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The Relationship Between Parental Income and a Child's School Readiness Standard Composite Score as Measured by the Bracken Basic Concept Scale-Revised

Joy L. Black

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The Relationship Between Parental Income and a Child’s School Readiness Standard Composite Score as Measured by the Bracken Basic Concept Scale-Revised

By

Joy L. Black

Thesis submitted to
the Graduate College
of
Marshall University
In partial fulfillment of the requirements
For the degree of

M.A.
in
Clinical Psychology

Approved by

Libby Boyles, Ph.D. Committee Chair
Fred Krieg, Ph.D.
Joyce Meikamp, Ed.D
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Marshall University

2001
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Abstract

The current study was designed to determine if children from families with higher income levels would be better prepared to enter kindergarten than children from families with lower income levels. For this study, 54 children attending childcare centers funded by the West Virginia Educare Initiative were administered the standard School Readiness Composite (SRC) of the Bracken Basic Concept Scale-Revised (BBCS-R) and the parental questionnaire of the study protocol. It was determined that there was no significant relationship between parental income level and a child’s SRC score on the BBCS-R.
Dedication

This thesis is dedicated to those who have supported me throughout Graduate School. A very special thank you goes out to my grandfather who has been my biggest supporter throughout my college career. His strength, courage, bravery and faith in my abilities inspired me; my father, whose positive attributes have helped me to succeed and follow my dreams; my mother and grandmother who have also believed in me and taught me that persistence and hard work pay off in the end; and, my boyfriend, whose patience has been greatly appreciated during one the hardest and most difficult times in my life. I love each of you dearly. Thank you.
Acknowledgements

I would like to thank Dr. Libby Boyles, my committee chair. She has guided and inspired me to be a better therapist and gave me the chance to work with preschool children, which is very rare. She put a lot of effort and hard work into the testing, scoring, data collection, and statistical analysis. My thanks are also extended to Dr. Joyce Meikamp and Dr. Fred Krieg who were on my thesis committee were very supportive and helpful in many ways. I would like to thank Dean Leonard Deutsch who did an excellent job in editing my thesis and whose comments were greatly appreciated. Gratitude is further extended to my advisor Dr. Stephen O’Keefe for his help and guidance over the past three years.

Heartfelt appreciation is also extended to my fellow students, who helped in testing the preschoolers for the Educare Research Group: Mike Smith, Angel Childers, Kelly Pennington, Noelle Barton, Doug Shoaff, Pat Slack-Hines, Brenda Parker, Jim Bennett, and J. Elise Coccari. Their hard work and dedication proved invaluable in the completion of this project.
The Relationship Between Parental Income and a Child’s School Readiness Standard Composite Score as Measured by the Bracken Basic Concept Scale-Revised

**Childcare in the United States**

Childcare has become the norm for young children in the United States. The proportion of young children with employed mothers jumped from about 7% in 1940 to 43% in 1980, and 51% in 1990 (Hernandez, 1995). Moreover, by 1995, 59% of children who were 5 years or younger were in non-parental care arrangements on a regular basis (Hofferth, Shauman, Henke, & West, 1998). According to the United States Census Bureau (1995), children spent an average of 28 hours a week in childcare. Children from families where the parents worked or were in school were in childcare an average of 35 hours per week (1995).

**History of Childcare**

Non-parental care is a universal practice with a long history. Its roots lie in the welfare and reform movements of the 19th century. Childcare began in Boston in 1840 for children of widows and working wives of seamen. Nursery schools began in the early 20th century to enhance the social development of middle and upper class children (Scarr, 1998). By the late 1960s, educators and child development researchers recognized the value of nursery schools for poor children, who needed the stimulation and learning opportunities that such early childhood settings afforded children from affluent families (Scarr, 1998). In 1995, there were 21 million children under 5 years who were not enrolled in school. Of these, about 40% were cared for regularly by parents, 21% by other relatives, 4% by sitters in the child’s home, while 31% were in child-care centers, and 14% were in family day-care homes (Scarr, 1998).

