>(0.020)</b>	11.963 <b>(0.016)</b>	7.223 <b>(0.054)</b>	7.668 <b>(0.043)</b>	8.736 <b>(0.008)</b>	
	15	8.275 <b>(0.023)</b>	5.583 (0.104)	9.618 (0.994)	7.114 (0.990)	8.384 <b>(0.005)</b>	8.477 <b>(0.054)</b>	5.120 (0.263)	7.417 <b>(0.071)</b>	
	21	9.116 <b>(0.023)</b>	4.546 (0.159)	8.420 (0.994)	3.921 (0.990)	6.495 <b>(0.057)</b>	9.420 <b>(0.054)</b>	4.554 (0.353)	7.475 <b>(0.071)</b>	
	Achievement Factor	5.5 to 12	0.880 <b>(0.027)</b>	0.875 <b>(0.034)</b>	1.244 <b>(0.034)</b>	1.141 <b>(0.054)</b>	1.330 <b>(0.016)</b>	0.739 <b>(0.070)</b>	0.735 (0.118)	0.848 <b>(0.047)</b>
		15 to 21	-0.769 <b>(0.011)</b>	-0.452 (0.113)	-0.803 (0.994)	-0.498 (0.990)	-0.665 <b>(0.016)</b>	-0.791 <b>(0.023)</b>	-0.431 (0.272)	-0.660 <b>(0.056)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.102: Treatment Effects on HOME Scores, Female Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HOME Score	0.5	1.581 (0.288)	0.380 (0.617)	1.684 (0.169)	0.946 (0.307)	1.264 (0.236)	0.980 (0.742)	-0.045 (0.730)	0.440 (0.930)
	1.5	2.668 (0.136)	2.107 (0.319)	4.729 <b>(0.036)</b>	3.783 (0.107)	5.472 <b>(0.047)</b>	1.544 (0.650)	1.237 (0.730)	1.756 (0.603)
	2.5	0.762 (0.431)	0.760 (0.617)	4.434 <b>(0.008)</b>	5.322 <b>(0.026)</b>	5.173 <b>(0.009)</b>	-0.899 (0.756)	-1.068 (0.730)	-0.252 (0.930)
	3.5	2.858 (0.304)	2.354 (0.508)	13.719 <b>(0.001)</b>	14.981 <b>(0.012)</b>	14.927 <b>(0.002)</b>	-0.309 (0.885)	-1.804 (0.730)	-0.048 (0.930)
	4.5	2.736 (0.318)	1.505 (0.617)	12.957 <b>(0.005)</b>	13.445 <b>(0.026)</b>	13.953 <b>(0.009)</b>	-0.273 (0.885)	-1.703 (0.730)	0.470 (0.930)
	8	0.659 (0.431)	1.112 (0.617)	5.909 (0.998)	8.035 (0.107)	7.078 <b>(0.057)</b>	-0.773 (0.880)	-1.326 (0.730)	0.447 (0.930)
	HOME Factor	0.5 to 8	0.266 (0.355)	0.179 (0.617)	1.162 <b>(0.013)</b>	1.281 <b>(0.045)</b>	1.218 <b>(0.022)</b>	0.010 (0.885)	-0.169 (0.730)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.103: Treatment Effects on Parental Income, Female Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Parental Labor Income	1.5	4,516 (0.310)	6,640 (0.213)	5,865 (1.000)	8,164 (0.246)	9,688 <b>(0.066)</b>	5,069 (0.270)	6,136 (0.311)	7,346 <b>(0.089)</b>	
	2.5	222 (0.505)	591 (0.519)	-3,056 (1.000)	109 (0.709)	1,761 (0.547)	2,254 (0.515)	884 (0.624)	3,240 (0.510)	
	3.5	2,756 (0.447)	2,986 (0.519)	5,146 (1.000)	6,864 (0.249)	8,584 (0.143)	2,802 (0.515)	1,521 (0.624)	3,773 (0.496)	
	4.5	4,039 (0.310)	5,715 (0.250)	7,094 (0.103)	8,260 (0.225)	7,646 (0.143)	3,852 (0.381)	4,953 (0.358)	5,599 (0.129)	
	8	2,181 (0.505)	3,826 (0.519)	13,195 (1.000)	12,683 (0.246)	13,456 (0.105)	528 (0.515)	2,034 (0.624)	2,963 (0.510)	
	12	13,633 (0.310)	19,592 (0.179)	22,294 (1.000)	28,328 (0.124)	26,489 <b>(0.035)</b>	11,570 (0.381)	15,343 (0.358)	18,678 (0.128)	
	15	8,565 (0.310)	7,159 (0.519)	2,829 (1.000)	2,713 (0.709)	8,441 (0.547)	9,819 (0.186)	7,465 (0.504)	10,487 (0.262)	
	21	5,708 (0.402)	8,670 (0.519)	25,270 (1.000)	45,697 <b>(0.009)</b>	25,142 <b>(0.001)</b>	4,446 (0.515)	6,251 (0.589)	3,943 (0.510)	
	Parental Income Factor	1.5 to 21	0.286 (0.447)	0.286 (0.519)	0.554 (1.000)	0.506 (0.709)	0.635 (0.302)	0.219 (0.515)	0.227 (0.615)	0.298 (0.510)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.104: Treatment Effects on Mother's Employment, Female Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Mother Works	2	0.168 (0.163)	0.112 (0.486)	0.323 (0.117)	0.297 (0.223)	0.333 (0.119)	0.101 (0.538)	0.066 (0.619)	0.097 (0.580)
	3	0.087 (0.588)	0.027 (0.868)	0.177 (0.217)	0.139 (0.321)	0.179 (0.186)	0.066 (0.632)	-0.001 (0.818)	0.058 (0.734)
	4	0.118 (0.372)	0.071 (0.734)	0.319 (0.121)	0.287 (0.238)	0.328 (0.126)	0.060 (0.632)	0.025 (0.818)	0.054 (0.734)
	5	0.067 (0.588)	0.038 (0.868)	0.367 (0.116)	0.276 (0.238)	0.422 <b>(0.067)</b>	-0.056 (0.632)	-0.076 (0.552)	-0.024 (0.734)
	21	-0.018 (0.588)	-0.005 (0.868)	0.510 (0.985)	0.497 (0.985)	0.512 <b>(0.077)</b>	-0.097 (0.632)	-0.107 (0.619)	-0.088 (0.708)
Mother Works Factor	2 to 21	-0.207 (0.588)	-0.069 (0.868)	-0.662 (0.217)	-0.527 (0.321)	-0.731 (0.186)	-0.071 (0.632)	-0.081 (0.818)	-0.092 (0.734)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.105: Treatment Effects on Father at Home, Female Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Father at Home	2	-0.012 (0.555)	-0.033 (0.542)	-0.115 (0.274)	-0.118 (0.422)	-0.149 (0.354)	0.034 (0.635)	0.023 (0.902)	0.087 (0.541)
	3	-0.079 (0.528)	-0.098 (0.336)	-0.337 <b>(0.080)</b>	-0.336 <b>(0.099)</b>	-0.371 <b>(0.086)</b>	0.034 (0.635)	0.023 (0.902)	0.087 (0.541)
	4	-0.071 (0.531)	-0.100 (0.343)	-0.330 <b>(0.094)</b>	-0.344 <b>(0.091)</b>	-0.364 <b>(0.087)</b>	0.041 (0.635)	0.025 (0.902)	0.096 (0.511)
	5	-0.139 (0.238)	-0.152 (0.183)	-0.333 <b>(0.094)</b>	-0.324 (0.159)	-0.385 <b>(0.086)</b>	-0.056 (0.635)	-0.069 (0.726)	-0.020 (0.729)
	8	0.056 (0.555)	-0.007 (0.542)	-0.063 (0.999)	-0.072 (0.422)	-0.061 (0.354)	0.092 (0.483)	0.025 (0.902)	0.058 (0.680)
Father at Home Factor	2 to 8	-0.184 (0.531)	-0.253 (0.328)	-0.820 (0.999)	-0.819 (0.999)	-0.943 <b>(0.070)</b>	0.010 (0.635)	-0.042 (0.902)	0.097 (0.729)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.106: Treatment Effects on Education, Female Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Graduated High School	30	0.253 <b>(0.072)</b>	0.131 (0.513)	0.642 <b>(0.001)</b>	0.553 <b>(0.021)</b>	0.595 <b>(0.001)</b>	0.137 (0.537)	-0.026 (0.698)	0.066 (0.701)
Attended Voc./Tech./Com. College	30	-0.057 (0.699)	-0.115 (0.513)	-0.050 (0.503)	-0.109 (0.559)	-0.071 (0.647)	-0.041 (0.585)	-0.127 (0.681)	-0.051 (0.701)
Graduated 4-year College	30	0.134 (0.309)	0.131 (0.504)	0.217 <b>(0.014)</b>		0.219 <b>(0.031)</b>	0.106 (0.537)	0.100 (0.698)	0.093 (0.641)
Years of Edu.	30	2.143 <b>(0.003)</b>	1.843 <b>(0.033)</b>	4.025 <b>(0.001)</b>	3.861 <b>(0.010)</b>	3.923 <b>(0.001)</b>	1.567 <b>(0.040)</b>	1.163 (0.365)	1.409 (0.111)
Ever Had Special Education by Grade 5	21	0.022 (0.699)	0.141 (0.513)	0.133 (0.503)	0.172 (0.559)	0.115 (0.647)	0.018 (0.585)	0.117 (0.698)	0.015 (0.701)
Total Number of Special Education by Grade 5	21	-0.622 (0.699)	0.382 (0.546)	1.725 <b>(0.014)</b>	2.012 <b>(0.098)</b>	1.585 <b>(0.046)</b>	-1.054 (0.553)	-0.242 (0.698)	-1.297 (0.641)
Ever Retained by Grade 5	21	-0.256 <b>(0.094)</b>	-0.237 (0.171)	-0.325 (0.153)	-0.221 (0.440)	-0.279 (0.248)	-0.238 (0.202)	-0.257 (0.231)	-0.214 (0.328)
Total Number of Retention by Grade 5	21	-0.233 (0.371)	-0.098 (0.546)	-0.192 (0.471)	-0.019 (0.617)	-0.125 (0.647)	-0.221 (0.537)	-0.132 (0.698)	-0.180 (0.641)
Education Factor	21 to 30	0.561 (0.245)	0.356 (0.513)	0.841 <b>(0.082)</b>	0.688 (0.254)	0.726 (0.131)	0.420 (0.511)	0.243 (0.698)	0.309 (0.641)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.107: Treatment Effects on Subject Employment and Income, Female Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Employed	30	0.131 (0.261)	0.081 (0.501)	0.333 <b>(0.085)</b>	0.381 (0.108)	0.340 (0.131)	0.056 (0.703)	-0.010 (0.809)	0.070 (0.660)
Labor Income	21	1,741 (0.407)	315 (0.586)	6,932 (0.997)	6,270 (0.150)	7,210 <b>(0.086)</b>	496 (0.703)	-1,741 (0.781)	263 (0.660)
	30	2,548 (0.407)	1,884 (0.586)	14,356 <b>(0.067)</b>	15,094 (0.133)	13,096 <b>(0.086)</b>	-425 (0.703)	-2,677 (0.781)	-2,122 (0.660)
Public-Transfer Income	21	-1,424 (0.261)	-2,389 (0.124)	-1,322 (0.997)	-2,862 (0.101)	-2,875 (0.131)	-1,751 (0.289)	-1,536 (0.484)	-1,481 (0.393)
	30	-2,672 (0.176)	-953 (0.530)	-3,053 <b>(0.085)</b>	-2,762 (0.150)	-2,775 (0.131)	-2,269 (0.353)	-333 (0.809)	-1,603 (0.607)
Employment Factor	21 to 30	0.434 (0.309)	0.292 (0.501)	0.970 (0.997)	1.077 (0.997)	0.999 (0.131)	0.274 (0.614)	0.004 (0.809)	0.244 (0.660)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.108: Treatment Effects on Marriage, Female Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Married	30	0.109 (0.184)	0.122 (0.181)	0.058 (0.391)	0.104 (0.309)	0.065 (0.410)	0.137 (0.132)	0.120 (0.195)	0.132 (0.167)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.109: Treatment Effects on Crime, Female Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total Felony Arrests	Mid-30s	-0.328 (0.134)	-0.351 (0.215)	-1.345 <b>(0.003)</b>	-0.944 (0.167)	-0.965 (0.186)	-0.077 (0.235)	-0.059 (0.432)	0.004 (0.610)
Total Misdemeanor Arrests	Mid-30s	-0.973 (0.134)	-0.737 (0.238)	-2.708 <b>(0.003)</b>	-2.010 (0.167)	-2.451 (0.186)	-0.588 (0.221)	-0.269 (0.432)	-0.201 (0.610)
Total Years Incarcerated	30	-0.024 (0.134)	-0.015 (0.238)				-0.037 (0.221)	-0.019 (0.432)	-0.038 (0.294)
Crime Factor	30 to Mid-30s	-0.239 (0.134)	-0.226 (0.238)	-0.735 <b>(0.003)</b>	-0.677 (0.998)	-0.725 (0.186)	-0.124 (0.223)	-0.052 (0.432)	-0.070 (0.587)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.110: Treatment Effects on Tobacco, Drugs, Alcohol, Female Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cig. Smoked per day last month	30	-0.765 (0.844)	-0.164 (0.857)	-2.338 (0.285)	-2.086 (0.558)	-2.137 (0.457)	-0.530 (0.695)	0.759 (0.610)	-0.296 (0.943)
Days drank alcohol last month	30	-0.742 (0.844)	0.135 (0.857)	-0.567 (0.385)	0.585 (0.745)	-0.259 (0.559)	-0.919 (0.633)	0.196 (0.611)	-0.464 (0.943)
Days binge drank alcohol last month	30	-0.358 (0.844)	0.249 (0.828)	-1.063 (0.341)	-0.106 (0.745)	-0.913 (0.559)	-0.231 (0.695)	0.531 (0.503)	0.035 (0.943)
Self-reported drug user	Mid-30s	-0.033 (0.844)	0.004 (0.857)	-0.116 (0.998)	-0.114 (0.745)	-0.101 (0.559)	-0.010 (0.695)	0.020 (0.611)	0.033 (0.943)
Substance Use Factor	30 to Mid-30s	0.001 (0.844)	0.462 (0.383)	0.362 (0.998)	0.738 (0.273)	0.413 (0.313)	-0.098 (0.695)	0.422 (0.386)	-0.015 (0.943)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.111: Treatment Effects on Hypertension, Female Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Systolic Blood Pressure (mm Hg)	Mid-30s	-2.899 (0.418)	-5.407 (0.569)	1.065 (0.999)	-0.488 (0.832)	-0.822 (0.664)	-3.980 (0.365)	-6.239 (0.578)	-6.784 (0.433)
Diastolic Blood Pressure (mm Hg)	Mid-30s	-0.002 (0.486)	-0.179 (0.643)	4.725 (0.999)	4.091 (0.679)	4.122 (0.659)	-1.291 (0.386)	-1.347 (0.611)	-2.160 (0.569)
Prehypertension	Mid-30s	-0.189 (0.115)	-0.257 <b>(0.062)</b>	-0.094 (0.999)	-0.151 (0.679)	-0.125 (0.664)	-0.215 <b>(0.070)</b>	-0.289 <b>(0.044)</b>	-0.233 <b>(0.071)</b>
Hypertension	Mid-30s	0.172 (0.288)	0.085 (0.643)	0.232 (0.999)	0.077 (0.800)	0.162 (0.664)	0.156 (0.365)	0.102 (0.611)	0.107 (0.569)
Hypertension Factor	Mid-30s	-0.061 (0.486)	-0.172 (0.643)	0.195 (0.999)	0.069 (0.832)	0.177 (0.664)	-0.131 (0.381)	-0.238 (0.611)	-0.177 (0.569)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.112: Treatment Effects on Cholesterol, Female Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High-Density Lipoprotein Chol. (mg/dL)	Mid-30s	2.884 (0.474)	6.218 (0.192)	10.514 (0.951)	12.253 <b>(0.057)</b>	13.513 <b>(0.013)</b>	0.802 (0.573)	3.996 (0.373)	3.235 (0.497)
Dyslipidemia	Mid-30s	0.051 (0.474)	0.023 (0.685)	-0.080 (0.951)	-0.167 (0.242)	-0.146 (0.231)	0.087 (0.149)	0.105 (0.170)	0.089 (0.126)
Cholesterol Factor	Mid-30s	0.034 (0.474)	0.104 (0.685)	0.568 (0.951)	0.611 (0.146)	0.599 (0.127)	-0.111 (0.573)	-0.090 (0.373)	-0.078 (0.497)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.113: Treatment Effects on Diabetes, Female Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hemoglobin Level (%)	Mid-30s	-0.277 (0.368)	-0.063 (0.456)	-0.176 (0.998)	-0.063 (0.624)	-0.143 (0.376)	-0.305 (0.422)	-0.074 (0.462)	-0.313 (0.463)
Prediabetes	Mid-30s	0.088 (0.408)	0.222 (0.165)	0.076 (0.998)	0.207 (0.255)	0.088 (0.649)	0.091 (0.422)	0.217 (0.220)	0.109 (0.463)
Diabetes	Mid-30s	-0.071 (0.186)	-0.047 (0.176)				-0.091 (0.185)	-0.064 (0.220)	-0.092 (0.158)
Diabetes Factor	Mid-30s	-0.207 (0.408)	-0.016 (0.456)	-0.024 (0.998)	0.058 (0.624)	-0.048 (0.649)	-0.257 (0.422)	-0.065 (0.462)	-0.269 (0.463)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.114: Treatment Effects on Obesity, Female Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Measured BMI	Mid-30s	3.545 (0.479)	5.382 (0.197)	1.937 (0.999)	3.345 (0.376)	1.970 (0.453)	3.983 (0.461)	6.187 (0.175)	4.710 (0.341)
Obesity	Mid-30s	-0.011 (0.677)	0.099 (0.610)	-0.261 (0.999)	-0.173 (0.260)	-0.199 (0.112)	0.057 (0.807)	0.183 (0.442)	0.109 (0.695)
Severe Obesity	Mid-30s	-0.045 (0.677)	0.017 (0.721)	0.014 (0.999)	0.062 (0.400)	0.019 (0.481)	-0.061 (0.807)	0.006 (0.586)	-0.039 (0.701)
Waist-hip Ratio	Mid-30s	-0.022 (0.576)	0.008 (0.721)	-0.076 (0.999)	-0.077 (0.376)	-0.072 (0.419)	-0.007 (0.807)	0.040 (0.504)	0.015 (0.701)
Abdominal Obesity	Mid-30s	-0.159 (0.479)	0.015 (0.721)	-0.381 (0.999)	-0.261 (0.204)	-0.285 <b>(0.035)</b>	-0.095 (0.743)	0.106 (0.586)	0.022 (0.701)
Framingham Risk Score	Mid-30s	-0.259 (0.479)	-0.233 (0.578)	-0.488 (0.999)	-0.596 (0.260)	-0.525 (0.411)	-0.197 (0.727)	-0.155 (0.586)	-0.220 (0.695)
Obesity Factor	Mid-30s	-0.006 (0.677)	-0.272 (0.628)	0.433 (0.999)	0.299 (0.400)	0.365 (0.453)	-0.132 (0.807)	-0.480 (0.586)	-0.256 (0.695)

