APPENDIX 6.1: DETAILED OUTCOME TABLES

This Appendix presents graphs comparing various Even Start and control group outcome measures at pretest and posttest. For ease of reading, the graphs have been constructed so that only a portion of the full range of data is shown. The small differences between Even Start and control groups at pretest, or at posttest, may sometimes look large because of the way they are presented. Unless otherwise indicated, these differences are not statistically significant. The Appendix includes the following sets of graphs:

- Child outcomes
  - PPVT
  - Woodcock-Johnson
  - Story & Print Concepts
  - Social skills rating system
  - Vineland
  - School records
- Parent report of child literacy
- Parent outcomes
  - Woodcock-Johnson
  - Parent education, GED attainment, employment, income
- Parent report of parent literacy at home
- Parent report of parent-child reading
- Parent report of literacy resources at home
- Parent report of parent support of child’s school
- Comparison of pretest parent report data for EDS and ESPIRS samples
CHILD OUTCOMES

- PPVT
- Woodcock-Johnson
- Story & Print Concepts
- Social skills rating system
- Vineland
- School records
Exhibit 6.1.1: Child PPVT

- PPVT: Measures listening comprehension for spoken words. It assesses children's knowledge of the meaning of words by asking them to say or point to which of four pictures best shows the meaning of a word that is said aloud.
- Even Start children gain from pretest to posttest (4.0 points or .27 std dev)
- Control children gain (3.6 points or .24 std dev)
- No significant difference between Even Start and control gains (p<.86)
- At posttest, Even Start children score at the 6th and Controls at the 8th percentile
- When we delete Even Start children with no ECE (24 of 111 children were deleted) the gain for Even Start children is larger (5.4 points or .36 std dev), but still no significant difference between Even Start and control gains
- Head Start children (from the FACES study) gain 4.2 points over a year
Exhibit 6.1.2: Child WJ-R: Letter-Word Identification

- **Letter-Word Identification**: The first five items involve symbolic learning, or the ability to match a rebus (pictographic representation of a word) with an actual picture of the object. The remaining items measure reading skills in identifying isolated letters and words that appear in large type.
- Even Start children gain from pretest to posttest (7.8 points or .32 std dev)
- Control children gain (10.5 points or .43 std dev)
- No significant difference between Even Start and control gains (p<.32)
- At posttest, Even Start children score at the 23rd and Controls at the 27th percentile
- At posttest, Even Start and Control children score below grade K.0
- W-scores are equal-interval scores. Like a ruler; the same scale is used for children of all ages. Standard scores are like using a different ruler for children of different ages.
Dictation: The first six items measure prewriting skills such as drawing lines and copying letters. The remaining items measure the child’s skill in providing written responses to questions requiring knowledge of letter forms, spelling, punctuation, capitalization and word usage.

- Even Start children gain from pretest to posttest (25.5 points or .76 std dev)
- Control children gain (20.8 points or .62 std dev)
- No significant difference between Even Start and control gains (p<.49)
- At posttest, Even Start children score at the 14th and Controls at the 16th percentile
- At posttest, Even Start and Control children score below grade K.0
Exhibit 6.1.4: Child WJ-R: Applied Problems

- **Applied Problems**: Measures skill in analyzing and solving practical math problems. Child must recognize the procedure to be followed and then perform simple counting or addition or subtraction operations.
- Even Start children gain from pretest to posttest (17.0 points or .80 std dev)
- Control children gain (24.6 points or 1.15 std dev)
- No significant difference between Even Start and control gains (p<.06)
- At posttest, Even Start children score at the 19th and Controls at the 32nd percentile
- At posttest, Even Start and Control children score below grade K.0
Incomplete Words: A tape-recorded test that measures auditory processing. After hearing a recorded word that has one or more phonemes missing, the child identifies the complete word.