In surveys by Working Mother magazine in 1995 and 1996, readers expressed
strong preferences for center-based care over home care, whether by relatives or not (Scarr, 1998). Home care is usually unsupervised and unlicensed. Therefore, child safety and parental control over the arrangement were prominent reasons for the preference (Scarr, 1998).

The proportion of young children living in one-parent, working-parent families has increased substantially since 1960 (Hernandez, 1995). Underlying this increase are sharply rising rates of divorce and out-of-wedlock childbearing. The consequence of these trends is that today most children live either in dual-earner families in which both parents work at jobs away from home or in one-parent families with an employed parent. Looking into the future, between 1992 and 2005, the labor force participation rate for women between the ages of 25 and 54 is projected to increase from 75% to 83% (Hernandez, 1995). Therefore, the continued increase in rate of employment among women will lead to an even higher decline in the number of mothers who will be available to provide full-time care for their children (Hernandez, 1995).

Children from more affluent families and those from families on welfare are most likely to be enrolled in centers rather than cared for in homes. Families with an annual income of more than $50,000 can afford center-based programs; those below the poverty line receive subsidies for childcare and enroll their children without charge in Head Start (Scarr, 1998). Working families with annual incomes below $25,000 but above the poverty line are the least likely to be able to afford and to use center-based childcare (Scarr, 1998).

When compared to children in two-parent families, children in one-parent families have higher risk of dropping out of high school, bearing children as teenagers,
and not being employed by their early twenties (Hernandez, 1995). The largest obstacle these children face is low single parent income or sudden loss of income secondary to divorce (McLanahan & Sandefur, 1995). Children in one-parent families are, therefore, likely to have educational needs that differ from children in two-parent families (Hernandez, 1995).

**Childcare in West Virginia**

In West Virginia, the number of childcare centers has increased dramatically from 300 licensed sites in 1997 serving 9,561 children to 441 in 1999 serving 13,301 children (The Annie E. Casey Foundation, 1999). According to Chapman, only one-fifth of children under age five were attending preschool and over 80% of the childcare settings in the state are not licensed or monitored (1997). High quality childcare is expensive and parents pay roughly 60% of the cost. In West Virginia, there are 118,000 children under age 13 with working parents. Approximately 51,920 of these children live in low-income families and this number is likely to increase considering welfare reform (The Annie E. Casey Foundation, 1999).

The West Virginia Educare (WVE) initiative provides funding and standards in an attempt to ensure that families with preschool children have access to high quality, affordable child care services to help them prepare for school and lifelong learning. The WVE was created to ensure that preschool programs are available to as many children in West Virginia as possible and make them accessible and affordable for parents.

West Virginia state officials selected five pilot community collaboratives. These include Cabell/Wayne, Monongalia, Roane, Upshur, and Webster counties. These community collaboratives then selected early education programs in their communities to
be pilot Educare programs. There are a total of 41 Educare programs serving approximately 1,800 children.

Childcare and Child Outcomes

*Effects of Childcare on Children*

Several studies have examined the effects of childcare quality on children’s development. The five most important factors influencing a program’s quality are: small child to caregiver ratio, high sensitivity of caregivers, small group size, caregiver’s level of education, and safety and stimulation of the physical setting (The Annie E. Casey Foundation, 1999). Evidence shows a significant correlation exists between a program’s quality and the outcomes for its participants (Frede, 1995). Such quality related outcomes include: cooperative play, creativity, sociability, and language and cognitive development.

There is evidence, for example, that type and quality of childcare are related to parents’ education and income. Parents who have higher incomes and more education are more likely to place their children in centers that have higher Early Childhood Environmental Rating Scale (ECERS) scores, lower child to adult ratios, and better-trained teachers (Blau, 1999; Peisner-Feinberg & Burchinal, 1997). A study conducted by Vandell and Wolfe found that children who were enrolled in higher-quality child care as preschoolers had better receptive language and math skills (2000).

