The Relationship Between Giftedness And Resiliency Among Head Start Children

Angela R. Fry

University of Northern Iowa

Recommended Citation
Fry, Angela R., "The Relationship Between Giftedness And Resiliency Among Head Start Children" (2004). Dissertations and Theses @ UNI. 1124.
https://scholarworks.uni.edu/etd/1124
THE RELATIONSHIP BETWEEN GIFTEDNESS AND RESILIENCY
AMONG HEAD START CHILDREN

An Abstract of a Thesis
Submitted
in Partial Fulfillment
of the Requirements for the Degree
Specialist in Education

Angela R. Fry
University of Northern Iowa
May 2004
ABSTRACT

The purpose of this study was to examine the relationship between characteristics of giftedness and resiliency in preschool children from low socioeconomic backgrounds. The literature suggests that giftedness and resiliency may be related. For example, there appears to be considerable similarity between the traits identified as characteristics of giftedness and those traits identified as characteristic of resiliency. However, only limited research has been conducted directly examining similarity between of giftedness and resiliency. In the current study, 54 children attending Head Start programs were rated by their teachers on a measure of resiliency, the Devereux Early Childhood Assessment (DECA), and a measure of giftedness, the Gifted Evaluation Scale (GES-2). The scores from the two scales were correlated to determine the relationship between the two constructs, giftedness and resiliency. Though no significant correlation was found between the composite scores on the two scales, a trend was indicated by correlations between the DECA subscales of attachment and initiative and the GES-2 subscales of creativity and intelligence. Implications for educators involve providing positive attachment experiences and initiative-based activities in early childhood programs for children to build the skills needed to be successful later in life.
THE RELATIONSHIP BETWEEN GIFTEDNESS AND RESILIENCY
AMONG HEAD START CHILDREN

A Thesis
Submitted
in Partial Fulfillment
of the Requirements for the Degree
Specialist in Education

Angela R. Fry
University of Northern Iowa
May 2004
This Study by: Angela R. Fry

Entitled: The Relationship Between Giftedness and Resiliency Among Head Start Children

Has been approved as meeting the thesis requirement for the degree of Specialist in Education