- Even Start children gain from pretest to posttest (10.2 points or .54 std dev)
- Control children gain (19.5 points or 1.03 std dev)
- No significant difference between Even Start and control gains (p<.08)
- At posttest, Even Start children score at the 15th and Controls at the 30th percentile
- At posttest, Even Start and Control children score below grade K.0
Exhibit 6.1.6: Child WJ-R: Sound Blending

- Sound Blending: Measures the ability to integrate and then say whole words after hearing parts (syllables and/or phonemes) of the words. Not given if under age 4.
- Even Start children gain from pretest to posttest (12.4 points or .72 std dev)
- Control children gain (10.6 points or .62 std dev)
- No significant difference between Even Start and control gains (p<.62)
- At posttest, Even Start children score at the 24th and Controls at the 32nd percentile
- At posttest, Even Start children score at grade K.2 and Controls at grade K.2

- Even Start children gain from pretest to posttest (17.5 points or .78 std dev)
- Control children gain (19.2 points or .85 std dev)
- No significant difference between Even Start and control gains (p<.62)
- At posttest, Even Start children score at the 12th and Controls at the 17th percentile
- At posttest, Even Start and Control children score below grade K.0
Story & Print Concepts: Taken from FACES battery of measures. The child is read a story and asked basic questions about both the content of the story and the mechanics of reading. Maximum total score is 11.

- Even Start children gain from pretest to posttest (0.74 points or .23 std dev)
- Control children gain (0.94 points or .29 std dev)
- No significant difference between Even Start and control gains (p<.61)
 Teachers need to become familiar with children in order to complete these rating scales, hence SSRS data were collected only at posttest.

- Social Skills: 30 items that ask the teacher to rate the child on a three-point scale (never, sometimes, very often). Measures cooperation, assertion and self-control. A high score indicates better social skills.

- Problem Behavior: 18 items (10 for the preschool version) that ask the teacher to rate the child on a three-point scale (never, sometimes, very often). Measures internalizing behaviors (acting sad or lonely), externalizing behaviors (acting out), and hyperactivity (not in the preschool version). A high score indicates more problematic behaviors.

- Even Start children scored better than Control children on the Social Skills scale at both the preschool and elementary levels, although the differences are not statistically significant.

- Even Start children scored better than Control children on the Problem Behavior scale at the elementary level (5.3 points or .35 std dev, p<.09). This difference is statistically significant and indicates that in elementary school, Even Start children exhibit fewer problematic behaviors than Control children.
Appendix 6.1: Detailed Outcome Tables

Exhibit 6.1.10: Vineland Communication Posttest Standard Score (Teacher Rating)

- Teachers need to become familiar with children in order to complete the Vineland, hence data were collected only at posttest.
- Vineland Communication Standard Score: This scale consists of 63 items that provide an assessment of literacy functioning.
- Even Start children score at the same level as Control children.
Data were taken from school records on days attended, days absent, days tardy, and referral to special education or presence of an IEP.

- N for % days attended: ES = 83, C = 22
- N for % days absent: ES = 75, C = 25
- N for % ever tardy: ES = 49, C = 16
- N for % in special education: ES = 97, C = 28

No significant difference between Even Start and Control children on any of these variables at the preschool level.
Data were taken from school records on days attended, days absent, days tardy, and referral to special education or presence of an IEP.

- N for % days attended: ES = 37, C = 17
- N for % days absent: ES = 37, C = 19
- N for % ever tardy: ES = 23, C = 8
- N for % in special education: ES = 39, C = 19

No significant difference between Even Start and Control children on any of these variables at the elementary level.
PARENT REPORT OF CHILD LITERACY

- Child knows alphabet
- Child counts to 100
- Child knows colors
- Extent child reads (age <2,6 years)
- Extent child reads (age >2,6 years)
- Age-appropriate writing skills
- Child knows print concepts
Exhibit 6.1.13: Percent of Children Who Know the Alphabet (Parent Report)

- Even Start children gain from pretest to posttest (4.29%)
- Control children gain (9.65%)
- No significant difference between Even Start and control gains (p<.24)
Appendix 6.1: Detailed Outcome Tables

Exhibit 6.1.14: Percent of Children Who Can Count to 100
(Parent Report)

- Even Start children gain from pretest to posttest (6.29%)
- Control children gain (10.13%)
- No significant difference between Even Start and control gains (p<.29)
Exhibit 6.1.15: Percent of Children Who Know Colors Red, Yellow, Blue, Green (Parent Report)

- Even Start children gain from pretest to posttest (17.20%)
- Control children gain (14.29%)
- No significant difference between Even Start and control gains (p<.88)
Exhibit 6.1.16: Extent to Which Child <2 yrs, 6 mos Reads
(Parent Report, range of 0-4)