Studies of how children respond to preschool programs indicate that preschool care has only transient effects on children’s intelligence quotient (IQ) and cognitive achievement but, nevertheless, is associated with greater success in school (Entwisle, 1995). Research suggests that enhancement of cognitive abilities such as those from
preschool programs aids in the transition into school. This enhancement at the “critical period” makes the transition easier and lessens the chances of children being tracked into low ability groups, placed in special education, or retained in grade (Entwisle, 1995). According to Entwisle, Alexander, Cadigan, and Pallas (1987), it is this cognitive advantage that helps children do better in first grade, not their having learned to be better behaved.

The Abecedarian Project, conducted at the Frank Porter Graham Child Development Center at the University of Chapel Hill, tracked children from birth through age 21. In the study, which began in 1972, 111 children, ages 6 weeks to 6 months, from high risk families (parents were young, uneducated, and poor) were split into control and experimental groups. Fifty-seven children were randomly assigned to an experimental group, which received year-round, all day educational childcare emphasizing the development of cognitive, language and adaptive behavior skills. The remaining 54 children were assigned to a control group, which received nutritional supplements and supportive social services, but no educational intervention. The children remained in the program until age 5, but were tracked until age 15.

A follow-up study was conducted at age 21. The findings of this study showed that the children in the experimental group scored five points higher than the control group on intelligence tests. They also performed better on mathematics tests (by 1.5 years) and scored at a significantly higher level in reading (2 years) than the control group and were twice as likely to attend college. The findings indicate that high quality educational childcare can have lasting benefits for children from low-income families (Sherman, 2000).
Effects of Income

Poverty in early childhood has long-lasting negative consequences for cognitive development and academic outcomes, as shown by numerous studies. Comparisons among different groups of school children indicate poor children fare worse academically then those raised in more advantageous circumstances. Poor children begin to lag behind in the earliest school years, suggesting they enter school not adequately prepared for success (Alexander & Entwisle, 1988).

In families with higher incomes, parents can usually afford to provide resources and educational experiences that foster the development of their children, while children from poor homes rely more on child care and preschool programs to provide those experiences (NICHD Early Child Care Research Network, 1995).

Research conducted by Zill, Collins, West, and Germino-Hausken revealed four risk factors which are good predictors of a child’s developmental accomplishments and difficulties. These factors are: low family income, maternal education below the high school level, minority language status, and single parent family structure (1995).

Method

Participants

Participants were 54 children between the ages of two and five. The children were randomly selected by the West Virginia Governor’s Cabinet from the five collaborative pilot communities.

Instrumentation

Bracken Basic Concept Scale – Revised. The Bracken Basic Concept Scale – Revised (BBCS-R) is a revision of the Bracken Basic Concept Scale (BBCS; Bracken, 1984). It is used to measure the basic concept acquirement and receptive language skills
considered to be vital for children entering kindergarten. It is used with children ages 2 years and 6 months through 7 years. Administration time for the BBCS-R is approximately 30 minutes. The BBCS-R contains 284 items and the questions are presented in a “Show me…” format. Items are presented in a multiple choice format and the child is asked to point to indicate his or her choice from among four or more choices. It consists of 11 subtests: Color, Letters, Numbers/Counting, Sizes, Comparisons, Shapes, Direction/Position, Self-/Social Awareness, Texture/Material, Quantity, and Time/Sequence. The first six subtests, known as the School Readiness Composite (SRC), are scored together and treated as a composite score. This score is used to determine the starting point on the remaining five subtests, which are scored individually. These five subtests combine with the SRC to provide a total test score.

The raw scores of the BBCS-R can be used to determine the child’s performance. The raw scores are determined by calculating the correct number of items passed on the SRC subtest and the total test. The raw score is then used to calculate the scaled scores. Tables are included to use the scaled score to determine standard scores, percentile ranks, concept age equivalents, and normative conceptual classifications. The scaled score for the SRC or subtests 7-11 have a mean of 10 and a standard deviation of 3. Standard scores have a mean of 100 and a standard deviation of 15.