Melissa L. Heston
Dr. Melissa Heston, Chair, Thesis Committee

Radhi H. Al-Mubak
Dr. Radhi Al-Mabuk, Thesis Committee Member

Suzanne Freedman
Dr. Suzanne Freedman, Thesis Committee Member

John W. Somervill
Dr. John W. Somervill, Dean, Graduate College
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>LIST OF TABLES</th>
<th>vi</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST OF FIGURES</td>
<td>vii</td>
</tr>
<tr>
<td>CHAPTER 1—INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>1</td>
</tr>
<tr>
<td>Purpose</td>
<td>4</td>
</tr>
<tr>
<td>Research Questions</td>
<td>4</td>
</tr>
<tr>
<td>Overview</td>
<td>5</td>
</tr>
<tr>
<td>Limitations</td>
<td>6</td>
</tr>
<tr>
<td>CHAPTER 2—REVIEW OF THE LITERATURE</td>
<td>7</td>
</tr>
<tr>
<td>Defining Giftedness</td>
<td>7</td>
</tr>
<tr>
<td>Giftedness in Young Children</td>
<td>8</td>
</tr>
<tr>
<td>Identifying Giftedness in Young Children</td>
<td>9</td>
</tr>
<tr>
<td>Characteristics of Young Gifted Children</td>
<td>11</td>
</tr>
<tr>
<td>Underserved Gifted Population</td>
<td>12</td>
</tr>
<tr>
<td>Culturally and Linguistically Diverse</td>
<td>13</td>
</tr>
<tr>
<td>Misconceptions</td>
<td>14</td>
</tr>
<tr>
<td>Identification of the Underserved Gifted Population</td>
<td>15</td>
</tr>
<tr>
<td>Factors Limiting Identification</td>
<td>16</td>
</tr>
<tr>
<td>Suggestions for Identification</td>
<td>18</td>
</tr>
<tr>
<td>Creative Positives</td>
<td>19</td>
</tr>
</tbody>
</table>
Portfolios .................................................................................... 20
Matrix Models .................................................................................... 20
Assumptions .................................................................................... 21
Identification of Gifted Children in Head Start ................................................... 21
Bringing Out Head Start Talents ............................................................ 22
Resiliency ......................................................................................... 23
Characteristics .................................................................................... 24
Fostering Resiliency ........................................................................... 26
Characteristics of Resiliency, Characteristics of Giftedness .................... 28
Implications for Social-Emotional Development .................................... 31
Critique of the Literature .................................................................................................. 34
CHAPTER 3 – METHODOLOGY ............................................................................... 36
Subjects ............................................................................................................. 36
Instruments ........................................................................................................ 36
Gifted Evaluation Scale (GES-2) ............................................................................. 36
Devereux Early Childhood Assessment (DECA) ........................................... 40
Procedure .......................................................................................................... 45
Assessment ......................................................................................................... 47
Data Analysis ....................................................................................................... 47
CHAPTER 4 – RESULTS ............................................................................................. 49
Descriptive Results ............................................................................................. 49
LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1: Gifted and Resilient Characteristics</td>
<td>29</td>
</tr>
<tr>
<td>Table 2: Means and Standard Deviations for the GES-2 and DECA Scales</td>
<td>50</td>
</tr>
<tr>
<td>Table 3: Means and Standard Deviations for Class TPF Scores</td>
<td>53</td>
</tr>
<tr>
<td>Table 4: Means and Standard Deviations for Class Quotient Scores</td>
<td>54</td>
</tr>
<tr>
<td>Table 5: Means and Standard Deviations for Center TPF Scores</td>
<td>55</td>
</tr>
<tr>
<td>Table 6: Means and Standard Deviations for Center Quotient Scores</td>
<td>56</td>
</tr>
<tr>
<td>Table 7: GES-2 Subscale and Total Scale Correlations: Present Study</td>
<td>57</td>
</tr>
<tr>
<td>Table 8: GES-2 Subscale and Total Scale Correlations: Standardized Sample</td>
<td>58</td>
</tr>
<tr>
<td>Table 9: Correlations between GES-2 and DECA Subscales</td>
<td>60</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>FIGURE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1: Histogram of TPF Scores</td>
<td>51</td>
</tr>
<tr>
<td>Figure 2: Histogram of Quotient Scores</td>
<td>52</td>
</tr>
<tr>
<td>Figure 3: Scatterplot of GES-2 and DECA Scores</td>
<td>59</td>
</tr>
</tbody>
</table>
CHAPTER 1

INTRODUCTION

Statement of Problem

The most neglected populations within the realm of gifted education are those individuals whose talents may not be actualized because they are different from the mainstream culture and those who are socially and economically disadvantaged (VanTassel-Baska, Patton, & Prillaman, 1989). A federal report on the status of education for gifted and talented children (U.S. Department of Education, 1993) recommended that we “ensure that all children, especially economically disadvantaged and minority children, have access to an early childhood education that develops their potential” (p. 27). In the late 1980s and early 1990s the U.S. Department of Education Office of Educational Research and Improvement granted several million dollars for the Jacob K. Javits Gifted and Talented Students Education Program in an attempt to find alternative means of identifying underserved gifted and talented children (Piirto, 1994). A variety of projects were funded in order to develop assessment instruments to identify talented African-American, native Hawaiian and Filipino, and Latino students. Other projects focused on identifying students with limited English proficiency, economically disadvantaged backgrounds, rural backgrounds, disabilities, and young, migrant students.

Alternative methods for identification of giftedness include: portfolios, matrix models, individualized tests, culturally appropriate checklists, seeking of information from parents and community, and the observation of predictive behavior (Frasier, 1993). The majority of the Javits grants have been used to develop identification tools involving
observational techniques rather than individual or group standardized tests.

Unfortunately, no one identification model has been accepted by researchers in the field of gifted education and the identification of the underserved gifted child is still a stumbling block in today's education (Piirto, 1994).

Too often schools do not identify gifted children early and consequently many gifted children may not reach their potential (Sisk, 1998). Unfortunately, many of these children are from economically disadvantaged families. Head Start programs around the country provide low-income children with many early educational opportunities. However, these programs have not placed a great emphasis on identifying and supporting the needs of gifted low-income children.

Many experts argue that special approaches to interventions are necessary if we are to meet the needs of gifted at-risk children (Passow, 1982; Whitmore, 1980). From decades of research on early intervention, these experts conclude that intervention at the preschool and early elementary level is more likely to have an effect on life-long learning than programs that begin later in a child's educational career. Recognizing and nurturing young gifted children presents an important, yet challenging task for educators (Smutny, 2000). Moreover, our failure to address the needs of young gifted children may increase their risk for underachievement later in life (Whitmore, 1980).