- Extent to Which Child Reads (age 0,0 – 2,6): Has values from 0 to 4. Value increases by 1 if child pretends to read, has memorized book, pretends to read to someone else, has favorite book.
- Even Start children gain from pretest to posttest (1.04 points or .95 std dev)
- Control children gain (1.04 points or .95 std dev)
- No significant difference between Even Start and control gains (p<.99)
Exhibit 6.1.17: Extent to Which Child > 2 yrs, 6 mos Reads
(Parent Report, range of 0-9)

- Extent to Which Child Reads (age 2.7 – 7.11): Has values from 0 to 9. Value increases by 1 if child pretends to read, reads for enjoyment, has memorized book, has favorite book, can follow written directions, can describe something learned through reading, rereads sentences, reads/pretends to read to someone else, recognizes own first name in writing/print.
- Even Start children gain from pretest to posttest (0.65 points or .29 std dev)
- Control children gain (0.25 points or .11 std dev)
- No significant difference between Even Start and control gains (p<.14)
Exhibit 6.1.18: Age-Appropriate Writing Skills
(Parent Report, range of 0-2)

- Age-Appropriate Writing Skills: Has values from 0 to 2. Value increases by 1 if child pretends to write, writes some letters of the alphabet.
- Even Start children gain from pretest to posttest (0.22 points or .33 std dev)
- Control children gain (0.24 points or .36 std dev)
- No significant difference between Even Start and control gains (p<.74)
Exhibit 6.1.19: Child Knowledge of Print Concepts
(Parent Report, range of 0-9)

- Child Knowledge of Print Concepts: Has values from 0 to 9. Value increases by 1 if child shows front of book, child shows page where you start, child shows where to start on page, child shows a picture, child shows a word, child shows last letter in a word, child shows a number, child shows a period, child shows a question mark.
- Even Start children gain from pretest to posttest (0.41 points or .21 std dev)
- Control children gain (0.31 points or .16 std dev)
- No significant difference between Even Start and control gains (p<.78)
PARENT OUTCOMES

- Woodcock-Johnson
- Parent education level
- Parent GED attainment
- Parent employment
- Annual household income
Exhibit 6.1.20: Adult WJ-R: Letter-Word Identification

- Letter-Word Identification: The first five items involve symbolic learning, or the ability to match a rebus (pictographic representation of a word) with an actual picture of the object. The remaining items measure reading skills in identifying isolated letters and words that appear in large type.
- Even Start adults gain from pretest to posttest (4.4 points or .21 std dev)
- Control adults gain (5.4 points or .25 std dev)
- No significant difference between Even Start and control gains (p<.71)
- At posttest, Even Start adults score at the 5th and Controls at the 8th percentile
- At posttest, Even Start adults score at grade 5.4 and Controls at grade 6.0
Passage Comprehension: The first four items are presented in a multiple-choice format requiring the adult to point to the picture represented by a phrase. The remaining items measure skill in reading a short passage and identifying a missing key word.

- Even Start adults gain from pretest to posttest (3.6 points or .22 std dev)
- Control adults gain (4.3 points or .27 std dev)
- No significant difference between Even Start and control gains (p<.77)
- At posttest, Even Start adults score at the 2nd and Controls at the 2nd percentile
- At posttest, Even Start adults score at grade 3.0 and Controls at grade 3.4
Exhibit 6.1.22: Adult WJ-R: Word Attack

- **Word Attack**: Measures skill in applying phonic and structural analysis skills to the pronunciation of unfamiliar printed words. Adult reads aloud letter combinations that are linguistically logical but that form nonsense words.
- **Even Start adults** gain from pretest to posttest (5.4 points or .40 std dev)
- **Control adults** gain (4.5 points or .33 std dev)
- No significant difference between Even Start and control gains (p<.65)
- At posttest, Even Start adults score at the 14th and Controls at the 18th percentile
- At posttest, Even Start adults score at grade 3.8 and Controls at grade 4.3
Reading Vocabulary: Measures skill in reading words and supplying appropriate meanings. In Synonyms, the adult must state a word similar in meaning to the word presented. In Antonyms, the adult must state a word that is opposite in meaning to the word presented.