The BBCS-R was standardized on 1,100 children, which closely resembled the 1995 Census for gender, racial/ethnicity group, region, and parental education level. Four percent of the standardized sample was classified as attention deficit disorder (ADD), attention deficit hyperactivity disorder (ADHD), autism, developmental delay, learning disability, other health impairment, or speech/language delay or disorder. The sample
also consisted of 1.7% of children classified as talented or gifted (Bracken, 1998).

The technical data reported in the Examiner’s Manual for the BBCS-R show it to be a reliable measure with a total test internal consistency of .97. There is also substantial evidence of its validity. In concurrent studies with other measures, the BBCS-R correlated well with the Boehm Test of Basic Concepts (r = .78 to .88 in three studies; Boehm, 1971) and the Peabody Picture Vocabulary Test-Revised (PPVT-R), (r = .74 to .88; Dunn & Dunn, 1981).

A recent article evaluated the validity of a tryout version of the BBCS-R as a predictor of kindergarten children’s performance on the Metropolitan Readiness Test-Sixth Edition (MRT-6; Panter, 2000). The tryout version was administered to 71 kindergarten children at the beginning of the school year. Seven months later, the MRT-6 was then administered. Panter found the BBCS-R to be a good predictor of children’s performance on the MRT-6. Furthermore, the SRC from the BBCS-R accounted for 45 percent and 52 percent of the variance in the MRT-6 scores. The SRC was a better predictor for African American children than it was for Caucasian students. For the African American children, the SRC explained 45 percent to 52 percent of the variance in the MRT-6 scores. Panter’s study validated the use of the BBCS-R as a screening measure for children’s academic achievement (Panter, 2000).

**Parent Questionnaire.** After all assessment tools were scored and analyzed, the child’s parents received a telephone call to explain their child’s performance on the BBCS-R and the PPVT-III. Once this explanation was finished, the study protocol (see Appendix A) was followed to conduct the parent questionnaire. During this time, the following information was requested: parental education, parental income, and number of
people living in the household.

Procedures

During an approximate six-month assessment period, the 54 participants in the West Virginia Educare pilot were randomly chosen and individually assessed using the Bracken Basic Concept Scale-Revised (BBCS-R) and the parent questionnaire.

The present study used the results of the school readiness composite score from the BBCS-R and compared it with the parental income information from the parental questionnaire. It was hypothesized that children from higher income families would score higher on the SRC of the BBCS-R. A correlation coefficient was computed to determine the strength and direction of the relationship between income and the SRC.

Results

As outlined in the method section, two specific sets of data were collected on the sample: the SCR-Standard Score on the Bracken Basic Concept Scale-Revised and the reported annual parental income from the parent questionnaire. The parental income was broken down into six levels: below $10,000, $10,000 to $20,000, $20,000 to $30,000, $30,000 to $40,000, $40,000 to $50,000, and over $50,000. These six levels were then broken down into two income levels because the estimated median household income for West Virginia was $27,432 (US Census, 2000) below $30,000 and over $30,000. The hypothesis of this study was that children from higher parental income families would have a higher standard score on the SRC of the BBCS-R. A Pearson correlation coefficient was used to calculate the relationship between the two data sets. As shown in Table 1, the results of the study indicated the relationship between these two data sets showed a nonsignificant negative correlation ($r = -0.044$). Therefore, the study hypothesis
was not supported.

**TABLE 1**

**CORRELATIONS**

<table>
<thead>
<tr>
<th>SRC Composite Standard Score</th>
<th>SRC COMPOSITE STANDARD SCORE</th>
<th>LEVELS OF INCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1.000</td>
<td>- .44</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.751</td>
</tr>
<tr>
<td>N</td>
<td>54</td>
<td>54</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Levels of Income</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>-.44</td>
<td>1.000</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.751</td>
<td>.</td>
</tr>
<tr>
<td>N</td>
<td>54</td>
<td>54</td>
</tr>
</tbody>
</table>

**Discussion**

The purpose of this study was to assess whether there was a relationship between level of parental income and a child’s standard SRC score on the BBCS-R. As discussed in the literature review, numerous studies have been conducted measuring levels of parental income and academic readiness. The results of these studies often contradicted one another. In one study, researchers believed that educational failure is a result of low socioeconomic status (Zill et. al., 1995). Others indicated that higher socioeconomic status families are able to provide resources and educational experiences that foster the development of children (Hernandez, 1995).