Children's emotional, social, and/or environmental circumstances may inhibit their ability to develop their unique gifts and this may, in fact, impede their motivation to achieve (Whitmore, 1980). Risk factors such as poverty, dysfunctional family situations, and trauma can threaten healthy social-emotional development (Henderson & Milstein,
Children from low socioeconomic, culturally diverse backgrounds face unique risk factors such as discrimination, poverty, and linguistic challenges (VanTassel-Baska et al., 1989). According to resiliency theory, when individuals of any age experience adversity, they also experience individual and environmental characteristics, called protective factors, that may buffer them from that adversity (Henderson & Milstein, 1996). With enough protective factors, individuals may adapt to adversity without experiencing a significant disruption in life.

Gifted children often display many of the characteristics associated with resiliency (Bland, Sowa, & Callahan, 1994). For example, resiliency researchers identify intelligence, social competence, critical thinking, initiative, humor, creativity, and independence as traits of resilient individuals (Benard, 1991; Brooks & Goldstein, 2001; Cytryn & McKnew, 1998; Werner, 1984; Werner & Smith, 1992; Wolin & Wolin, 1993). Similar traits have been described as characteristic of gifted children (Clark, 1997; Davis & Rimm, 1998; Sisk, 1998; Smutny, 2000; Torrance, 1998). However, it is not clear whether or not these protective factors are enough to outweigh certain risk factors children may face, such as poverty, discrimination, linguistic challenges. Furthermore, these risk factors may hinder the giftedness identification process for young children (VanTassel-Baska et al., 1989). Identifying whether or not gifted children from a low socioeconomic background also tend to have the characteristics associated with resiliency will increase our knowledge of this unique subgroup of children and may allow us to develop more effective identification and intervention programs for these children.
Purpose

The purpose of this study is to examine the relationship between characteristics of giftedness and resiliency in children from low socioeconomic backgrounds. Limited research has been conducted in the combined area of giftedness and resiliency. Moreover, research suggests that early identification of gifted children is crucial for healthy development (Passow, 1982; Smutny, 2000; Whitmore, 1980). With the numerous risk factors that low-income children confront, they face an even greater chance of being underidentified for gifted education programming (Kitano & Perez, 1998). Identifying the relationship between giftedness and resiliency among Head Start children may increase our knowledge of both giftedness and resiliency. It may also give us insight into the potential benefits of resiliency programming and early identification for gifted low-income children.

Research Questions

1. What is the relationship between giftedness as measured by the Gifted Evaluation Scale (GES-2) and resiliency as measured by the Devereux Early Childhood Assessment (DECA) scale for Head Start children?

2. What is the relationship between the DECA subscales (initiative, self-control, attachment, and behavior concerns) and the GES-2 subscales (intellectual aptitude, creativity, academic skills, leadership ability, and performing and visual arts) for Head Start children?
Overview

The next chapter of this paper is a literature review of the definition of giftedness and of the identification of gifted children. Literature involving the underserved gifted population and studies on identifying young, gifted, low-income children are also summarized. A review of resiliency theory and implications for fostering resiliency and giftedness are then discussed and the characteristics of gifted children and resilient individuals are compared. Future research in the area of giftedness and resiliency is addressed and a critique of the literature is provided.

The third chapter describes the methodology used in this study. The subjects were four and five-year-old preschoolers from low socioeconomic backgrounds who were attending a Head Start program. Eight classes from four Head Start centers participated in the study. The children’s resiliency profiles were obtained through teacher ratings on the Devereux Early Childhood Assessment (DECA) scale. In addition, the subjects were also rated on the Gifted Evaluation Scale (GES-2) to determine whether they exhibit particular strengths in creativity, academic aptitude, intellectual ability, leadership, and performing and visual arts.

The data analysis involved a correlation of the Total Protective Factor scores of the DECA and the total Quotient scores of the GES-2. Means and standard deviations were reported. The correlations between the DECA subscales (initiative, self-control, attachment, and behavior concerns) and the GES-2 subscales (intellectual aptitude, creativity, academic skills, leadership ability, and performing and visual arts) were
analyzed. A one-way between-groups analysis of variance was also conducted to explore the differences between class and center scores on the DECA and GES-2.

Limitations

The current study has several limitations; therefore, the reader must be cautious when interpreting the results. First, the study may not be generalizable outside the specific population. The sample consisted of a small group of children who all live in poverty in the Midwest and attend Head Start. Furthermore, the sample was not a true random sample because the pool of participants was determined by the program director at the participating Head Start. As part of the contract between the researcher and Head Start, the program director required that only the centers she suggested be used in the study. Further research is needed to more fully determine the relationship between giftedness and resiliency in children from different socioeconomic backgrounds, geographical areas, and preschool programs.