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

Table D.115: Treatment Effects on Mental Health  $t$ -Score, Female Sample, Step Down

Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Somatization $t$ -Score	21	-2.671 (0.416)	-1.944 (0.605)	-4.893 (0.172)	-3.896 (0.442)	-4.836 (0.486)	-2.258 (0.459)	-1.475 (0.542)	-2.169 (0.537)
	Mid-30s	0.724 (0.532)	2.858 (0.440)	-0.014 (0.998)	-0.715 (0.442)	0.571 (0.911)	0.925 (0.517)	2.425 (0.542)	1.715 (0.537)
Depression $t$ -Score	21	-5.649 <b>(0.056)</b>	-5.129 (0.197)	-9.358 <b>(0.021)</b>	-8.953 (0.114)	-9.421 <b>(0.065)</b>	-4.406 (0.254)	-3.599 (0.479)	-4.090 (0.335)
	Mid-30s	-2.466 (0.504)	-1.186 (0.640)	-0.109 (0.998)	-1.014 (0.442)	-0.058 (0.911)	-3.109 (0.459)	-2.385 (0.542)	-3.032 (0.537)
Anxiety $t$ -Score	21	-6.163 <b>(0.056)</b>	-5.724 (0.145)	-9.552 <b>(0.025)</b>	-8.196 (0.224)	-8.964 <b>(0.092)</b>	-5.244 (0.159)	-4.317 (0.389)	-4.381 (0.332)
	Mid-30s	-4.564 (0.251)	-3.287 (0.440)	-3.457 (0.998)	-4.824 (0.442)	-3.764 (0.660)	-4.866 (0.258)	-4.313 (0.375)	-5.627 (0.232)
Hostility $t$ -Score	21	-4.721 <b>(0.056)</b>	-5.636 <b>(0.031)</b>	-10.732 <b>(0.002)</b>	-9.838 <b>(0.011)</b>	-10.536 <b>(0.007)</b>	-3.299 (0.258)	-3.851 (0.333)	-2.934 (0.407)
	Mid-30s	0.512 (0.532)	1.341 (0.640)	-0.797 (0.998)	-2.840 (0.442)	-0.701 (0.911)	0.870 (0.517)	1.276 (0.542)	1.561 (0.537)
Global Severity Index $t$ -Score	21	-6.436 <b>(0.043)</b>	-5.741 (0.138)	-11.241 <b>(0.004)</b>	-8.981 <b>(0.072)</b>	-10.878 <b>(0.007)</b>	-5.472 (0.112)	-4.092 (0.389)	-4.605 (0.290)
Global Severity Index $t$ -Score (BSI 18)	Mid-30s	-2.365 (0.272)	0.006 (0.479)	0.290 (0.999)	-0.886 (0.386)	0.330 (0.516)	-3.089 (0.207)	-1.529 (0.310)	-3.112 (0.203)
BSI Factor	21 to Mid-30s	-0.624 <b>(0.040)</b>	-0.289 (0.369)	-0.747 (0.999)	-0.669 (0.997)	-0.677 (0.305)	-0.589 <b>(0.059)</b>	-0.283 (0.294)	-0.552 <b>(0.083)</b>

Note: This table presents estimates for the treatment effects described in Appendix D.3 for each of the variables listed in the rows. One-tailed, bootstrapped  $p$ -values are in parentheses.

## D.13 Alternative Definitions of Control Substitution and Two-Sided Statistical Tests

### D.13.1 Alternative Definitions of Control Substitution

In the main paper, we let  $V$  be a dummy variable indicating whether or not the child attended alternative childcare arrangements. As we discuss in Section 2, this dummy variable is a summary of a more complex reality in which children attend alternatives different months between ages 0 to 5. In this appendix, we explore three different alternative definitions of  $V$ : we let  $V$  indicate if children attend alternatives (i) 2/5 of the time between ages 0 to 5; (ii) 3/5 of the time between ages 0 to 5; and (iii) 4/5 of the time between ages 0 to 5. For each of these cases, we present a summary table of treatment effects.

The results are robust to different choices for modeling  $V$ . What matters is the extensive margin decision to enroll children into alternative childcare arrangements, and not the intensive margin decision of the number of months they attend between ages 0 to 5.

Table D.116: Treatment Effects on Selected Outcomes, Control Substitution if Attended Treatment Alternatives 2/5 of Time between Ages 0 to 5

Category	Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)
<i>Females</i>								
Parental Income	Parental Labor Income	3.5	2,756 (0.198)	3,277 (0.238)	5,464 <b>(0.050)</b>	7,165 <b>(0.040)</b>	-6,467 (0.683)	-1,698 (0.574)
		12	13,633 <b>(0.040)</b>	19,386 <b>(0.030)</b>	25,070 <b>(0.010)</b>	25,917 <b>(0.000)</b>	2,221 (0.386)	6,214 (0.238)
		15	8,565 <b>(0.069)</b>	9,322 <b>(0.089)</b>	9,108 <b>(0.099)</b>	8,866 <b>(0.059)</b>	3,588 (0.297)	14,109 <b>(0.010)</b>
		21	5,708 (0.129)	6,944 (0.158)	10,481 (0.119)	8,526 (0.109)	3,874 (0.248)	1,224 (0.406)
Education	Graduated High School	30	0.253 <b>(0.020)</b>	0.110 (0.218)	0.144 (0.168)	0.220 <b>(0.030)</b>	0.038 (0.416)	0.095 (0.297)
	Graduated 4-year College	30	0.134 (0.109)	0.119 (0.168)	0.151 <b>(0.089)</b>	-0.165 <b>(0.030)</b>	-0.005 (0.465)	0.003 (0.525)
	Years of Education	30	2.143 <b>(0.000)</b>	1.715 <b>(0.000)</b>	2.016 <b>(0.000)</b>	2.373 <b>(0.000)</b>	0.957 (0.228)	0.802 (0.238)
Labor Income	Employed	30	0.131 (0.129)	0.079 (0.218)	0.064 (0.218)	0.109 (0.178)	0.146 (0.277)	0.215 <b>(0.089)</b>
	Labor Income	30	2,548 (0.327)	2,412 (0.307)	3,322 (0.356)	3,955 (0.287)	4,670 (0.356)	1,179 (0.475)
Crime	Total Felony Arrests	Mid-30s	-0.328 <b>(0.099)</b>	-0.394 <b>(0.079)</b>	-0.533 <b>(0.099)</b>	-0.415 <b>(0.089)</b>	0.048 (0.634)	0.124 (0.871)
	Total Misdemeanor Arrests	Mid-30s	-0.973 <b>(0.030)</b>	-1.212 (0.119)	-1.419 (0.109)	-1.097 (0.139)	-0.220 (0.228)	-0.138 (0.317)
Health	Self-reported drug user	Mid-30s	-0.033 (0.376)	-0.039 (0.337)	-0.047 (0.317)	-0.027 (0.406)	0.010 (0.436)	0.083 (0.614)
	Systolic Blood Pressure (mm Hg)	Mid-30s	-2.899 (0.307)	-3.034 (0.317)		-7.800 <b>(0.099)</b>	6.792 (0.594)	2.494 (0.634)
	Diastolic Blood Pressure (mm Hg)	Mid-30s	-0.002 (0.455)	2.341 (0.614)	0.634 (0.525)	-0.376 (0.455)	3.056 (0.515)	-0.375 (0.455)
	Hypertension	Mid-30s	0.172 (0.891)	0.192 (0.822)	0.123 (0.752)	0.078 (0.703)	0.267 (0.723)	0.182 (0.792)
<i>Males</i>								
Parental Income	Parental Labor Income	3.5	1,036 (0.366)	-1,185 (0.673)	142 (0.475)	2,393 (0.198)	-17,476 (0.921)	-14,914 (0.881)
		12	7,085 <b>(0.059)</b>	10,384 <b>(0.040)</b>	12,334 <b>(0.010)</b>	9,751 <b>(0.020)</b>	-29,130 (0.881)	-29,347 (0.822)
		15	8,488 <b>(0.059)</b>	7,185 (0.139)	7,062 (0.149)	5,829 (0.218)	-12,275 (0.446)	-15,574 (0.663)
		21	12,732 <b>(0.020)</b>	12,650 <b>(0.069)</b>	12,960 <b>(0.079)</b>	8,526 <b>(0.069)</b>	-2,048 (0.228)	-5,980 (0.594)
Education	Graduated High School	30	0.073 (0.228)	0.130 (0.139)	0.156 (0.109)	0.094 (0.238)	-0.002 (0.554)	-0.093 (0.584)
	Graduated 4-year College	30	0.170 <b>(0.079)</b>	0.178 (0.119)	0.156 (0.149)	0.112 (0.168)	0.513 (0.119)	0.260 <b>(0.000)</b>
	Years of Education	30	0.525 (0.188)	0.785 <b>(0.079)</b>	0.710 (0.129)	0.425 (0.198)	1.749 <b>(0.059)</b>	0.595 (0.178)
Labor Income	Employed	30	0.119 (0.129)	0.182 <b>(0.020)</b>	0.197 <b>(0.030)</b>	0.217 <b>(0.000)</b>	0.174 (0.307)	0.148 (0.188)
	Labor Income	30	19,810 (0.109)	27,373 (0.208)	26,959 (0.218)	20,998 <b>(0.099)</b>	69,187 (0.139)	27,682 <b>(0.099)</b>
Crime	Total Felony Arrests	Mid-30s	0.196 (0.644)	0.392 (0.644)	0.505 (0.683)	0.689 (0.822)	-0.034 (0.614)	-0.629 (0.347)
	Total Misdemeanor Arrests	Mid-30s	-0.501 (0.119)	-0.243 (0.277)	-0.317 (0.238)	-0.356 (0.277)	0.357 (0.614)	-0.434 (0.228)
Health	Self-reported drug user	Mid-30s	-0.333 <b>(0.030)</b>	-0.398 <b>(0.020)</b>	-0.418 <b>(0.010)</b>	-0.414 <b>(0.010)</b>	0.149 (0.406)	0.149 (0.554)
	Systolic Blood Pressure (mm Hg)	Mid-30s	-9.791 (0.129)	-19.475 <b>(0.000)</b>	-19.868 <b>(0.000)</b>	-21.234 <b>(0.050)</b>	-12.168 <b>(0.099)</b>	-18.841 <b>(0.000)</b>
	Diastolic Blood Pressure (mm Hg)	Mid-30s	-10.854 <b>(0.040)</b>	-19.401 <b>(0.000)</b>	-20.255 <b>(0.000)</b>	-19.838 <b>(0.000)</b>		-6.102 <b>(0.000)</b>
	Hypertension	Mid-30s	-0.291 <b>(0.069)</b>	-0.384 <b>(0.010)</b>	-0.392 <b>(0.030)</b>	-0.398 <b>(0.000)</b>	-0.693 <b>(0.010)</b>	-0.768 <b>(0.000)</b>

Note: This table shows the treatment effects for categories outcomes that are important for our benefit/cost analysis. Systolic and diastolic blood pressure are measured in terms of mm Hg. Each column present estimates for the following parameters: (1)  $\mathbb{E}[\mathbf{Y}^1 - \mathbf{Y}^0 | \mathbf{B} \in \mathcal{B}_0]$  (no controls); (2)  $\mathbb{E}[\mathbf{Y}^1 - \mathbf{Y}^0 | \mathbf{B} \in \mathcal{B}_0 | \text{controls}]$ ; (3)  $\mathbb{E}[\mathbf{Y}^1 | R = 1] - \mathbb{E}[\mathbf{Y}^0 | R = 0, V = 0]$  (no controls); (4)  $\mathbb{E}[\mathbf{Y}^1 - \mathbf{Y}_H^0 | \mathbf{B} \in \mathcal{B}_0]$  (controls); (5)  $\mathbb{E}[\mathbf{Y}^1 | R = 1] - \mathbb{E}[\mathbf{Y}^0 | R = 0, V = 1]$  (no controls); (6)  $\mathbb{E}[\mathbf{Y}^1 - \mathbf{Y}_C^0 | \mathbf{B} \in \mathcal{B}_0]$  (controls). We account for the following background variables ( $\mathbf{B}$ ): Apgar scores at minutes 1 and 5 and the high-risk index. We define the high-risk index in Appendix A and explain how we choose the control variables in Appendix D.1. Columns (2), (4), and (6) correct for item non-response and attrition using inverse probability weighting as we explain in Appendix B.2. Inference is based on non-parametric, one-sided  $p$ -values from the empirical bootstrap distribution. We highlight point estimates significant at the 10% level. See Appendix D.13 for two-sided  $p$ -values.