There have been a few studies conducted that have shown that children of lower socioeconomic statuses have positive long-term academic outcomes. However, these studies were conducted in very structured environments (e.g. Abecedarian Project). In the Abecedarian Project children all started out with same disadvantages (all high-risk), they
were put into the program between the ages of 6 weeks to 6 months and were kept in the program until they were 5 years old. The current study included all socioeconomic levels and the ages of the children were between 2 ½ to 5 years old. Also, these children were not in just one childcare arrangement. According to the United States Census (1995), about 8.5 million children in the United States (approximately 44%) were cared for in two or more childcare arrangements and approximately 4.9 million children had no regular childcare arrangement at all.

The results of the current study indicated socioeconomic status does not have the expected effect on the level of academic readiness in West Virginia’s children. An unusual number of families in this study had higher than expected socioeconomic levels, especially considering that West Virginia is a small rural state with a tremendously high poverty rate and number families on public assistance. The participants were chosen by the state and may not have been randomly selected. This could have helped skew the results. The results could be an underestimation of actual results due to the fact that some children’s parents could not be contacted. The children’s parents that were actually contacted were defensive, did not want to report their family income or reported it inaccurately. The scores from the SRC on the BBCS-R could also depend on how frequently a child attends preschool, whether it be how long they have been enrolled or whether they attend everyday.

The results of this study cannot be generalized to the whole state of West Virginia because the frequencies of parental income were skewed above average income (see Appendix B). This is due to the fact that the five collaborative pilot sites selected were not equally matched by average annual income. For example, a few pilot sites were some
of the areas of children whose parents earned the highest income and had a higher education level than others in the state. The results of this study concluded that income level and socioeconomic status were not a factor on academic readiness. Further research is needed to determine what would positively correlate with academic readiness and use a larger sampling of the state.
References


http://wvde.state.wv.us/news/172


Appendix A
EDUCARE STUDY PROTOCOL

To be followed exactly at all sites. Do not add or omit any measures.

PROTOCOL FOR SUBJECTS (within Educare sites)

Names, birth dates, and programs of children to be tested will be provided by Educare staff after parent permission is obtained.

PRIOR TO TESTING

Call the program site to schedule a time to go in, making sure to find out the schedule of the program, when the child arrives and leaves and when lunch is scheduled.

DAY OF TESTING

(Evaluators must be trained and supervised graduate students.)

Enter the school and sign in after identifying yourself to the office staff. We will have a Marshall ID badge, but ask the staff if they also want us to wear a visitor’s badge. Let them know where you are going and what you are doing. They may be able to show you where you will test the child.

Find the testing room and get it ready for testing. Arrange the table and chairs in a manner consistent with test protocols.

When you arrive at the classroom find an unobtrusive place to observe. Begin observing without interacting with either kids or the staff according to the ECERS-R standardization. If you have a few minutes before the children arrive it might be helpful to fill in the “Space and Furnishing” section first. Fill out as much of the ECER-R as possible during the 2–hour observation period. Observe as many activities as possible. We will not be able to observe everything, but will as the teacher to help us with missing information following the child’s testing.