Another limitation involves the use of teacher ratings to collect the data for the study. Although teacher ratings are often reliable, they are still subject to error. No scale or test is 100% free of error and thus one must be cautious when interpreting results from only one measure of any given psychological construct. Accordingly, the interpretations of the results should not go beyond the limitations of the study.
CHAPTER 2

REVIEW OF THE LITERATURE

Defining Giftedness

Like many other complex psychological constructs, giftedness eludes a precise definition (Pearson & DeMers, 1990). In the realm of gifted education, there are many competing concepts of giftedness (Sternberg & Davidson, 1986) and there is no one definition that is universally accepted (Davis & Rimm, 1998). Definitions range in their focus from a single intellectual dimension (Terman, 1925) to the recognition of multiple abilities and intelligences (Gardner, 1983; Guilford, 1956; Marland, 1972; Renzulli, 1978; Sternberg, 1981). Depending on the definition used, the incidence of students with giftedness varies from 2% to 5%. If liberal enrichment models like Renzulli’s were used, then 10% to 25% might be included (Renzulli, 1985).

Traditionally, giftedness has been defined in terms of academic achievement or performance, which offers only a narrow perception of bright children and a narrow range of options for teachers, parents, and counselors who need to understand all of the aspects of a child’s development (Knopper, 1998). One of the most recent definitions from the Javits Gifted and Talented Education Act (U.S. Department of Education, 1993) supports the idea that giftedness can be demonstrated in multiple ways and children who are gifted may need special services and modifications:

Children and youth with outstanding talent perform or show the potential for performing at remarkably high levels of accomplishment when compared with others of their age, experience, or environment. These children and youth exhibit high performance capability in intellectual, creative, and/or artistic areas, possess an unusual leadership capacity, or excel in specific academic fields. They require services or activities not ordinarily provided by the schools. Outstanding talents
are present in children and youth from all cultural groups, across all economic strata, and in all areas of human endeavor. (p. 26)

Defining giftedness is an important and complicated matter. Davis and Rimm (1998) suggest there are four implications of identification to be concerned about. First, a definition adopted by a school district will guide the identification process and determine who is and who is not qualified for special gifted programming. Second, there is a danger that the identification methods will discriminate against certain special populations such as the poor, minority, disabled, underachieving, and even female students. Third, a definition of giftedness is usually tied to programming practices and opportunities that should be available for all different types of gifts and talents. The fourth caution involves the labeling effect. Labeling a student "gifted" can have both positive and negative effects, such as raising self-esteem and self-expectations on the positive side and possibly alienating friends and siblings on the negative side.

**Giftedness in Young Children**

Giftedness in young children can be seen as "precocity," a rapid rate of development in one or more realms (Smutny, 2000). Giftedness involves the individuality of each child, as well as the potential to stand out among others early in life by expressions of intelligence, motivation, and achievement (Leong, 1997). Giftedness in young children is often reflected in an intense curiosity that produces constant questions and an intense motivation to answer these questions (Smutny, 2000). Their intense curiosity and unusually high energy level may get them into trouble. Smutny points out that young children who are highly sensitive and perfectionistic may become
bored in school and easily frustrated or even depressed. Recognizing giftedness early on may prevent these difficulties.

Morelock and Feldman (1992) present the following definition of a gifted preschooler in their chapter on The Assessment of Giftedness in Preschool Children: “Gifted children are those showing sustained evidence of advanced capability relative to their peers in general academic skills and/or in more specific domains (music, art, science, etc.) to the extent that they need differential educational programming” (p. 302).

Clark (1997) suggests that how giftedness is expressed depends on both the genetic patterns and the anatomical structure of the individual and on the support and opportunities provided by that individual’s environment. The opportunities, or the lack there of, will determine how children develop their potential. Terman (1925) viewed gifted children as the largest group of underachievers in education. Subsequent research has shown that gifted students still lack educational care and possibly 85% or more are still underachieving (Sisk, 1987; Whitmore, 1980). Educators and administrators of programs for young children must reinforce the belief that all children have the potential to learn when they receive quality resources and services (Kingore, 1998).

Identifying Giftedness in Young Children

As the National Excellence: A Case for Developing America's Talent cautioned: “Educators must identify outstanding talent by observing students in settings that enable them to display their abilities, rather than relying solely on test scores” (U.S. Department of Education, 1993, p. 3). Unfortunately, unlike other areas of exceptionality, gifted education has not been considered an area of concern because of the belief that gifted
children are able achieve highly without assistance or guidance in the classroom (Delisle, 1992). Nonetheless, children with this form of exceptionality have unique needs and ignoring them can cause deleterious effects (Sankar-DeLeeuw, 1997).