Table D.117: Treatment Effects on Selected Outcomes, Control Substitution if Attended Treatment Alternatives 3/5 of Time between Ages 0 to 5

Category	Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)
<i>Females</i>								
Parental Income	Parental Labor Income	3.5	2,756 (0.248)	3,277 (0.208)	6,384 (0.119)	8,257 <b>(0.020)</b>	-2,419 (0.614)	334 (0.426)
		12	13,633 <b>(0.059)</b>	19,386 <b>(0.030)</b>	21,331 <b>(0.050)</b>	21,912 <b>(0.010)</b>	15,568 <b>(0.069)</b>	18,687 <b>(0.040)</b>
		15	8,565 <b>(0.069)</b>	9,322 <b>(0.079)</b>	6,759 (0.168)	7,803 (0.129)	5,699 (0.228)	14,228 <b>(0.030)</b>
		21	5,708 (0.168)	6,944 (0.198)	12,907 <b>(0.099)</b>	8,065 (0.149)	5,047 (0.277)	4,429 (0.248)
Education	Graduated High School	30	0.253 <b>(0.000)</b>	0.110 (0.198)	0.160 (0.228)	0.243 <b>(0.069)</b>	0.028 (0.396)	0.105 (0.198)
	Graduated 4-year College	30	0.134 <b>(0.050)</b>	0.119 <b>(0.099)</b>	0.145 <b>(0.059)</b>	0.154 <b>(0.069)</b>	0.041 (0.396)	0.076 (0.277)
	Years of Education	30	2.143 <b>(0.000)</b>	1.715 <b>(0.000)</b>	2.089 <b>(0.000)</b>	2.461 <b>(0.000)</b>	1.142 <b>(0.099)</b>	1.264 <b>(0.069)</b>
Labor Income	Employed	30	0.131 <b>(0.059)</b>	0.079 (0.238)	0.072 (0.267)	0.125 <b>(0.099)</b>	0.092 (0.297)	0.148 (0.129)
	Labor Income	30	2,548 (0.356)	2,412 (0.396)	3,176 (0.386)	3,710 (0.327)	5,076 (0.257)	2,706 (0.337)
Crime	Total Felony Arrests	Mid-30s	-0.328 <b>(0.079)</b>	-0.394 <b>(0.089)</b>	-0.449 (0.139)	-0.391 (0.109)	-0.192 (0.158)	-0.093 (0.297)
	Total Misdemeanor Arrests	Mid-30s	-0.973 <b>(0.040)</b>	-1.212 <b>(0.079)</b>	-0.949 (0.119)	-0.960 (0.208)	-1.038 <b>(0.099)</b>	-0.669 (0.168)
Health	Self-reported drug user	Mid-30s	-0.033 (0.356)	-0.039 (0.406)	-0.003 (0.495)	-0.003 (0.465)	-0.062 (0.317)	0.009 (0.515)
	Systolic Blood Pressure (mm Hg)	Mid-30s	-2.899 (0.307)	-3.034 (0.287)		-3.566 (0.307)	-5.636 (0.277)	-7.102 (0.208)
	Diastolic Blood Pressure (mm Hg)	Mid-30s	-0.002 (0.564)	2.341 (0.584)	4.069 (0.723)	1.881 (0.644)	-1.058 (0.406)	-3.358 (0.297)
	Hypertension	Mid-30s	0.172 (0.891)	0.192 (0.832)	0.160 (0.713)	0.118 (0.723)	0.145 (0.673)	0.089 (0.663)
Parental Income	Parental Labor Income	3.5	1,036 (0.376)	-1,185 (0.624)	2,057 (0.297)	4,603 <b>(0.079)</b>	-12,759 (0.960)	-9,236 (0.950)
		12	7,085 <b>(0.069)</b>	10,384 <b>(0.020)</b>	11,337 <b>(0.010)</b>	8,591 <b>(0.059)</b>	9,203 (0.228)	3,888 (0.337)
		15	8,488 <b>(0.040)</b>	7,185 <b>(0.079)</b>	4,945 (0.168)	3,753 (0.287)	5,537 (0.386)	6,939 (0.366)
		21	12,732 <b>(0.000)</b>	12,650 <b>(0.069)</b>	12,604 <b>(0.059)</b>	7,786 (0.119)	14,954 (0.327)	8,330 (0.158)
Education	Graduated High School	30	0.073 (0.297)	0.130 (0.149)	0.144 (0.158)	0.104 (0.218)	0.083 (0.376)	-0.011 (0.554)
	Graduated 4-year College	30	0.170 <b>(0.079)</b>	0.178 <b>(0.099)</b>	0.126 (0.178)	0.077 (0.287)	0.472 <b>(0.030)</b>	0.260 <b>(0.000)</b>
	Years of Education	30	0.525 (0.168)	0.785 <b>(0.079)</b>	0.574 (0.188)	0.344 (0.277)	1.771 <b>(0.010)</b>	0.679 <b>(0.089)</b>
Labor Income	Employed	30	0.119 (0.109)	0.182 <b>(0.030)</b>	0.144 (0.119)	0.147 (0.119)	0.354 <b>(0.030)</b>	0.343 <b>(0.030)</b>
	Labor Income	30	19,810 <b>(0.079)</b>	27,373 (0.178)	23,796 (0.188)	17,442 (0.178)	63,404 <b>(0.099)</b>	32,179 <b>(0.059)</b>
Crime	Total Felony Arrests	Mid-30s	0.196 (0.653)	0.392 (0.693)	0.660 (0.703)	0.886 (0.832)	-0.470 (0.366)	-0.408 (0.366)
	Total Misdemeanor Arrests	Mid-30s	-0.501 (0.208)	-0.243 (0.337)	-0.105 (0.386)	-0.077 (0.416)	-0.445 (0.277)	-1.128 <b>(0.040)</b>
Health	Self-reported drug user	Mid-30s	-0.333 <b>(0.020)</b>	-0.398 <b>(0.010)</b>	-0.392 <b>(0.030)</b>	-0.424 <b>(0.030)</b>	-0.471 <b>(0.079)</b>	-0.189 (0.228)
	Systolic Blood Pressure (mm Hg)	Mid-30s	-9.791 (0.109)	-19.475 <b>(0.010)</b>	-20.403 <b>(0.020)</b>	-23.619 <b>(0.059)</b>	-9.749 (0.139)	-10.654 <b>(0.030)</b>
	Diastolic Blood Pressure (mm Hg)	Mid-30s	-10.854 <b>(0.040)</b>	-19.401 <b>(0.000)</b>	-21.691 <b>(0.000)</b>	-22.863 <b>(0.000)</b>	-7.755 <b>(0.089)</b>	-3.081 (0.178)
	Hypertension	Mid-30s	-0.291 <b>(0.030)</b>	-0.384 <b>(0.020)</b>	-0.480 <b>(0.000)</b>	-0.503 <b>(0.000)</b>	-0.085 (0.327)	-0.087 (0.337)

Note: This table shows the treatment effects for categories outcomes that are important for our benefit/cost analysis. Systolic and diastolic blood pressure are measured in terms of mm Hg. Each column present estimates for the following parameters: (1)  $\mathbb{E}[\mathbf{Y}^1 - \mathbf{Y}^0 | \mathbf{B} \in \mathcal{B}_0]$  (no controls); (2)  $\mathbb{E}[\mathbf{Y}^1 - \mathbf{Y}^0 | \mathbf{B} \in \mathcal{B}_0]$  (controls); (3)  $\mathbb{E}[\mathbf{Y}^1 | R = 1] - \mathbb{E}[\mathbf{Y}^0 | R = 0, V = 0]$  (no controls); (4)  $\mathbb{E}[\mathbf{Y}^1 - \mathbf{Y}_H^0 | \mathbf{B} \in \mathcal{B}_0]$  (controls); (5)  $\mathbb{E}[\mathbf{Y}^1 | R = 1] - \mathbb{E}[\mathbf{Y}^0 | R = 0, V = 1]$  (no controls); (6)  $\mathbb{E}[\mathbf{Y}^1 - \mathbf{Y}_C^0 | \mathbf{B} \in \mathcal{B}_0]$  (controls). We account for the following background variables ( $\mathbf{B}$ ): Apgar scores at minutes 1 and 5 and the high-risk index. We define the high-risk index in Appendix A and explain how we choose the control variables in Appendix D.1. Columns (2), (4), and (6) correct for item non-response and attrition using inverse probability weighting as we explain in Appendix B.2. Inference is based on non-parametric, one-sided  $p$ -values from the empirical bootstrap distribution. We highlight point estimates significant at the 10% level. See Appendix D.13 for two-sided  $p$ -values.

Table D.118: Treatment Effects on Selected Outcomes, Control Substitution if Attended Treatment Alternatives 4/5 of Time between Ages 0 to 5

Category	Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)
<i>Females</i>								
Parental Income	Parental Labor Income	3.5	2,756 (0.188)	3,277 (0.188)	8,849 <b>(0.089)</b>	9,658 <b>(0.000)</b>	-1,086 (0.545)	1,440 (0.337)
		12	13,633 <b>(0.099)</b>	19,386 <b>(0.020)</b>	32,972 <b>(0.059)</b>	28,194 <b>(0.010)</b>	10,992 (0.178)	17,690 <b>(0.030)</b>
		15	8,565 <b>(0.059)</b>	9,322 (0.119)	3,316 (0.396)	6,383 (0.277)	10,675 <b>(0.099)</b>	12,104 <b>(0.059)</b>
		21	5,708 (0.109)	6,944 (0.149)	26,722 <b>(0.050)</b>	13,060 <b>(0.079)</b>	3,844 (0.257)	4,186 (0.307)
		30	0.253 <b>(0.020)</b>	0.110 (0.208)	0.308 (0.119)	0.335 <b>(0.010)</b>	0.027 (0.396)	0.101 (0.238)
Education	Graduated High School	30	0.134 (0.109)	0.119 (0.188)	0.166 <b>(0.079)</b>	0.219 <b>(0.020)</b>	0.065 (0.406)	0.060 (0.366)
	Graduated 4-year College	30	2.143 <b>(0.000)</b>	1.715 <b>(0.020)</b>	2.733 <b>(0.020)</b>	3.103 <b>(0.000)</b>	1.362 <b>(0.059)</b>	1.322 <b>(0.040)</b>
	Years of Education	30	0.131 (0.347)	0.079 (0.248)	0.221 (0.168)	0.224 <b>(0.099)</b>	-0.004 (0.525)	0.078 (0.238)
Labor Income	Employed	30	2,548 (0.347)	2,412 (0.396)	9,737 (0.218)	10,827 <b>(0.059)</b>	-1,336 (0.604)	-1,311 (0.564)
	Labor Income	30	-0.328 <b>(0.079)</b>	-0.394 <b>(0.059)</b>	-0.802 <b>(0.079)</b>	-0.649 (0.139)	-0.109 (0.208)	-0.019 (0.446)
Crime	Total Felony Arrests	Mid-30s	-0.973 <b>(0.059)</b>	-1.212 <b>(0.079)</b>	-1.562 (0.129)	-1.629 (0.158)	-0.692 (0.139)	-0.314 (0.248)
	Total Misdemeanor Arrests	Mid-30s	-0.033 (0.337)	-0.039 (0.366)	-0.111 (0.228)	-0.088 (0.228)	0.040 (0.545)	0.052 (0.693)
Health	Self-reported drug user	Mid-30s	-2.899 (0.307)	-3.034 (0.297)	-1.191 (0.495)	-0.869 (0.465)	-3.818 (0.277)	-7.447 (0.168)
	Systolic Blood Pressure (mm Hg)	Mid-30s	-0.002 (0.515)	2.341 (0.653)	5.457 (0.752)	4.000 (0.762)	5.524 (0.495)	-2.820 (0.317)
	Diastolic Blood Pressure (mm Hg)	Mid-30s	0.172 (0.901)	0.192 (0.822)	0.035 (0.545)	0.092 (0.673)	0.243 (0.822)	0.113 (0.772)
	Hypertension	Mid-30s						
<i>Males</i>								
Parental Income	Parental Labor Income	3.5	1,036 (0.366)	-1,185 (0.644)	-1,154 (0.545)	3,199 (0.238)	-1,503 (0.693)	352 (0.475)
		12	7,085 <b>(0.099)</b>	10,384 <b>(0.050)</b>	23,037 <b>(0.010)</b>	15,288 <b>(0.020)</b>	4,785 (0.178)	3,905 <b>(0.228)</b>
		15	8,488 <b>(0.089)</b>	7,185 (0.178)	17,045 <b>(0.050)</b>	10,825 <b>(0.089)</b>	939 (0.416)	1,799 (0.416)
		21	12,732 <b>(0.010)</b>	12,650 <b>(0.059)</b>	-2,880 (0.495)	-1,000 (0.495)	17,027 <b>(0.030)</b>	10,323 <b>(0.059)</b>
		30	0.073 (0.287)	0.130 (0.178)	0.158 (0.257)	0.099 (0.337)	0.137 (0.208)	0.054 (0.386)
Education	Graduated High School	30	0.170 <b>(0.069)</b>	0.178 <b>(0.059)</b>	0.299 <b>(0.050)</b>	0.136 (0.198)	0.172 (0.139)	0.128 (0.158)
	Graduated 4-year College	30	0.525 (0.149)	0.785 <b>(0.089)</b>	1.386 <b>(0.040)</b>	0.906 <b>(0.040)</b>	0.690 (0.168)	0.243 (0.347)
	Years of Education	30	0.119 (0.129)	0.182 <b>(0.040)</b>	-0.006 (0.495)	0.008 (0.396)	0.277 <b>(0.010)</b>	0.298 <b>(0.010)</b>
Labor Income	Employed	30	19,810 (0.119)	27,373 <b>(0.069)</b>	36,136 (0.149)	24,479 <b>(0.099)</b>	29,622 (0.129)	20,514 (0.158)
	Labor Income	30	0.196 (0.683)	0.392 (0.653)	1.656 (0.861)	1.387 (1.000)	0.004 (0.446)	0.110 (0.554)
Crime	Total Felony Arrests	Mid-30s	-0.501 (0.178)	-0.243 (0.277)	0.053 (0.485)	0.058 (0.485)	-0.371 (0.297)	-0.574 (0.139)
	Total Misdemeanor Arrests	Mid-30s	-0.333 <b>(0.010)</b>	-0.398 <b>(0.000)</b>	-0.693 <b>(0.000)</b>	-0.557 <b>(0.000)</b>	-0.309 <b>(0.050)</b>	-0.330 <b>(0.050)</b>
	Self-reported drug user	Mid-30s	-9.791 <b>(0.079)</b>	-19.475 <b>(0.020)</b>	17.366 (0.723)	14.259 (0.931)	-29.384 <b>(0.000)</b>	-30.633 <b>(0.000)</b>
Health	Systolic Blood Pressure (mm Hg)	Mid-30s	-10.854 <b>(0.020)</b>	-19.401 <b>(0.000)</b>	-10.746 <b>(0.079)</b>	-8.117 <b>(0.079)</b>	-22.079 <b>(0.000)</b>	-21.893 <b>(0.000)</b>
	Diastolic Blood Pressure (mm Hg)	Mid-30s	-0.291 <b>(0.040)</b>	-0.384 <b>(0.020)</b>	0.003 (0.317)	-0.063 (0.356)	-0.488 <b>(0.010)</b>	-0.518 <b>(0.000)</b>
	Hypertension	Mid-30s						

Note: This table shows the treatment effects for categories outcomes that are important for our benefit/cost analysis. Systolic and diastolic blood pressure are measured in terms of mm Hg. Each column present estimates for the following parameters: (1)  $\mathbb{E}[Y^1 - Y^0|W = 1]$ ; (2)  $\mathbb{E}[Y^1 - Y^0|\mathbf{B}, W = 1]$ ; (3)  $\mathbb{E}[Y^1|\mathbf{B}, D = 1] - \mathbb{E}[Y^0|\mathbf{B}, V = 0, D = 0]$ ; (4)  $\mathbb{E}[Y^1 - Y^0|\mathbf{B}, V = 0, W = 1]$ ; (5)  $\mathbb{E}[Y^1|\mathbf{B}, D = 1] - \mathbb{E}[Y^0|\mathbf{B}, V = 1, D = 0]$ ; (6)  $\mathbb{E}[Y^1 - Y^0|\mathbf{B}, V = 1, W = 1]$ . We account for the following background variables ( $\mathbf{B}$ ): Apgar scores at minutes 1 and 5 and the high-risk index. We define the high-risk index in Appendix A and explain how we choose the control variables in Appendix D.1. Inference is based on non-parametric, one-sided  $p$ -values from the empirical bootstrap distribution. We highlight point estimates significant at the 10% level.