Note somewhere directly on the ECERS protocol how many students and how many staff are present. We must know the staff to student ratio. This is important both for our research and the Educare evaluation. Following your observation, ask the teacher to introduce you to the child to be tested. Inform her that testing will take between 1 & 11/2 hours. Ask her if there are any anticipated snack breaks during that time. If there is a snack break, request that she send the child’s snack with you. (If testing continues into the lunch period, return the child to his or her class for lunch and pick him up afterwards to finish.)
You might say to the child something like, “It’s really nice to spend this time with you. We’re going to work together for a while. I’ll bring you back to the classroom when we are finished. Let’s go.” You will need to come up with your own rapport-building “spiel” that will help win the child’s confidence and trust. Having the teacher make the initial introduction is preferred over a lengthy one.

Take the child to the testing room and make sure he or she is comfortable. Take some time to rapport building, which should have started on the way to the room. Ask about their interests and favorite things and games they like. Prior to actual testing make sure the child knows that they can ask you.

Administer the PPVT-III first. Be sure to familiarize yourself with the tests before this time so you are as smooth and comfortable in testing as possible. Some children may want to just sit on the floor during testing. This is permissible. Be Creative! Be generous and genuine in praising the kid’s effort and willingness to participate. Do not praise correct responses. You will be “tons” of stickers to be given liberally to the child for desired behavior.

Prior to administering the BBCS-R, give the child a play or bathroom break. It is advisable to bring your own kid-friendly play items like a ball or doll. This provides a nice break for both kid and adult. Do not bring inappropriate toys (war toys, items that could be swallowed, etc.)

Administer the Bracken. Try to get through the SRC portion before taking another break. Use your “little-people skills” to maintain interest and participation and motivation. If the child needs or wants a break after the SRC, let them have it and inform him or her that they have just a bit more to do and they will finished. If breaks are needed at other times, try to break between subtests. If you are going to break for lunch, time it between subtests. The child is NOT to miss lunch for testing.

Following the tests, take the child back to the room. Make sure you are liberal and genuine with your praise of the child to the teacher. At an appropriate time, ask the teacher for a brief period of her time and get the missing pieces of the ECERS.

Request that the teacher give you her filled-out Carolina Curriculum for Preschoolers with Special Needs log. If it is not complete, give her the self-addressed stamped envelope and request she mail it by the end of the week. Impress upon her how important this form is for the research and evaluation.

Thank the teacher and leave. If appropriate, you may go to a quiet place and score the tests.
AFTER TESTING

Following supervision (with Dr. Boyles for the Marshall folks, Dr. Warash for the WVU folks), call the parent and discuss with them the results of testing and their child’s behavior during the test. Be positive. Give the parent the range their child scored: average, significantly above average, etc.

Say something like: “Ms. Smith, let me remind you that the results of testing, personal, and family information will be kept confidential. The information you give will not be identified with your name. Following our conversation, all identifying information will be destroyed and a code number given to it for our evaluation and research. I have just a couple of additional questions. Your answers will be kept confidential.”

Ask, “How far did you get in school? And how far did Johnny’s/Mary’s father get in school?” Probe until you can give a definition answer along the following scale:

Mother’s Educational Level:
Less than high school graduation
GED
High school graduation
2-year college or technical college degree
College degree
Graduate degree
Specialized vocational training (describe)
Specialized military training (describe)

Father’s Educational Level:
Less than high school graduation
GED
High school graduation
2-year college or technical college degree
Collage degree
Graduate degree
Specialized vocational training (describe)
Specialized military training (describe)

Ask, “What is your family income?” When they respond, ask if this is weekly, monthly, or whatever and you do the math to mark the appropriate range. Then ask, “and how many people live in your household?” Record this number.
The yearly ranges of income we are looking for are:
Below $10,000
$10,000 to $20,000
$20,000 to $30,000
$30,000 to $40,000
$40,000 to $50,000
Over $50,000

Say “Thank you very much. Do you have any other questions for me? You have been most helpful.”
Appendix B
### TABLE B1
**DESCRIPTIVE STATISTICS**

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<th></th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
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<td>14.25</td>
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<td>LEVELS OF INCOME</td>
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### TABLE B2
**YEARLY INCOME**

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<td>Over 50k</td>
<td>15</td>
<td>27.8</td>
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### TABLE B3
**LEVEL OF INCOME**

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