In a study by Sankar-DeLeeuw (1997), 91 parents and 44 preschool teachers were surveyed about the early identification of gifted children. The majority of the parents of gifted children surveyed reported that early identification can (91%) and should be (74%) done, while the teachers surveyed believed that 78% and 71% respectively. Differentiation of curriculum was supported by 76% of parents and 32% of teachers, while the educational option of early entrance was supported by 37% of parents and 7% of teachers. Great discrepancy exists between parents and teachers on the option of early entrance to school and differentiation of curriculum. The study indicates that parents are more likely than teachers to perceive the need to individualize education for very bright children.

Schools tend to stay away from early intervention for gifted children precisely because of the challenge of identification and because initial assessments are often minimal estimates of a child’s actual talent (Smutny, 2000). Identifying gifted children is always difficult, but especially when it is so easy to confuse high ability with advantaged backgrounds and a lack of enriched background with low ability (Kingore, 1998). Some children come to school with a large vocabulary and rich experiences with books and social skills developed through high quality preschool experiences. They may be “easy to find” because they appear school-ready. Able children from disadvantaged
backgrounds may be “difficult to find” because they have had so little opportunity to develop the skills and aptitudes valued in classrooms (Kingore, 1998, p. 31).

The most effective way to identify young gifted children is to use a variety of approaches over an extended period of time (Smutny, 2000). Researchers currently disagree on the specifics of exactly how to identify giftedness, but there is a general agreement that even bright children vary in the ways and rate they excel and the areas in which they show potential (Gardner, 1993; Sternberg, 1981). The identification process must be a multifaceted, multidimensional process that includes a wide range of procedures and criteria for discovering talent (Kingore, 1998). Smutny (2000) also suggests developing a more complete picture of giftedness through collecting observations of behavior and verbal ability in different classroom settings, anecdotal information from parents, and child products (e.g., art work, diagrams, interventions, Lego buildings, stories—written or told).

**Characteristics of Young Gifted Children**

Characteristics of gifted children documented in the literature usually represent the traditional characteristics of giftedness that teachers and parents observe in middle-class children in comparison with peers (Sisk, 1998). Some of these characteristics include increased levels of emotional and social development, longer attention spans, greater levels of persistence, humor, and the ability to learn new concepts quickly. Some other characteristics that may appear but are not always considered positive by parents or teachers include independence, resistance to rules, high social values, and competitiveness.
Smutny (2000) suggests identifying gifted children by focusing on a range of behaviors that occur in daily conversations, activities, and responses to learning opportunities in the classroom and at home. These common characteristics in gifted four, five, and six-year olds include curiosity, asking thoughtful questions, using extensive vocabularies and complex sentences, the ability to express themselves well, a good memory, original imaginations, solving problems in unique ways, discussing elaborate ideas, a desire to work independently and take initiative, humor, making up unique stories, and a strong interest in reading.

Kingore (1995) suggests that if we really wish to develop talents in all children, we should consider the following:

1. All children probably have more potential than we have known how to maximize in the past.
2. Giftedness must not be confused with the value or worth of a child. All children are equally valuable and important. By nature of being a person, every child has the same high value. Children do differ in their needs, interests and abilities but these differences do not make one child more or less important than another. (p. 1)

**Underserved Gifted Populations**

Almost one in six American children lives in poverty representing a massive pool of untapped talent (U.S. Census Bureau, 2002). Nearly 30% of Black and Hispanic children live in poverty and about 40% of children in poverty live in a single parent family headed by a female. In addition, younger children under the age of three are more likely to live in poverty (18%) than older children (15%) and adults (9%). Unfortunately, children from these backgrounds have been historically underrepresented in gifted and
talented programs making them one of the largest underserved populations in education (Kitano & Perez, 1998).

One national study found that only 9% of students in gifted and talented programs come from families in the bottom income quartile (U.S. Department of Education, 1993). In contrast, nearly half (47%) of the students in such programs represented the top income quartile. It is obvious that potentially gifted children from economically disadvantaged backgrounds who are culturally or linguistically diverse have not received appropriate services to support their talent (Kitano & Perez, 1998).