### D.13.2 Two-Sided Statistical Tests

In the main paper, we classify the outcomes of interest as “beneficial” (see Appendix D our classification) and perform one-sided tests. The next table presents two-sided inferences. The main treatment effects survive two-sided testing. A full replication of the results throughout the main text using two-sided statistical tests is available under request. As is evident from the standard errors, our combining functions and cost-benefit analysis results generally survive two-sided testing.

Table D.119: Treatment Effects on Selected Outcomes, Two-Sided Inference

Category	Variable	Age	(1)	(2)	(3)	(4)	(5)	(6)
<i>Females</i>								
Parental Income	Parental Labor Income	3.5	2,756 (0.379)	2,986 (0.445)	6,864 (0.227)	8,584 (0.103)	1,521 (0.673)	3,773 (0.324)
		12	13,633 (0.105)	19,592 <b>(0.044)</b>	28,328 <b>(0.049)</b>	26,489 <b>(0.022)</b>	15,343 (0.122)	18,678 <b>(0.035)</b>
		15	8,565 (0.114)	7,159 (0.268)	2,713 (0.837)	8,441 (0.582)	7,465 (0.255)	10,487 (0.103)
		21	5,708 (0.269)	8,670 (0.289)	45,697 <b>(0.002)</b>	25,142 <b>(0.000)</b>	6,251 (0.449)	3,943 (0.524)
		30	0.253 <b>(0.019)</b>	0.131 (0.313)	0.553 <b>(0.005)</b>	0.595 <b>(0.004)</b>	-0.026 (0.839)	0.066 (0.648)
Education	Graduated High School	30	0.134 (0.157)	0.131 (0.243)		0.219 <b>(0.012)</b>	0.100 (0.438)	0.093 (0.426)
	Graduated 4-year College	30	2.143 <b>(0.001)</b>	1.843 <b>(0.011)</b>	3.861 <b>(0.000)</b>	3.923 <b>(0.000)</b>	1.163 (0.127)	1.409 <b>(0.037)</b>
	Years of Education	30	0.131 (0.189)	0.081 (0.420)	0.381 <b>(0.065)</b>	0.340 (0.104)	-0.010 (0.925)	0.070 (0.534)
Labor Income	Employed	30	2,548 (0.700)	1,884 (0.757)	15,094 (0.103)	13,096 <b>(0.048)</b>	-2,677 (0.681)	-2,122 (0.726)
	Labor Income	30	-0.328 (0.113)	-0.351 (0.139)	-0.944 (0.169)	-0.965 (0.148)	-0.059 (0.610)	0.004 (0.969)
Crime	Total Felony Arrests	Mid-30s	-0.973 <b>(0.071)</b>	-0.737 (0.242)	-2.010 (0.275)	-2.451 (0.263)	-0.269 (0.611)	-0.201 (0.634)
	Total Misdemeanor Arrests	Mid-30s	-0.033 (0.780)	0.004 (0.949)	-0.114 (0.616)	-0.101 (0.655)	0.020 (0.871)	0.033 (0.785)
Health	Systolic Blood Pressure (mm Hg)	Mid-30s	-2.899 (0.635)	-5.407 (0.477)	-0.488 (0.908)	-0.822 (0.903)	-6.239 (0.495)	-6.784 (0.348)
	Diastolic Blood Pressure (mm Hg)	Mid-30s	-0.002 (1.000)	-0.179 (0.928)	4.091 (0.536)	4.122 (0.435)	-1.347 (0.820)	-2.160 (0.702)
	Hypertension	Mid-30s	0.172 (0.219)	0.085 (0.599)	0.077 (0.750)	0.162 (0.494)	0.102 (0.594)	0.107 (0.517)
<i>Males</i>								
Parental Income	Parental Labor Income	3.5	1,036 (0.736)	494 (0.853)	73,862 (0.961)	1,462 (0.778)	123 (0.960)	690 (0.824)
		12	7,085 (0.199)	9,625 <b>(0.052)</b>	18,050 <b>(0.081)</b>	12,639 (0.147)	6,620 (0.199)	5,383 (0.286)
		15	8,488 (0.149)	4,495 (0.464)	5,540 (0.502)	4,805 (0.541)	2,885 (0.704)	4,345 (0.588)
		21	12,732 (0.014)	8,809 (0.187)	122 (0.914)	-933 (0.878)	10,784 (0.105)	10,283 <b>(0.073)</b>
		30	0.073 (0.533)	0.044 (0.752)	0.116 (1.000)	0.083 (0.687)	0.040 (0.807)	0.063 (0.638)
Education	Graduated High School	30	0.170 (0.115)	0.138 (0.249)	0.149 (0.405)	0.099 (0.600)	0.135 (0.301)	0.143 (0.256)
	Graduated 4-year College	30	0.525 (0.284)	0.541 (0.324)	1.010 (1.000)	0.777 (0.272)	0.351 (0.557)	0.344 (0.521)
	Years of Education	30	0.119 (0.259)	0.196 <b>(0.054)</b>	0.108 (1.000)	0.040 (0.821)	0.237 <b>(0.056)</b>	0.261 <b>(0.030)</b>
Labor Income	Employed	30	19,810 (0.154)	24,365 (0.157)	25,220 (1.000)	20,611 (0.243)	23,072 (0.198)	21,836 (0.185)
	Labor Income	30	0.196 (0.755)	0.685 (0.379)	1.523 <b>(0.096)</b>	1.340 <b>(0.047)</b>	0.481 (0.571)	0.188 (0.807)
Crime	Total Felony Arrests	Mid-30s	-0.501 (0.355)	-0.244 (0.606)	-0.298 (0.734)	-0.034 (0.960)	-0.246 (0.643)	-0.507 (0.339)
	Total Misdemeanor Arrests	Mid-30s	-0.333 <b>(0.045)</b>	-0.438 <b>(0.005)</b>	-0.673 <b>(0.041)</b>	-0.557 <b>(0.083)</b>	-0.326 <b>(0.047)</b>	-0.330 <b>(0.058)</b>
Health	Systolic Blood Pressure (mm Hg)	Mid-30s	-9.791 (0.216)	-13.275 <b>(0.094)</b>	14.196 <b>(0.022)</b>	14.976 <b>(0.000)</b>	-24.166 <b>(0.000)</b>	-18.559 <b>(0.011)</b>
	Diastolic Blood Pressure (mm Hg)	Mid-30s	-10.854 <b>(0.056)</b>	-14.134 <b>(0.012)</b>	-9.709 <b>(0.076)</b>	-8.741 <b>(0.077)</b>	-18.387 <b>(0.003)</b>	-13.987 <b>(0.012)</b>
	Hypertension	Mid-30s	-0.291 <b>(0.076)</b>	-0.377 <b>(0.023)</b>	-0.120 (0.659)	-0.074 (0.806)	-0.492 <b>(0.009)</b>	-0.434 <b>(0.022)</b>

Note: This table shows the treatment effects for categories outcomes that are important for our benefit/cost analysis. Systolic and diastolic blood pressure are measured in terms of mm Hg. Each column present estimates for the following parameters: (1)  $\mathbb{E}[\mathbf{Y}^1 - \mathbf{Y}^0 | \mathbf{B} \in \mathcal{B}_0]$  (no controls); (2)  $\mathbb{E}[\mathbf{Y}^1 - \mathbf{Y}^0 | \mathbf{B} \in \mathcal{B}_0]$  (controls); (3)  $\mathbb{E}[\mathbf{Y}^1 | R = 1] - \mathbb{E}[\mathbf{Y}^0 | R = 0, V = 0]$  (no controls); (4)  $\mathbb{E}[\mathbf{Y}^1 - \mathbf{Y}_H^0 | \mathbf{B} \in \mathcal{B}_0]$  (controls); (5)  $\mathbb{E}[\mathbf{Y}^1 | R = 1] - \mathbb{E}[\mathbf{Y}^0 | R = 0, V = 1]$  (no controls); (6)  $\mathbb{E}[\mathbf{Y}^1 - \mathbf{Y}_C^0 | \mathbf{B} \in \mathcal{B}_0]$  (controls). We account for the following background variables ( $\mathbf{B}$ ): Apgar scores at minutes 1 and 5 and the high-risk index. We define the high-risk index in Appendix A and explain how we choose the control variables in Appendix D.1. Columns (2), (4), and (6) correct for item non-response and attrition using inverse probability weighting as we explain in Appendix B.2. Inference is based on non-parametric, one-sided  $p$ -values from the empirical bootstrap distribution. We highlight point estimates significant at the 10% level. See Appendix D.13 for two-sided  $p$ -values.

## E Alternative Evaluation Methodologies

In the paper, we develop and document the results of one methodology to account for control substitution in the first phase of ABC/CARE. The objective of each method is to estimate the average treatment effect of ABC/CARE, holding fixed take-up of alternative preschool by the control groups. We want to construct a scenario in which the subjects in the control group do not attend alternative preschool. This allows us to evaluate center-based childcare relative to a counterfactual scenario in which subjects stay at home.

This section presents alternative methodologies to evaluate the first-phase treatment. Throughout the rest of this section, we refer to treatment in either ABC/CARE generically as center-based childcare, as we discard the family education treatment group of CARE—as in the main paper, the control group consists of the control groups in both ABC and CARE. We refer to take-up of control substitution as enrollment into alternative preschool. As in our main methodology, we choose the control sets to account for background variables using the method in Appendix D.

To illustrate the alternative methodologies, we present results for a small set of outcomes. First, we consider a time series of IQ scores. Second, we present results for three long-term outcomes: years of education, employment, and labor income. Both IQ scores and the chosen long-term outcomes follow predictable patterns and are straightforward to interpret. These characteristics allow us to evaluate the sensitivity of the estimated treatment effects using the different strategies.

Let the discrete choice to enroll in alternative preschool,  $V$ , be defined as  $P = \mathbf{1}[V > 0]$

which is an indicator equal to 1 when the subject is enrolled. Let  $Q$  be the number of months in alternative preschool.  $\mathbf{X}$  is a vector of observed individual- or household-level characteristics.  $V$  and  $Q$  are zero for participants of the treatment group. In this section, we allow for the take-up of the program to be imperfectly given by the randomization. Let  $D$  be take-up of the ABC/CARE program.<sup>76</sup>

## E.1 Instrumental Variables

The first alternative method we present is based on a standard, linear instrumental variable framework.

### E.1.1 Model and Conditions

Consider the following equation for an outcome  $Y$ :

$$Y = \alpha^D D + \alpha^Q Q + \mathbf{X}\boldsymbol{\beta} + \varepsilon, \quad (3)$$

where  $D$  and  $Q$  are endogenous. Selection into treatment or alternative preschool is likely correlated with characteristics not observed when estimating the coefficients characterizing the outcome equation, i.e.,  $Cov(D, \varepsilon) \neq 0$  and  $Cov(Q, \varepsilon) \neq 0$ . Estimating the coefficients in (3) by OLS yields inconsistent estimates.

A standard solution is to introduce a vector of instrumental variables,  $\mathbf{Z}$ , satisfying two conditions: (i) the matrix  $\Pi$  of the coefficients in the population regression of  $D$  and  $Q$  on  $\mathbf{Z}$  is full rank; and (ii)  $\mathbf{Z}$  is uncorrelated with  $\varepsilon$ .

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<sup>76</sup>This is fundamentally different from the methodology in the paper given that it does not necessarily assume that  $D = R$ .

### E.1.2 Instrumental Variables in Practice

To identify the coefficients in (3) using an instrumental variable strategy we need at least two instruments. We use randomization into ABC/CARE treatment as an instrument, denoted as an indicator,  $R$ . We then consider up to three other instruments.

- (i) *Season of subject's birth.* This variable is coded as an indicator for being born in the fall (born between June and November). If preschools accepted children primarily in the fall, then children born in the fall could enter preschool when they were younger. Although there is evidence in the economics literature that being born during specific times in the year can influence a child's outcomes, the main channel for this effect seems to be the disproportionate selection into season of birth by high-income mothers (Buckles and Hungerman, 2013). Given that the mothers were very young and disadvantaged in the ABC/CARE sample, we assume that a negligible proportion of them selected their quarter of birth.
- (ii) *Presence of a grandmother in the county.* We hypothesize that the grandmothers of the subjects, who in this sample are relatively young and still working, could help the study mothers take care of their children. We assume that the mothers would have less influence over the presence of a grandmother in the county as opposed to the presence of a grandmother living in the home. We also assume that the grandmothers do not affect the subjects differently than any other avenue of informal care, such as care from a neighbor. In practice, the presence of a grandmother has a positive effect on preschool attendance, which could indicate that they helped take the subject to preschool. This variable is only available for ABC.
- (iii) *Number of relatives living in the household apart from the mother, subject, siblings, and male partner.* We assume that the relatives could take care of the subject while the mother was at work or in school, but that they do not affect the subjects differently

than any other avenue of informal care. In practice, having additional relatives living at home decreases the probability that the subject goes into preschool.