Even Start adults gain from pretest to posttest (2.4 points or .15 std dev)
Control adults gain (1.6 points or .10 std dev)
No significant difference between Even Start and control gains (p<.56)
At posttest, Even Start adults score at the 1st and Controls at the 2nd percentile
At posttest, Even Start adults score at grade 3.3 and Controls at grade 3.9
Exhibit 6.1.24: Adult WJ-R: Reading Comprehension Cluster  
(Passage Comprehension + Reading Vocabulary)

- Reading Comprehension Cluster: A cluster of scores that provides a measure of reading comprehension skills that includes both comprehension of single-word stimuli and context-embedded stimuli. Sum of Passage Comprehension and Reading Vocabulary.
- Even Start adults gain from pretest to posttest (3.0 points or .20 std dev)
- Control adults gain (3.0 points or .20 std dev)
- No significant difference between Even Start and control gains (p<.99)
- At posttest, Even Start adults score at the 2nd and Controls at the 2nd percentile
- At posttest, Even Start adults score at grade 3.2 and Controls at grade 3.7
Basic Reading Skills Cluster: A cluster of scores that provides a measure of basic reading skills that includes both sight vocabulary and the ability to apply phonic and structural analysis skills. Sum of Letter-Word Identification and Word Attack.

- Even Start adults gain from pretest to posttest (4.9 points or .33 std dev)
- Control adults gain (5.3 points or .35 std dev)
- No significant difference between Even Start and control gains (p<.83)
- At posttest, Even Start adults score at the 8th and Controls at the 12th percentile
- At posttest, Even Start adults score at grade 4.6 and Controls at grade 5.3
Exhibit 6.1.26: Parent's Education Level (in years)

- Even Start adults gain minimally from pretest to posttest (0.09 years or .03 std dev)
- No significant difference between Even Start and control gains (p<.12)
Exhibit 6.1.27: Percent of Parents Who Have a GED or High School Diploma

- Even Start and control adults lose minimally from pretest to posttest (due to reporting error)
- No significant difference between Even Start and control gains
Exhibit 6.1.28: Percent of Employed Parents

- Even Start parents gain 7.1 percentage points
- Control parents gain 13.5 percentage points
- No significant difference between Even Start and control gains
Exhibit 6.1.29: Annual Household Income (categorized)

- Income Category: 1=< $3,000, 2=$3,000-$5,999, 3=$6,000-$8,999, 4=$9,000-$11,999, 5=$12,000-$14,999, 6=$15,000-$19,999, 7=$20,000-$25,000, 8= > $25,000
- Even Start adults gain from pretest to posttest (0.08 points or .04 std dev)
- Control adults gain (0.10 points or .05 std dev)
- No significant difference between Even Start and control gains (p<.91)
PARENT REPORT OF PARENT LITERACY AT HOME

- Variety of parent reading
- Variety of parent writing
Exhibit 6.1.30: Variety of Parent Reading at Home
(Parent Report, range of 0-12)

- Variety of Parent Reading at Home: Has values from 0 to 12. Value increases by 1 if parent reads letters or bills, advertisements, street signs, books, newspapers, labels on food, coupons, notes from teacher or school, magazines, TV Guide, instructions, religious materials.
- Even Start parents gain from pretest to posttest (0.25 points or .09 std dev).
- Control parents also gain (0.65 points or .24 std dev).
- No significant difference between Even Start and control gains (p<.22).
Variety of Parent Writing at Home: Has values from 0 to 11. Value increases by 1 if parent writes appointments on calendar, grocery lists, notes or memos, forms or applications, letters, checks or money orders, greeting cards, crossword puzzles, journal or diary, recipes, stories or poems.

Even Start parents gain from pretest to posttest (0.88 points or .38 std dev)
Control parents also gain (0.57 points or .24 std dev)
No significant difference between Even Start and control gains (p<.25)
PARENT REPORT OF PARENT-CHILD READING

- Parent reads to child daily
- Amount of reading to/with child
- Variety of reading to/with child
- Quality of reading to/with child
Exhibit 6.1.32: Percent of Families That Read to Child Daily
(Parent Report)

- Percent of Even Start families that read to child daily is lower at posttest (-2.5%)
- Same pattern for Control families (-7.3%)
- No significant difference between Even Start and control gains (p<.30)
Exhibit 6.1.33: Amount of Reading to/with Child
(Parent Report, range of 0-3)

- Amount of Reading to/with Child: Has values from 0 to 3. Value increases by 1 if parent reads to child every day, someone else reads to child every day, parent tells story to child every day.
- Even Start families stay constant from pretest to posttest (-.02 points or -.02 std dev)
- Control families do less reading with child at posttest (-0.6 points or -.08 std dev)
- No significant difference between Even Start and control gains (p<.67)
Variety of Reading to/with Child: Has values from 0 to 5. Value increases by 1 if parent does the following to/with child: reads newspapers, reads magazines, reads store catalogs, reads funnies or comic books, reads TV listings.