Sisk (1998) points out that talents in young children may not manifest themselves if they are not nurtured. For instance, in economically disadvantaged homes, young children may receive few opportunities from their parents to develop their talents. Some children who live in poverty may never see a book or experience many educational opportunities until they reach preschool or kindergarten. As a result, potentially gifted children from economically disadvantaged homes may not demonstrate their abilities as well as peers from more economically advantaged homes (Sisk, 1998).

Culturally and Linguistically Diverse

Changes in the population demographics over the last decade indicate clearly that teachers can expect to serve children from backgrounds that are increasingly diverse in culture, language, and economic levels (Sandler & Esquivel, 2000). In 1993, 33% of the largest school districts had an enrollment of over 50% ethnic and linguistically diverse or often termed minority students (National Center for Educational Statistics, 1993). It is projected by the mid 21st century almost half the population will consist of African
Americans, Hispanics, Asians, and Native Americans (United States Bureau of the Census, 1993). The current terminology of majority and minority will soon become irrelevant because there will not be one majority group, but several ethnic groups that will make up a significant percentage of the United States population (Carrasquillo, 2000).

Although these culturally diverse students comprise over 30% of the public school enrollment, they represent less than 20% of the students selected for gifted and talented programs (U.S. Department of Education, 1989). Brooks (1998) gives a definition of a gifted underserved student: “Children regardless of race or ethnic group who may have language patterns and experiences, cultural backgrounds, economic disadvantages or differences, which make it difficult for them to demonstrate their potential on traditional identification measures of talented and gifted” (p. 136).

Misconceptions of Gifted Underserved Children

Kitano and Perez (1998) state that there are four misconceptions of young economically disadvantaged and culturally diverse children that hinder early identification and programming. The first misconception is that all children from economically disadvantaged backgrounds require remedial education to be prepared for schooling. Although poverty and racism may produce educational disadvantages, the potential of giftedness still exists in equal proportions in all groups (Borland & Wright, 1994).

The second misconception (Kitano & Perez, 1998) is that children need to master English before being intellectually challenged. Research confirms the importance of
educating children in their first language during the primary years (Kitano & Espinosa, 1995). Furthermore, instructional strategies for developing gifted potential can be implemented in any language by incorporating different modalities (e.g., visual/spatial, tactile/kinesthetic).

The third misconception (Kitano & Perez, 1998) is that giftedness cannot be identified at a young age during the preschool/primary years because standardized testing is less reliable for young children. In fact, current practice (Karnes & Johnson, 1991) supports the identification of gifted potential at an early age for children from disadvantaged backgrounds. However, researchers suggest moving away from standardized testing to measures from trained observation and authentic assessment within the natural setting (Borland & Wright, 1994).

The fourth misconception (Kitano & Perez, 1998) is that an advanced or enriched curriculum at the preschool/primary level is not developmentally appropriate and it can push children too much and rob them of their childhood. Recent research on the cognitive processing of young children indicates that even young gifted children possess a superior ability to generalize, understand tasks, and learn more efficiently than their average peers (Kanevsky, 1990). However, the point of enriching the curriculum is to match the curriculum to the abilities of the child and therefore should be developmentally appropriate (Elkind, 1988).

Identification of Underserved Gifted Populations

"Gifted children constitute a precious resource that can help shape a brighter future for themselves and their communities" (Leong, 1997, p. 76). It is not possible to
accurately estimate the amount of unrecognized potential lost every year from unidentified gifted students (Torrance, 1998). The importance of early intervention for economically disadvantaged and culturally diverse gifted children is acknowledged by many advocates to be imperative (Karnes & Johnson, 1991; Leong, 1997). The effects of chronic deprivation and underachievement are likely to be more deeply entrenched and more difficult to reverse with every year of delay in assessment and programming for gifted students (Whitmore, 1980). By the time many of these children reach the end of the third grade, they may have surrendered their creativity and begun to underachieve (Torrance, 1998).

Factors Limiting Identification

Pearson and DeMers (1990) suggest that a limiting factor in the identification of gifted underserved children involves the requirement that both intellectual and academic superiority be demonstrated. In many programs students who function at or above the 98th percentile in academic achievement are not considered for gifted programs unless their IQ scores are commensurate with their academic achievement. Unfortunately, the children who score both high in achievement and high on IQ tests are those from high socioeconomic status. This double requirement tends to exclude culturally and linguistically different children (Fischman, 1985). Therefore, schools tend to identify middle and upper-class academic achievers and culturally different children are overlooked (Pearson & DeMers, 1990).