### **E.1.3 Sets of Instruments**

We consider three combinations of the instruments. All of them include randomization into center-based treatments and birth in the fall. All of them include at least one variable representing access to informal care from relatives. The sets are the following:

- (i) Randomization, Born in the Fall, Grandmother in County, Number of Relatives at Home
- (ii) Randomization, Born in the Fall, Grandmother in County
- (iii) Randomization, Born in the Fall, Number of Relatives at Home

### **E.1.4 Specifications for the Instruments**

We test various specifications in which we allow for interactions of the potential instruments with the first-phase randomization indicator. In particular, we test three specifications for our instruments:

- (i) Instruments measured in levels:  $(R, \mathbf{Z})$ .
- (ii) Instruments measured in levels and interactions of treatment with the instruments and the controls:  $(R, \mathbf{Z}, \mathbf{Z}R, \mathbf{X}R)$ .
- (iii) Interactions of the instruments and the controls with an indicator for being randomized into the control group:  $(R, \mathbf{X}(1 - R), \mathbf{Z}(1 - R))$ .



In practice, the specification in (iii) is the most stable across outcomes. This makes economic sense because the instruments are less likely to affect the participants of the treatment group, given that almost all the treatment families comply to the first-phase randomization protocol.

### E.1.5 Functional Forms of Enrollment in Alternative Preschool

We use a different parameterization of enrollment into alternative preschool in (3):

- (i) The number of months in alternative preschool,  $Q$ .
- (ii) An indicator for take-up of alternative preschool,  $V$ .
- (iii) The log of months in alternative preschool,  $\log Q$ .

## E.2 Results

In this section, we present the results of the instrumental variable approach. We discuss the estimates of the coefficient for  $D$  in (3), while accounting for endogenous take-up of alternative preschool. The results are roughly stable for all presented outcomes: the effect considering the take-up of alternative preschool in the control group is much stronger than the intent-to-treat effect (the mean difference between the treatment and control groups). At ages 15 and 21, the effects on IQ scores are close to zero.

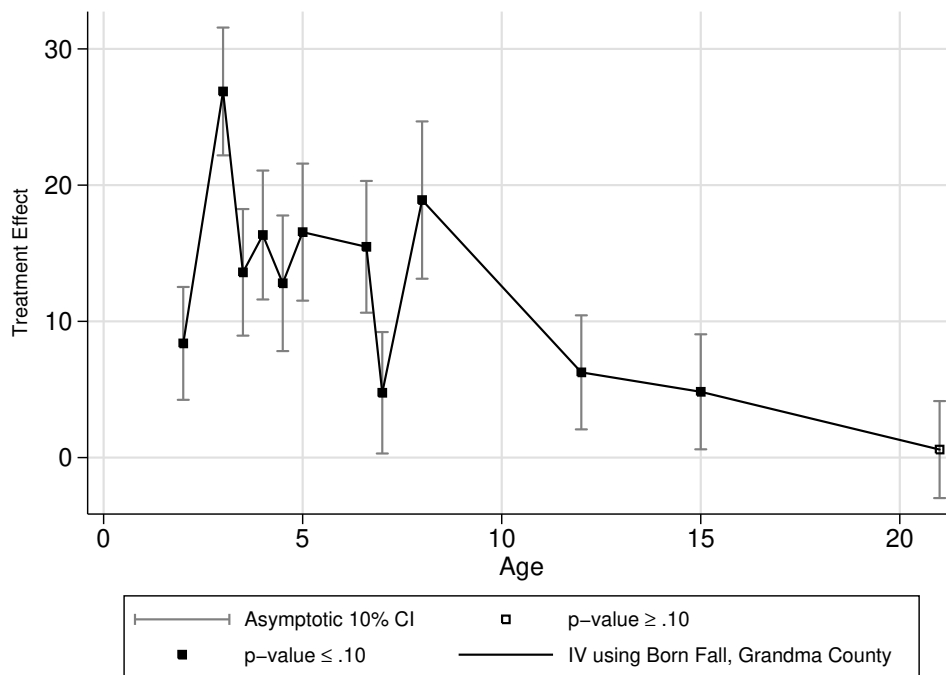
### E.2.1 Main Specification

Our main specification uses three instruments: randomization into center-based childcare in ABC/CARE, the presence of a grandmother in the county, and being born in the fall. We interact the latter two instrument with an indicator for being randomized into the control

group  $(1 - R)$ . The endogenous variables are  $D$  and  $Q$ .

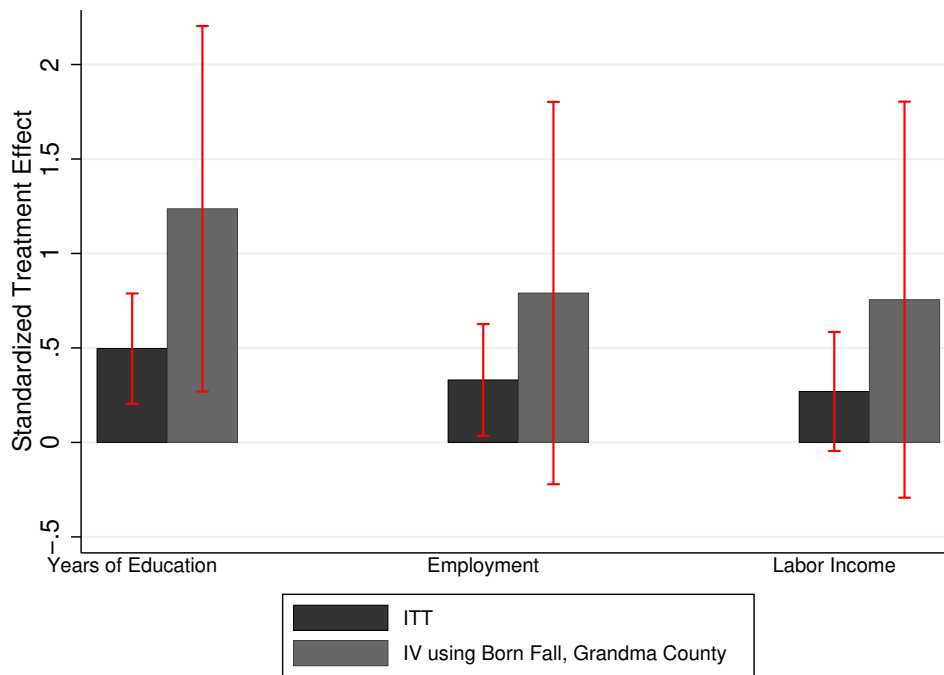
Figure E.1 and Figure E.2 display the estimates of the coefficient of  $D$ . That is, the effect of attending the ABC/CARE treatment, fixing take-up of alternative preschool. The results indicate the following: (i) the effects are stronger compared to those in the paper, even compared to those in the paper that fix subjects to no preschool alternatives; (ii) the estimates are less stable across ages compared to those in the paper. For example, while the effects on IQ scores from ages 0 to 5 average around 14 points in the paper, they average 20 points using this specification of instrumental variables.

Figure E.1: Effect of Center-based Childcare on IQ Scores, Accounting for Endogenous Take-up of Alternative Preschool Using Instrumental Variables



Note: This plot presents the parameter associated with  $D$  from a regression of  $Y$  on  $D$ ,  $Q$ , and  $\mathbf{X}$ , using  $R$  and  $\mathbf{Z}(1 - R)$  as instruments. The outcomes ( $Y$ ) are IQ tests at different ages, with a national standard deviation of 15 and a mean of 100.  $\mathbf{X}$  includes a set of controls selected from all available baseline controls to maximize explanatory power across all outcomes tested in the paper: gender of the subject, mother’s IQ score, High-risk Index, and Apgar Score at 1 minute. The confidence intervals are calculated at the 10% significance level.

Figure E.2: Effect of Center-based Childcare on Labor Market Outcomes, Accounting for Endogenous Take-up of Alternative Preschool Using Instrumental Variables

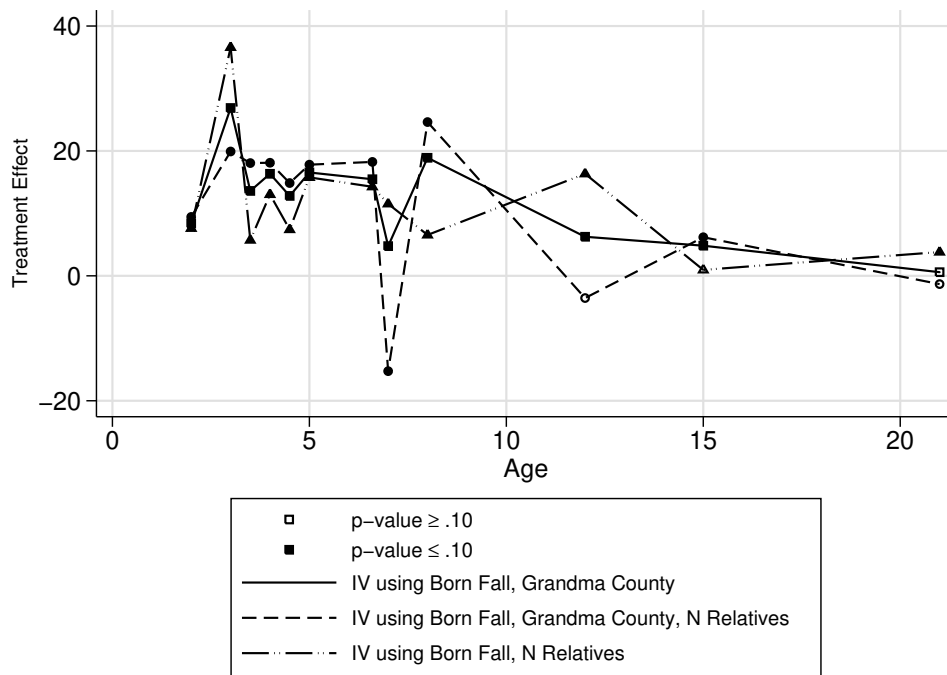


Note: This plot presents the parameter associated with  $D$  from a regression of  $Y$  on  $D$ ,  $Q$ , and  $\mathbf{X}$ , using  $R$  and  $\mathbf{Z}(1 - R)$  as instruments. The outcomes ( $Y$ ) are different adult outcomes labeled in the horizontal axis.  $\mathbf{X}$  includes a set of controls selected from all available baseline controls to maximize explanatory power across all outcomes tested in the paper: gender of the subject, mother's IQ score, High-risk Index, and Apgar Score at 1 minute. The confidence intervals are calculated at the 10% significance level.

### E.2.2 Varying the Sets of Instruments

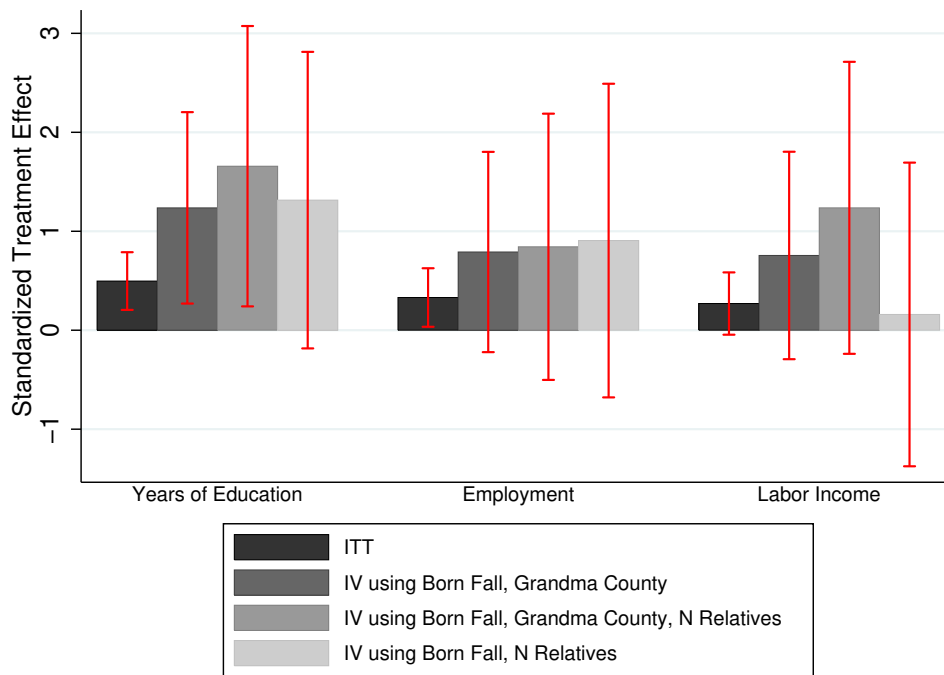
Figure E.3 and Figure E.4 explore the sensitivity of the estimates to different sets of instruments. The pattern of results indicates that the method is generally robust to the three sets of instrumental variables that we consider.

Figure E.3: Effect of Center-based Childcare on IQ Scores, Accounting for Endogenous Take-up of Alternative Preschool Using Various Instrumental Variables



Note: This plot presents the parameter associated with  $D$  from a regression of  $Y$  on  $D$ ,  $Q$ , and  $\mathbf{X}$ , using  $R$  and  $\mathbf{Z}(1 - R)$  as instruments. The outcomes ( $Y$ ) are IQ scores at different ages, with a national standard deviation of 15 and a mean of 100.  $\mathbf{X}$  includes a set of controls selected from all available baseline controls to maximize explanatory power across all outcomes tested in the paper: gender of the subject, mother's IQ score, High-risk Index, and Apgar Score at 1 minute. The confidence intervals are calculated at the 10% significance level.

Figure E.4: Effect of Center-based Childcare on Labor Market Outcomes, Accounting for Endogenous Take-up of Alternative Preschool Using Various Instrumental Variables



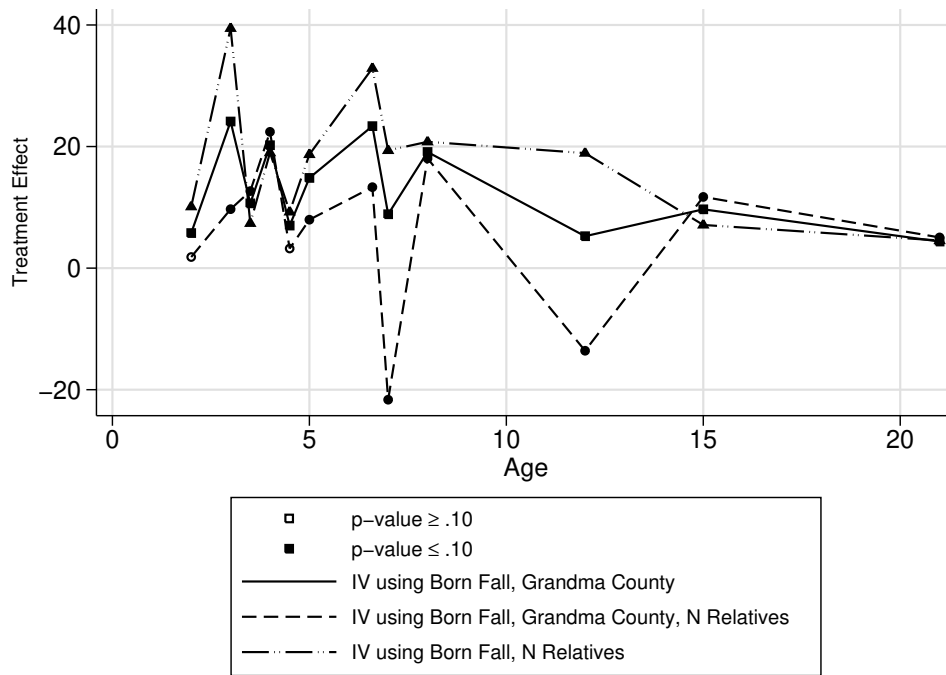
Note: This plot presents the parameter associated with  $D$  from a regression of  $Y$  on  $D$ ,  $Q$ , and  $\mathbf{X}$ , using  $R$  and  $\mathbf{Z}(1 - R)$  as instruments. The outcomes ( $Y$ ) are different adult outcomes labeled in the horizontal axis.  $\mathbf{X}$  includes a set of controls selected from all available baseline controls to maximize explanatory power across all outcomes tested in the paper: gender of the subject, mother’s IQ score, High-risk Index, and Apgar Score at 1 minute. The confidence intervals are calculated at the 10% significance level.