Even Start families gain from pretest to posttest (0.10 points or .07 std dev)
Control families also gain (0.19 points or .14 std dev)
No significant difference between Even Start and control gains (p<.60)
Exhibit 6.1.35: Quality of Reading to/with Child
(Parent Report, range of 0-5)

- Quality of Reading to/with Child: Has values from 0 to 5. Value increases by 1 if when reading to child, parent stops and asks what is in picture, stops and points out letters, stops and asks what happens next, reads the same story over and over, asks child to read.
- Even Start families gain from pretest to posttest (0.47 points or .29 std dev)
- Control families also gain (0.56 points or .34 std dev)
- No significant difference between Even Start and control gains (p<.58)
**Parent Report of Literacy Resources at Home**

- Number of books that child has
- Variety of non-print resources in the home
- Variety of print resources in the home
Exhibit 6.1.36: Number of Books Child Has (Categorized)  
(Parent Report, range of 0-5)

- Number of Books that Child Has: Has values from 0 to 5. 0 = no books, 1 = 1 or 2 books, 2 = 3 to 10 books, 3 = 11 to 25 books, 4 = 26 to 50 books, 5 = 51+ books.
- Even Start children gain from pretest to posttest (0.31 points or .27 std dev)
- Control children gain (0.35 points or .30 std dev)
- No significant difference between Even Start and control gains (p<.74)
Exhibit 6.1.37: Variety of Non-Print Resources in the Home  
(Parent Report, range of 0-16)

- Variety of Non-Print Resources in the Home: Has values from 0 to 16. Value increases by 1 if the following are available at home: rattle or squeak toys, pull toys, crayons and paper, scissors, blocks, scotch tape, tinkertoys, puzzles or paint or magic markers, picture catalogs, yarn or thread or cloth, clay or playdough, make-believe toys, plants in pot or garden, pens or pencils, typewrite or computer.
- Even Start children gain from pretest to posttest (0.89 points or .29 std dev)
- Control children gain (0.93 points or .30 std dev)
- No significant difference between Even Start and control gains (p<.89)
Exhibit 6.1.38: Variety of Print Resources at Home
(Parent Report, range of 0-5)

- Variety of Print Resources in the Home: Has values from 0 to 5. Value increases by 1 if the following are available at home: books, magazines, newspapers, TV Guide, comic books.
- Even Start children gain from pretest to posttest (0.26 points or .21 std dev)
- Control children gain (0.08 points or .07 std dev)
- No significant difference between Even Start and control gains (p<.20)
PARENT REPORT OF PARENT SUPPORT OF CHILD’S SCHOOL

- Parent participation in school activities
- Parent opinion about school
Parent Participation in School Activities: Has values from 0 to 12. Value increases by 1 if parent does following activities: has conference with a teacher, observes classroom activities, attends a school event, attends an after-school program, meets with PTA, attends a parent advisory committee meeting, helps with fundraising activities, volunteers in school office or library, volunteers in children’s classroom, volunteers for school trips, works as a paid employee, serves on preschool committee.

- Even Start parents gain from pretest to posttest (1.25 points or .64 std dev)
- Control parents also gain (1.55 points or .80 std dev)
- No significant difference between Even Start and control gains (p<.57)
Parent Opinion About Child’s School: Has values from 0 to 14. Value increases by 1 if parent agrees with the following: school places priority on learning, school assigns homework that is worthwhile, child is challenged at school, child is treated fairly at school, school standards are realistic, child is respected by teacher, parent is respected by teacher, parent would select this school, child gets needed help at school, school is a safe place, it is important for parents to participate in school, parents have a say in school policy, parents support school policy, school maintains discipline.

- Even Start parents have lower opinions about school at posttest (-0.18 points or -.06 std dev)
- Control parents do not change (0.00 points or .00 std dev)
- No significant difference between Even Start and control gains (p<.85)
### Exhibit 6.1.41
**Comparison of Parent-Reported Adult and Child Outcomes:**
**EDS and ESPIRS Pretest Data**

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Notes: *p<.05, **p<.01. N’s vary from variable to variable because some variables are based on subsets of parents/children. For the EDS, n’s range from 51 to 417; for the ESPIRS, n’s range from 781 to 8,171.

Exhibit reads: In the EDS sample, parents reported that 7.9 percent of children knew the entire alphabet.