It is also often difficult to distinguish between truly gifted children and those whose backgrounds have been so enriched that they score high on norm-referenced tests
even though they are actually in the average range of intelligence (Baldwin, 1985). On the other hand, children from economically and educationally disadvantaged backgrounds may not have access to developmentally appropriate and/or enriching materials and they may come to school behind their peers in these life experiences. Therefore, it is often difficult to identify the gifted children from this background.

Furthermore, giftedness may be exhibited in many areas (Gardner, 1983). Rather than being academically gifted, culturally diverse students may be creatively gifted or may possess leadership ability or ability in the performing arts. Thus, nominations and other alternatives should be considered because IQ and achievement tests are not designed to provide information about every facet of giftedness (Pearson & DeMers, 1990).

Another perspective on the problems associated with identifying underserved gifted children is that the research and literature on minorities has focused more on deficits than strengths (Baldwin, 1985). The effects of this kind of focus have been increased by the lack of support for minorities within the society and within the schools. The negative stereotypes of culturally different groups that emerge clearly decrease the minority groups' chances of success in our educational systems.

Consideration should be given to the conditions that may affect how gifted economically disadvantaged and culturally diverse students display their exceptional abilities (Frasier, 1993). These conditions include experiential deprivations, especially in early childhood; limited language development; and socioeconomic or racial isolation (Passow, 1982). Baldwin (1985) suggests three variables to define the unique conditions
of economically disadvantaged, culturally different children: (a) cultural diversity, or conditions of racial, ethnic, language or physical differences from a dominant culture; (b) socioeconomic deprivation and denial of social interaction combined with substandard housing and jobs; and (c) geographic or living conditions located away from the mainstream of society. Understanding these variables is the first step in providing appropriate identification and programming for gifted students from economically disadvantaged and/or culturally different backgrounds (Frasier, 1993).

Suggestions for Identification

Torrance (1998) gives two suggestions for finding talent among economically disadvantaged and culturally different children. The first suggestion involves the nature of gifted testing. Most of these tests require that a child respond in terms and experiences that are common to the dominant, advantaged culture. Therefore, the economically disadvantaged and culturally diverse child is not permitted to respond in terms of his own experiences common to his or her own unique culture. Torrance suggests using a test of creative thinking, such as the Torrance Tests of Creative Thinking, allows a child to respond in terms of their own experiences.

The second suggestion lies within the nature of the environment in which a child expresses creative thinking (Torrance, 1998). In order for a child to express creativeness, it is necessary to motivate him or her to display that potential and in the process feel psychologically safe. Torrance suggests using creative workshops as a vehicle for this goal. During these workshops three procedures were used to elicit hidden verbal abilities: no tests were given right away until the children had a chance to get used to the
situation; no time limits were imposed; and examiners offered to record the children’s ideas.

Creative positives. On the basis of studies involving the Torrance Tests of Creative Thinking, a series of summer workshops, and several years of experience working in a day-care center for disadvantaged and culturally different children, Torrance (1969) identified a set of characteristics that can serve as a guide in the identification process among these groups. Not all members of economically disadvantaged and culturally different groups are gifted in all of these positives nor may each gifted child manifest a high level of ability in all of these groups (Torrance, 1998). Thus, these creative positives can only be used as a guide in identifying the strengths of each child in which to motivate learning in and outside of the classroom. A combination of tests, observations of behavior, performances, role-playing, and other activities may find these creative positives. The following list labels these creative positives:

1. Ability to express feelings and emotions
2. Ability to improvise with commonplace materials and objects
3. Articulateness in role playing, sociodrama, and story telling
4. Enjoyment of and ability in visual arts, such as drawing, painting, and sculpture
5. Enjoyment of and ability in creative movement, dance, dramatics, and so forth
6. Enjoyment of and ability in music, rhythm, and so forth
7. Use of expressive speech
8. Fluency and flexibility in figural media
9. Enjoyment of and skills in group activities, problem solving, and so forth
10. Responsiveness of gestures, body language, and so forth, and ability to interpret body language
11. Humor
12. Richness of imagery in informal language
13. Originality of ideas in problem solving
14. Problem centeredness or persistence in problem solving
**Portfolios.** Portfolios present another option for a talent search in the classroom (Smutny, 2000). A portfolio is a systematic collection of student work to provide information about the student's attitudes, motivation, and level of development and growth over time (Kingore, 1998). Portfolios may consist of a collection of student products (e.g., assignments, paintings, drawings, stories, observations) from school, home, or from other community centers (Smutny, 2000). The portfolio process allows each student to be noticed for his or her individual products (Kingore, 1998). Conducted over an extended period of time, such evidence is valuable in planning instructional time, identifying talent and advanced learning, and tracking development over time (Smutny, 2000). Furthermore, disadvantaged and minority students are not overlooked because every student has the same opportunity to build a piece of authentic assessment of growth and achievement (Kingore, 1998).