### E.2.3 Varying the Specification of the Instruments

We now present an exercise to evaluate the sensitivity of the results to different specifications of the instrumental variables. First, Figure E.5 and Figure E.6 present the results using the set of instruments that are not interacted with an indicator for randomization into the control group ( $1 - R$ ). Figure E.7 and Figure E.8 present results not only interacting the instruments but also interacting the observed characteristics we control for. In both exercises, we use  $Q$  as the endogenous variable, along with  $D$ .

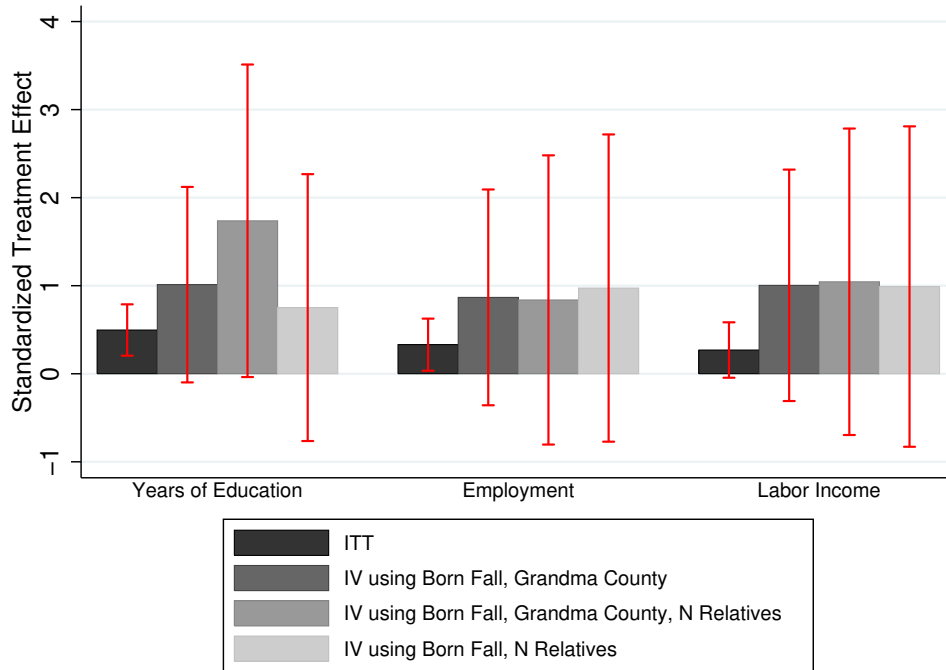
The results follow the same patterns as before, although they change when the instruments are not interacted. This makes economic sense because the interacted instruments better represent the economic intuition we offer before: the instruments other than  $R$  are more likely to shift the decisions of the families of the control-group subjects compared to those of the treatment-group subjects.

Figure E.5: Effect of Center-based Childcare on IQ Scores, Accounting for Endogenous Take-up of Alternative Preschool Using Various Instrumental Variables Specifications



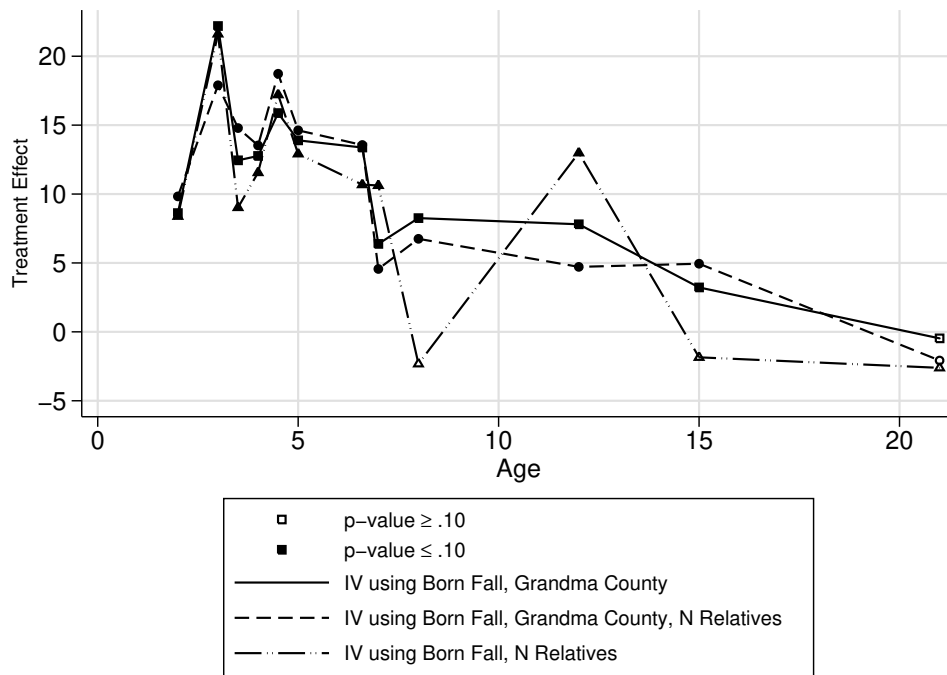
Note: This plot presents the parameter associated with  $D$  from a regression of  $Y$  on  $D$ ,  $Q$ , and  $\mathbf{X}$ , using  $R$  and  $\mathbf{Z}$  as instruments.  $Y$  is different IQ tests, with a national standard deviation of 15 and a mean of 100.  $\mathbf{X}$  includes a set of controls selected from all available baseline controls to maximize explanatory power across all outcomes tested in the paper: gender of the subject, mother's IQ, High-risk Index, and Apgar Score at 1 minute. The confidence intervals are calculated at the 10% significance level.

Figure E.6: Effect of Center-based Childcare on Labor Market Outcomes, Accounting for Endogenous Take-up of Alternative Preschool Using Various Instrumental Variables Specifications



Note: This plot presents the parameter associated with  $D$  from a regression of  $Y$  on  $D$ ,  $Q$ , and  $\mathbf{X}$ , using  $R$  and  $\mathbf{Z}$  as instruments. The outcomes ( $Y$ ) are different adult outcomes labeled in the horizontal axis.  $\mathbf{X}$  includes a set of controls selected from all available baseline controls to maximize explanatory power across all outcomes tested in the paper: gender of the subject, mother's IQ score, High-risk Index, and Apgar Score at 1 minute. The confidence intervals are calculated at the 10% significance level.

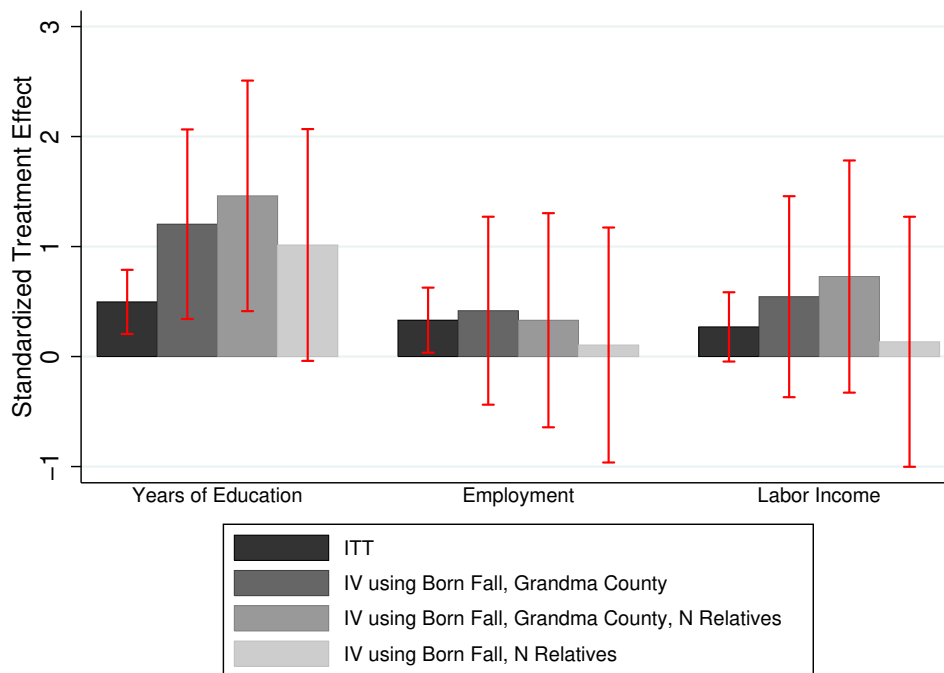
Figure E.7: Effect of Center-based Childcare on IQ Scores, Accounting for Endogenous Take-up of Alternative Preschool Using Various Instrumental Variables Specifications



Note: This plot presents the parameter associated with  $D$  from a regression of  $Y$  on  $D$ ,  $Q$ , and  $\mathbf{X}$ , using  $R$ ,  $\mathbf{X}(1 - R)$  and  $\mathbf{Z}(1 - R)$  as instruments. The outcomes ( $Y$ ) are IQ scores at different ages, with a national standard deviation of 15 and a mean of 100.  $\mathbf{X}$  includes a set of controls selected from all available baseline controls to maximize explanatory power across all outcomes tested in the paper: gender of the subject, mother's IQ score, High-risk Index, and Apgar Score at 1 minute. The confidence intervals are calculated at the 10% significance level.



Figure E.8: Effect of Center-based Childcare on Labor Market Outcomes, Accounting for Endogenous Take-up of Alternative Preschool Using Various Instrumental Variables Specifications

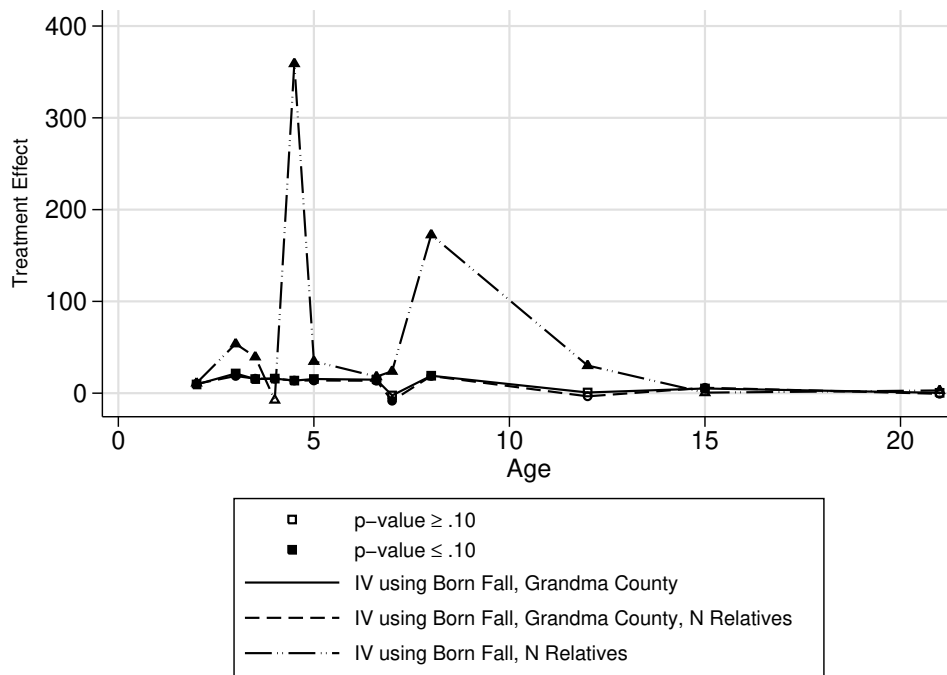


Note: This plot presents the parameter associated with  $D$  from a regression of  $Y$  on  $D$ ,  $Q$ , and  $\mathbf{X}$ , using  $R$ ,  $\mathbf{X}(1 - R)$  and  $\mathbf{Z}(1 - R)$  as instruments. The outcomes ( $Y$ ) are different adult outcomes labeled in the horizontal axis.  $\mathbf{X}$  includes a set of controls selected from all available baseline controls to maximize explanatory power across all outcomes tested in the paper: gender of the subject, mother’s IQ score, High-risk Index, and Apgar Score at 1 minute. The confidence intervals are calculated at the 10% significance level.

#### E.2.4 Varying the Parameterization of Alternative Preschool Take-up

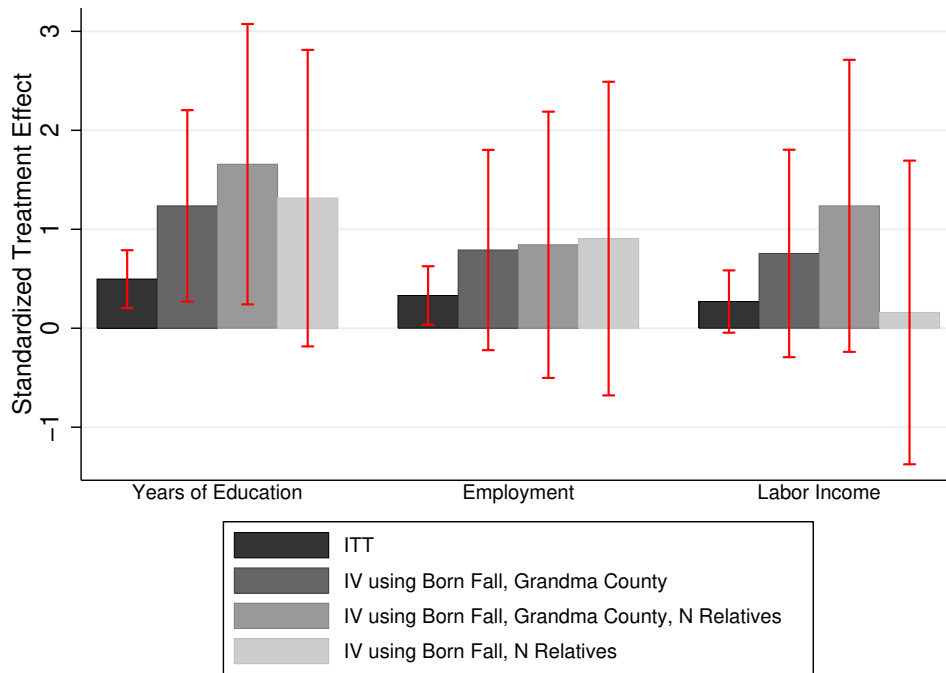
Now, we explore the sensitivity to the specification of  $Q$  in (3). We consider two alternatives. First, we use an indicator of take-up of alternative preschool,  $V$  (Figure E.9 and Figure E.10). Second, we take the log of  $Q$  (Figure E.11 and Figure E.12).

Figure E.9: Effect of Center-based Childcare on IQ Scores, Accounting for an Endogenous Indicator of Take-up of Alternative Preschool



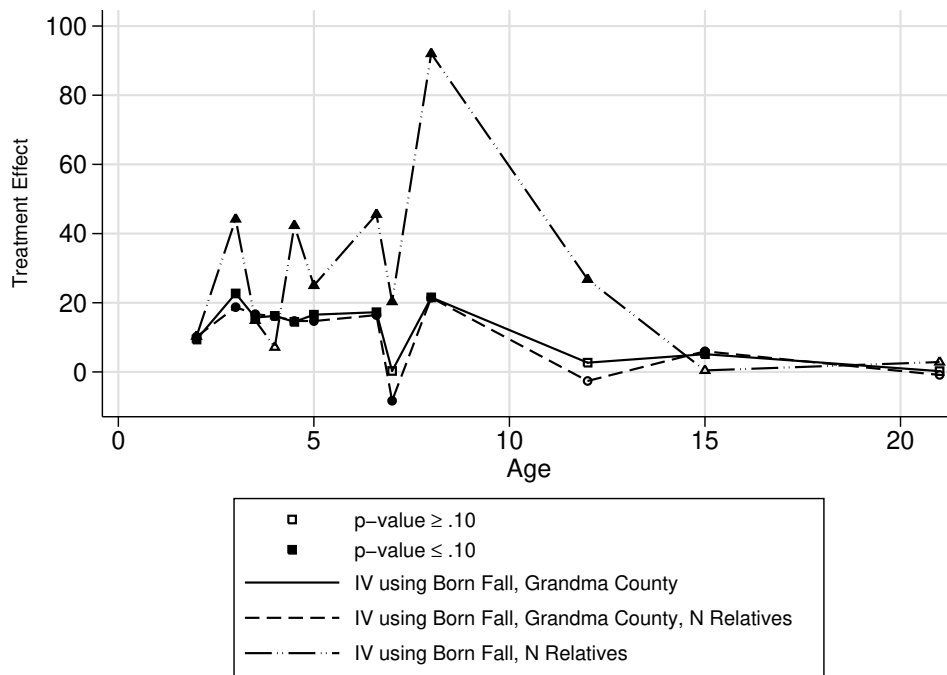
Note: This plot presents the parameter associated with  $D$  from a regression of  $Y$  on  $D$ ,  $V$ , and  $\mathbf{X}$ , using  $R$ ,  $\mathbf{Z}(1 - R)$  as instruments. The outcomes ( $Y$ ) are IQ scores at different ages, with a national standard deviation of 15 and a mean of 100.  $\mathbf{X}$  includes a set of controls selected from all available baseline controls to maximize explanatory power across all outcomes tested in the paper: gender of the subject, mother's IQ score, High-risk Index, and Apgar Score at 1 minute. The confidence intervals are calculated at the 10% significance level.

Figure E.10: Effect of Center-based Childcare on Labor Market Outcomes, Accounting for an Endogenous Indicator of Take-up of Alternative Preschool



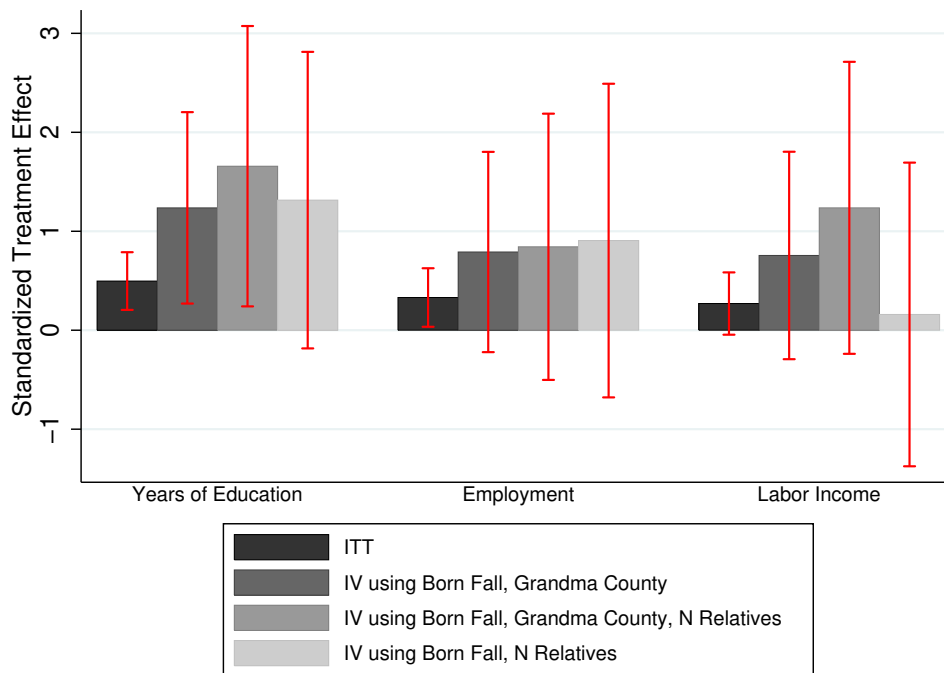
Note: This plot presents the parameter associated to  $D$  from a regression of  $Y$  on  $D$ ,  $V$ , and  $\mathbf{X}$ , using  $R$ ,  $\mathbf{Z}(1 - R)$  as instruments. The outcomes ( $Y$ ) are different relevant adult outcomes labeled in the horizontal axis.  $\mathbf{X}$  includes a set of controls selected from all available baseline controls to maximize explanatory power across all outcomes tested in the paper: gender of the subject, mother's IQ score, High-risk Index, and Apgar Score at 1 minute. The confidence intervals are calculated at the 10% significance level.

Figure E.11: Effect of Center-based Childcare on IQ Scores, Accounting for Endogenous (log) Months of Take-up of Alternative Preschool



Note: This plot presents the parameter associated with  $D$  from a regression of  $Y$  on  $D$ ,  $\log Q$ , and  $\mathbf{X}$ , using  $R$ ,  $\mathbf{Z}(1 - R)$  as instruments. The outcomes ( $Y$ ) are IQ scores at different ages, with a national standard deviation of 15 and a mean of 100.  $\mathbf{X}$  includes a set of controls selected from all available baseline controls to maximize explanatory power across all outcomes tested in the paper: gender of the subject, mother's IQ score, High-risk Index, and Apgar Score at 1 minute. The confidence intervals are calculated at the 10% significance level.

Figure E.12: Effect of Center-based Childcare on Labor Market Outcomes, Accounting for Endogenous (log) Months of Take-up of Alternative Preschool



Note: This plot presents the parameter associated with  $D$  from a regression of  $Y$  on  $D$ ,  $\log Q$ , and  $\mathbf{X}$ , using  $R$ ,  $\mathbf{Z}(1 - R)$  as instruments. The outcomes ( $Y$ ) are different adult outcomes labeled in the horizontal axis.  $\mathbf{X}$  includes a set of controls selected from all available baseline controls to maximize explanatory power across all outcomes tested in the paper: gender of the subject, mother’s IQ score, High-risk Index, and Apgar Score at 1 minute. The confidence intervals are calculated at the 10% significance level.

### E.3 Control Functions

We now consider a control function approach. With control functions, the objective is also to simultaneously account for take-up of center-based childcare and alternative preschool.

#### E.3.1 Setup

The method we propose is an application of the selection correction in Heckman (1979). We model the selection into both endogenous variables of interest, center-based childcare and alternative preschool. The method involves three equations: (i) the outcome equation; (ii)

the probability of participating in center-based childcare; (iii) a linear equation describing the number of months enrolled in preschool alternatives.

Let  $Y^0$  be the counterfactual outcome of subject  $i$  when not participating in center-based childcare. Similarly, let  $Y^1$  be her potential outcome if she participates. We model the outcome as:

$$\begin{aligned} Y^1 &= \alpha^1 + \mathbf{X}\boldsymbol{\beta} + \varepsilon^1 \\ Y^0 &= \alpha^0 + \mathbf{X}\boldsymbol{\beta} + \alpha^Q Q + \varepsilon^0. \end{aligned} \tag{4}$$

The equation describing participation in center-based childcare is:

$$D = \begin{cases} 0 & \text{if } D^* \leq 0 \\ 1 & \text{if } D^* > 0, \end{cases} \tag{5}$$

where we interpret  $D^*$  as a latent continuous variable representing the household's interest in sending the subject to treatment. We write

$$D^* = \mathbf{W}\boldsymbol{\gamma}^D + \boldsymbol{\varepsilon}^D, \tag{6}$$

where  $\mathbf{W}$  is a vector that includes  $\mathbf{X}$  and  $R$  and can include variables that shift the decision to enroll subjects into ABC/CARE without shifting the counterfactual outcome of interest,  $Y^d$ .

We model the selection into months of alternative preschool as a linear equation with fixed coefficients:

$$Q = \mathbf{W}\gamma^Q + \varepsilon^Q, \quad (7)$$

In general, the unobserved variables in each of these equations are correlated. We assume that they are distributed as follows:

$$\begin{bmatrix} \varepsilon^1 \\ \varepsilon^0 \\ \varepsilon^D \end{bmatrix} \sim \mathcal{N} \left[ \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \sigma_1^2 & \sigma_{1,0} & \sigma_{1,D} \\ \sigma_{1,0} & \sigma_0^2 & \sigma_{0,D} \\ \sigma_{1,D} & \sigma_{0,D} & 1 \end{pmatrix} \right], \quad (8)$$

where we normalize  $\text{Var}(\varepsilon^D) = 1$ .

Further, we assume that

$$\mathbb{E}[\varepsilon^0 | D = 0, \mathbf{W}, \varepsilon^Q, Q = q] = \sigma^{0,Q} \varepsilon^Q + \mathbb{E}[\varepsilon^0 | D = 0, \mathbf{W}]. \quad (9)$$

### E.3.2 Identification

The following steps identify the parameters of interest. First, we estimate the parameters characterizing the decision to enroll the subject in center-based childcare. We exploit the assumption that  $\varepsilon^D \sim \mathcal{N}(0, 1)$  in (8) and estimate the parameters in (6) using a probit model.

Second, we approximate the unobserved term relevant to the choice of  $Q$ . We take the coefficients in (7) to obtain an estimate for  $\varepsilon^Q$ . By linearly conditioning on this term, we account for the correlation between the error term in the decision for  $Q$  and the error term in the outcome equation,  $\varepsilon^0$ .

Third, we estimate the coefficients in the outcome equation using the proxies for the unob-

served components. We rewrite (4) using conditional expectations:

$$\begin{aligned}
\mathbb{E}[Y^1|D = 1, \mathbf{W}] &= \alpha^1 + \mathbf{X}\boldsymbol{\beta} + \mathbb{E}[\varepsilon^1|D = 1, \mathbf{W}] \\
\mathbb{E}[Y^0|D = 0, \mathbf{W}, \varepsilon^Q, Q = q] &= \alpha^0 + \mathbf{X}\boldsymbol{\beta} + \alpha^Q q \\
&+ \mathbb{E}[\varepsilon^0|D = 0, \mathbf{W}, \varepsilon^Q, Q = q].
\end{aligned} \tag{10}$$

Once we condition on the proxy for  $\varepsilon^Q$ , the error term in the outcome equations only depends on the selection into center-based childcare. The conditional error terms in (10) can be specified using control functions.

For subjects enrolled in treatment, the control function is:

$$\mathbb{E}[\varepsilon^1|D = 1, \mathbf{W}] = \sigma_1 \frac{\phi(\mathbf{W}\gamma^D)}{\Phi(\mathbf{W}\gamma^D)}. \tag{11}$$

For subjects not enrolled in the treatment, the control function is:

$$\mathbb{E}[\varepsilon^0|D = 0, \mathbf{W}, \varepsilon^Q, Q = q] = \sigma^{0,Q}\varepsilon^Q - \sigma_0 \frac{\phi(\mathbf{W}\gamma^D)}{\Phi(-\mathbf{W}\gamma^D)}. \tag{12}$$

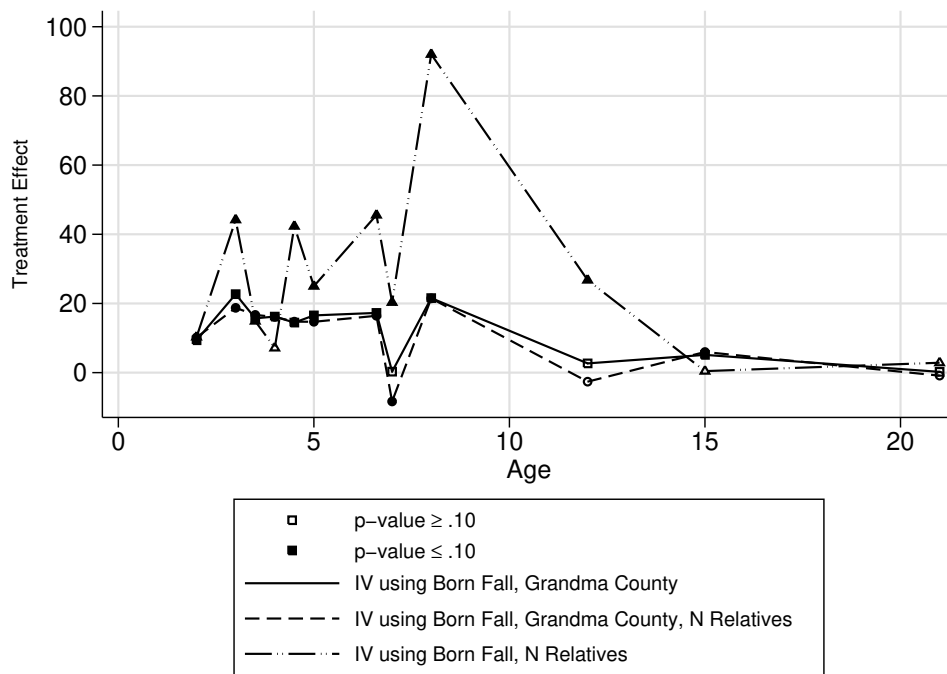
## E.4 Estimates

By including the control functions, we can recover consistent estimates of the parameters in (4) through a linear regression. The effect of center-based childcare is the difference of the intercepts in the two outcome equations.



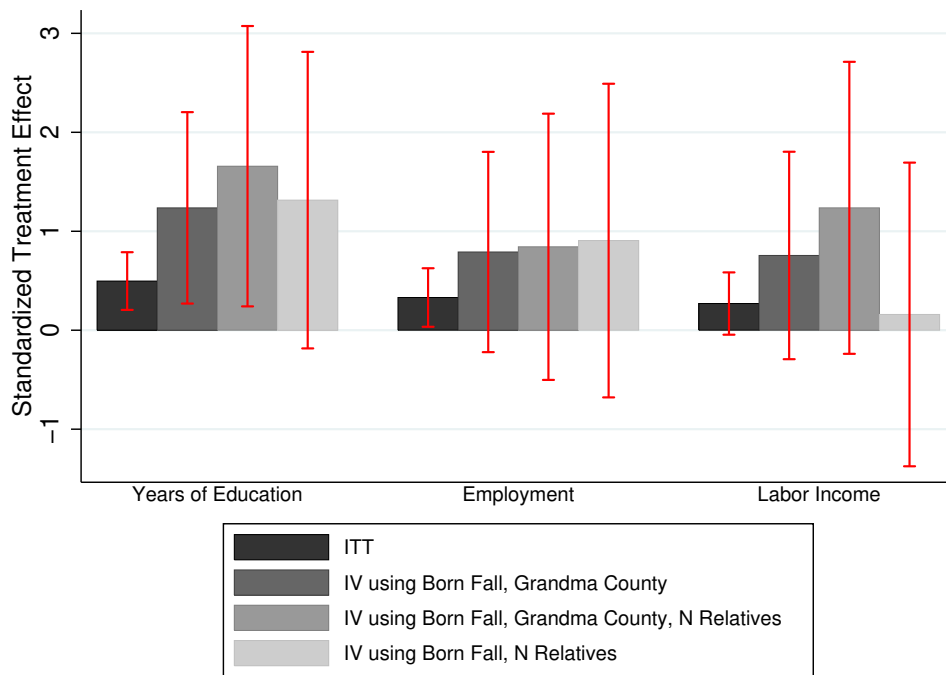
The charts below present the estimates for the parameter associated with  $D$ . That is, the effect of participating in center-based childcare relative to a counterfactual of receiving no preschool alternative. As before, we present results for IQ scores at different ages and for a set of relevant adult outcomes. The results are not compelling, as they present irregularities over the life cycle that differ from the rest of results we present in the paper and throughout this appendix.

Figure E.13: Effect of Center-based Childcare on IQ Scores, Accounting for Endogenous (log) Months of Take-up of Alternative Preschool



Note: This plot presents the parameter associated with  $D$  estimated using Control Functions as described in the text. The outcomes ( $Y$ ) are IQ scores at different ages with a national standard deviation of 15 and a mean of 100.  $D = 1$  for subjects that participate in ABC/CARE center-based childcare, and  $D = 0$  for subjects who do not participate in treatment.  $Q$  is the number of months attending preschool. It is coded as zero for subjects participating in ABC/CARE.  $\mathbf{X}$  includes a set of controls selected from all available baseline controls to maximize explanatory power across all outcomes tested in the paper: gender of the subject, mother’s IQ score, High-risk Index, and Apgar Score at 1 minute.

Figure E.14: Effect of Center-based Childcare on Labor Market Outcomes, Accounting for Endogenous (log) Months of Take-up of Alternative Preschool



Note: This plot presents the parameter associated with  $D$  estimated using Control Functions as described in the text. The outcomes ( $Y$ ) are different adult outcomes labeled in the horizontal axis.  $D = 1$  for subjects that participate in ABC/CARE center-based childcare, and  $D = 0$  for subjects who do not participate in treatment.  $Q$  is the number of months attending preschool. It is coded as zero for subjects participating in ABC/CARE.  $\mathbf{X}$  includes a set of controls selected from all available baseline controls to maximize explanatory power across all outcomes tested in the paper: gender of the subject, mother's IQ score, High-risk Index, and Apgar Score at 1 minute.

## Appendix References

- Ad Hoc Committee of Professionals in Child Care Services, North Carolina (1974, July). Letter to Governor Holshouser.
- Administrative Branch, Office of Day Care Services (1982, December). Day care cost study. Technical report, Administrative Branch, Office of Day Care Services, Raleigh, NC.
- Anderson, M. L. (2008, December). Multiple inference and gender differences in the effects of early intervention: A reevaluation of the Abecedarian, Perry Preschool and Early Training Projects. *Journal of the American Statistical Association* 103(484), 1481–1495.
- Baker, M. and K. Milligan (2013, March). Boy-girl differences in parental time investments: Evidence from three countries. Working Paper 18893, National Bureau of Economic Research.
- Barnett, W. S. and L. N. Masse (2002). A benefit-cost analysis of the Abecedarian Early Childhood Intervention. Technical report, National Institute for Early Education Research, New Brunswick, NJ.
- Bertrand, M. and J. Pan (2013, January). The trouble with boys: Social influences and the gender gap in disruptive behavior. *American Economic Journal: Applied Economics* 5(1), 32–64.
- Bryant, D. M., C. T. Ramey, J. J. Sparling, and B. H. Wasik (1987). The carolina approach to responsive education a model for day care. *Topics in Early Childhood Special Education* 7(1), 48–60.
- Buckles, K. S. and D. M. Hungerman (2013). Season of birth and later outcomes: Old questions, new answers. *Review of Economics and Statistics* 95(3), 711–724.
- Burchinal, M. R., F. A. Campbell, D. M. Bryant, B. H. Wasik, and C. T. Ramey (1997, October). Early intervention and mediating processes in cognitive performance of children of low-income African American families. *Child Development* 68(5), 935–954.
- Burchinal, M. R., M. Lee, and C. T. Ramey (1989). Type of day-care and preschool intellectual development in disadvantaged children. *Child Development* 60(1), 128–137.
- Campbell, F. A., G. Conti, J. J. Heckman, S. H. Moon, R. Pinto, E. P. Pungello, and Y. Pan (2014). Early childhood investments substantially boost adult health. *Science* 343(6178), 1478–1485.
- Campbell, F. A. and C. T. Ramey (1989, April). Preschool vs. school-age intervention for disadvantaged children: Where should we put our efforts? Report, North Carolina University, Frank Porter Graham Center, Chapel Hill. Paper presented at the Biennial Meeting of the Society for Research in Child Development (Kansas City, MO, April 27–29, 1989).

- Campbell, F. A. and C. T. Ramey (1994, April). Effects of early intervention on intellectual and academic achievement: A follow-up study of children from low-income families. *Child Development* 65(2), 684–698.
- Claeskens, G. and N. L. Hjort (2008). *Model Selection and Model Averaging*. Cambridge Series in Statistical and Probabilistic Mathematics. Cambridge, UK: Cambridge University Press.
- Community Planning Services (1973, August). Durham’s share in day care: A task force study. Summary report, Community Planning Services, Durham, NC.
- Cornwell, C., D. B. Mustard, and J. Van Parys (2013). Noncognitive skills and the gender disparities in test scores and teacher assessments: Evidence from primary school. *The Journal of Human Resources* 48(1), 236–264.
- Davis, D. E. (1977). *My friends and me*. Circle Pines, MN: American Guidance Service.
- Department of Health, Education, and Welfare (1968). Federal interagency day care requirements, pursuant to Sec. 522 (D) of the Economic Opportunity Act. Technical report, U.S. Department of Labor, Washington, DC.
- Diebold, F. X. (2007). *Elements of Forecasting* (4 ed.). Mason, OH: Thomson South-Western.
- Dunn, L. M., L. T. Chun, D. C. Crowell, L. G. Dunn, L. G. Avery, and E. R. Yachel (1976). *Peabody early education kit*. Circle Pines, MN: American Guidance Service.
- Feagans, L. V. (1996). *Children’s Talk in Communities and Classrooms*. Cambridge, MA: Blackwell.
- Finkelstein, N. W. (1982). Aggression: Is it stimulated by day care? *Young Children* 37(6), 3–9.
- Golsteyn, B. H. H. and T. Schils (2014). Gender gaps in primary school achievement: A decomposition into endowments and returns to IQ and non-cognitive factors. *Economics of Education Review* 41, 176–187.
- Greenberg, P. and B. Epstein (1973). *Bridges to reading*. Morristown, NJ: General Learning Corporation.
- Haskins, R. (1985, June). Public school aggression among children with varying day-care experience. *Child Development* 56(3), 689–703.
- Haskins, R., A. M. Collier, C. T. Ramey, and P. O. Hirschbiel (1978). The effect of mild illness on habituation in the first year of life. *Journal of Pediatric Psychology* 3(3), 150–155.
- Heckman, J. J. (1979, January). Sample selection bias as a specification error. *Econometrica* 47(1), 153–162.

- Heckman, J. J. (1992). Randomization and social policy evaluation. In C. F. Manski and I. Garfinkel (Eds.), *Evaluating Welfare and Training Programs*, Chapter 5, pp. 201–230. Cambridge, MA: Harvard University Press.
- Heckman, J. J. (2001, November). Accounting for heterogeneity, diversity and general equilibrium in evaluating social programmes. *Economic Journal* 111(475), F654–F699.
- Henderson, F. W., A. M. Collier, M. A. Sanyal, J. M. Watkins, D. L. Fairclough, W. A. Clyde, Jr., and F. W. Denny (1982, June). A longitudinal study of respiratory viruses and bacteria in the etiology of acute otitis media with effusion. *New England Journal of Medicine* 306(23), 1377–1383.
- Horvitz, D. G. and D. J. Thompson (1952). A generalization of sampling without replacement from a finite universe. *Journal of the American Statistical Association* 47(260), 663–685.
- Karnes, M. B. (1973). *GOAL program: Mathematical Concepts*. Springfield, MA: Milton-Bradley.
- Klein, C. and J. Sanders (1982). Status report on programs and projects (as of January 1, 1982). Report, North Carolina University, Frank Porter Graham Center, Chapel Hill.
- Kline, P. and C. Walters (2016). Evaluating public programs with close substitutes: The case of Head Start. *Quarterly Journal of Economics* 131(4), 1795–1848.
- Kottelenberg, M. J. and S. F. Lehrer (2014, August). The gender effects of universal child care in Canada: Much ado about boys? Unpublished manuscript, Department of Economics, Queen’s University.
- Kuperman, S. (2014-2015). Interviews of Frances Campbell, Carrie Bynum, Phyllis Royster, Gael McGinness, Joseph Sparling, Albert Collier, Barbara Wasik, Lynne Vernon-Feagans, Tom Richey, Margaret Burchinal, Thelma Harms, and Richard Clifford. University of Chicago’s Center for the Economics of Human Development, Chicago.
- Kuperman, S. and A. Hojman (2015a). Interview with mary hodgers.
- Kuperman, S. and A. Hojman (2015b). Interview with Richard Clifford and Sue Russell.
- Lehmann, E. L. and J. P. Romano (2005). *Testing Statistical Hypotheses* (3 ed.). New York: Springer-Verlag.
- Lundberg, S. (2005). Sons, daughters, and parental behaviour. *Oxford Review of Economic Policy* 21(3), 340–356.
- Magnuson, K. A., R. Kelchen, G. J. Duncan, H. S. Schindler, and H. Shager, Hilary Yoshikawa (2016). Do the effects of early childhood education programs differ by gender? a meta-analysis. *Early Childhood Research Quarterly* 36.

- McGinness, G. D. (1982). The language of the poverty child: Implications from center-based intervention and evaluation programs. In L. Feagans and D. Farran (Eds.), *The Language of Children Reared in Poverty: Implications for Evaluation and Intervention*, pp. 219–240. New York: Academic Press.
- McGinness, G. D. and C. T. Ramey (1981). Developing sociolinguistic competence in children. *Canadian Journal of Early Childhood Education* 1(2), 22–43.
- Noll, S. and J. Trent (Eds.) (2004). *Mental Retardation in America: A Historical Reader (The History of Disability)*. New York: NYU Press.
- North Carolina General Assembly (1971). Chapter 803, House bill 100. In *North Carolina General Assembly 1971 Session*, North Carolina. An Act to protect children through licensing of day-care facilities and other limited regulation.
- North Carolina State Department of Social Services (1972). Licensed day care facilities in North Carolina as of february 1, 1971. Raleigh, NC.
- O'Brien, C. and J. Sanders (1974). The Carolina Abecedarian Project. Frank Porter Graham Child Development Center.
- Ou, S.-R. and A. J. Reynolds (2010). Mechanisms of effects of an early intervention program on educational attainment: a gender subgroup analysis. *Children and Youth Services Review* 32(8), 1064–1076.
- Ramey, C. T., D. M. Bryant, J. J. Sparling, and B. H. Wasik (1985). Project CARE: A comparison of two early intervention strategies to prevent retarded development. *Topics in Early Childhood Special Education* 5(2), 12–25.
- Ramey, C. T. and F. A. Campbell (1979, February). Compensatory education for disadvantaged children. *The School Review* 87(2), 171–189.
- Ramey, C. T. and F. A. Campbell (1984). Preventive education for high-risk children: Cognitive consequences of the Carolina Abecedarian Project. *American Journal of Mental Deficiency* 88(5), 515–523.
- Ramey, C. T. and F. A. Campbell (1991). Poverty, early childhood education and academic competence: The Abecedarian experiment. In A. C. Houston (Ed.), *Children in Poverty: Child Development and Public Policy*, Chapter 8, pp. 190–221. New York: Cambridge University Press.
- Ramey, C. T., F. A. Campbell, M. Burchinal, M. L. Skinner, D. M. Gardner, and S. L. Ramey (2000). Persistent effects of early childhood education on high-risk children and their mothers. *Applied Developmental Science* 4(1), 2–14.
- Ramey, C. T., A. M. Collier, J. J. Sparling, F. A. Loda, F. A. Campbell, D. A. Ingram, and N. W. Finkelstein (1976). The Carolina Abecedarian Project: A longitudinal and multidisciplinary approach to the prevention of developmental retardation. In T. Tjossem (Ed.), *Intervention Strategies for High-Risk Infants and Young Children*, pp. 629–655. Baltimore, MD: University Park Press.

- Ramey, C. T. and R. Haskins (1981). The modification of intelligence through early experience. *Intelligence* 5(1), 5–19.
- Ramey, C. T., M. C. Holmberg, J. H. Sparling, and A. M. Collier (1977). An introduction to the Carolina Abecedarian Project. In B. M. Caldwell and D. J. Stedman (Eds.), *Infant Education: A Guide for Helping Handicapped Children in the First Three Years*, Chapter 7, pp. 101–121. New York: Walker and Company.
- Ramey, C. T., G. D. McGinness, L. Cross, A. M. Collier, and S. Barrie-Blackley (1982). The Abecedarian approach to social competence: Cognitive and linguistic intervention for disadvantaged preschoolers. In K. M. Borman (Ed.), *The Social Life of Children in a Changing Society*, Chapter 7, pp. 145–174. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Ramey, C. T., P. Mills, F. A. Campbell, and C. O'Brien (1975, July). Infants' home environments: A comparison of high-risk families and families from the general population. *American Journal of Mental Deficiency* 80(1), 40–42.
- Ramey, C. T. and B. J. Smith (1977, January). Assessing the intellectual consequences of early intervention with high-risk infants. *American Journal of Mental Deficiency* 81(4), 318–324.
- Ramey, C. T., J. J. Sparling, and S. L. Ramey (2012). *Abecedarian: The Ideas, the Approach, and the Findings* (1 ed.). Los Altos, CA: Sociometrics Corporation.
- Robins, P. (1988). Federal support for child care: Current policies and a proposed new system. *Focus* 11(2), 1–9.
- Romano, J. P. and M. Wolf (2005, March). Exact and approximate stepdown methods for multiple hypothesis testing. *Journal of the American Statistical Association* 100(469), 94–108.
- Rosenbaum, P. R. (2005). An exact distribution-free test comparing two multivariate distributions based on adjacency. *Journal of the Royal Statistical Society* 67(4), 515–530.
- Sanders, J. and D. B. Stokes (1979, March). Status report on programs and projects as of March 1, 1979. Report, North Carolina University, Frank Porter Graham Center, Chapel Hill.
- Sanyal, M. A., F. W. Henderson, E. C. Stempel, A. M. Collier, and F. W. Denny (1980). Effect of upper respiratory tract infection on Eustachian tube ventilatory function in the preschool child. *Journal of Pediatrics* 97(1), 11–15.
- Schore, A. N. (2017, January/February). All our sons: The developmental neurobiology and neuroendocrinology of boys at risk. *Infant Mental Health Journal* 38(1), 15–52.
- Sparling, J. and I. Lewis (1979). *Learning Games for the First Three Years: A Guide to Parent/Child Play*. New York: Walker and Company.

- Sparling, J. and I. Lewis (1984). *Learning Games for Threes and Fours*. New York: Walker and Company.
- Sparling, J. J. (1974). Synthesizing educational objectives for infant curricula. Annual Meeting of the American Educational Research Association.
- Wallach, M. A. and L. Wallach (1976). *Teaching All Children to Read*. Chicago: University of Chicago Press.
- Wasik, B. H., C. Ramey, D. M. Bryant, and J. J. Sparling (1990, December). A longitudinal study of two early intervention strategies: Project CARE. *Child Development* 61(6), 1682–1696.