**Matrix models.** A common problem of identification is the over-reliance on a single measure to confirm eligibility for gifted programs (Baldwin, 1985; Frasier, 1993). The use of multiple criteria (combining objective and subjective criteria) has been highly recommended as a best practice to avoid reliance on a single score (Clark, 1997). The Baldwin Identification Matrix (Baldwin, 1984) involves an array of assessment techniques for the areas of giftedness: cognitive, psychosocial, psychomotor, creative (products), task commitment (motivation), and creativity (process). Objective and subjective identification techniques for each of these areas can be selected by the school district. This process is augmented by the use of a supplemental checklist of behaviors for each area of the definition. The checklists are filled out by the teacher, the parents, or
another person familiar with the child. A wide variety of information is gathered to produce a profile of the child. A major criticism of this matrix is that it gives equal weight to data from dissimilar sources (Feldhusen, Baska, & Womble, 1981).

**Assumptions.** Baldwin (1985) suggests that to appropriately meet the educational needs of the gifted undeserved student and to increase the effectiveness of the identification process three assumptions must be accepted:

1. Giftedness exists in all human groups, and this giftedness does not manifest itself in a manner that can be genetically ascribed to that group. Culture and environment play important roles in a person's developing a penchant for certain activities and skills, but highly developed specific behaviors associated with a particular group do not provide the basis for assuming that these represent the innate capacities of the group.
2. Techniques other than usual standardized tests can be used to identify the gifted.
3. Behaviors that may be unique or special to a cultural group can serve as accurate indicators of high-level capacity to conceptualized and organized phenomena. (p. 226)

Until educators and school districts support these ideas, the gifted identification process will continue to underserve culturally diverse and economically disadvantaged children.

**Identification of Gifted Children in Head Start**

Many experts advocate special interventions to reach the needs of these gifted at-risk children (Passow, 1982; Whitmore, 1980). From decades of research on early intervention, these experts conclude that intervention at the preschool and early elementary level is more likely to have an affect on life-long learning than programs that begin later in a child's educational career. Head Start around the country provides low-income children with many early educational opportunities. However, these programs have not placed a great emphasis on identifying and supporting the needs of gifted low-
income children (Sisk, 1998). The following study is one of a limited number of studies that have focused on identifying low-income children in early childhood.

Bringing Out Head Start Talents

The University of Illinois received federal funds from the Administration of Children, Youth, and Families for a project entitled Bringing Out Head Start Talents (BOHST; Karnes & Johnson, 1987). The studies were of socioeconomically disadvantaged preschoolers in Head Start programs. There were five components, two of which had to do with identifying potentially academically talented children. For the identification, all children were administered the Torrance tests, Thinking Creatively in Action and Movement (TCAM), and the subtests Magic Circle, Face Recognition, Gestalt Closure, and Expressive Vocabulary from the Kauffman Assessment Battery for Children (KABC). Checklists were given to parents and teachers following the six areas in the Marland definition (intellectual ability, visual and performing arts, creativity, leadership, the academic areas of science, math, and reading, and psychomotor). The results were then put into a talent identification summary sheet. Next the children were placed into various groups according to their areas of talent.

After the groups were formed, activity books were developed with 10 small group activities in the talent areas of art, music, reading, intellectual ability, science, math, and psychomotor (Karnes & Johnson, 1987). The groups contained children who were identified as potentially academically gifted and also children who were not identified as potentially academically gifted. After each group completed three lessons, subsequent evaluations were done and further educational plans were developed. Parents were also
provided information about how to encourage divergent, convergent, and evaluative thinking at home.

At the end of the year, talent reports were provided to the public schools as the students entered kindergarten. Post-tests were also conducted and those children who were identified as potentially academically talented showed improvement on the KABC and the Torrance tests, while those in a comparison group who did not receive the talent activities showed declines in these scores. An interesting finding was that the other students in the groups that received the talent activities also showed an increase in their KABC scores and the Torrance tests. These results indicated that when one aspect of the Head Start program was upgraded, the entire program improved. These results may also suggest "our expectations for Head Start children may be geared at too low a level" (Karnes & Johnson, 1987, p. 178).

Resiliency

"Resiliency means being able to maintain one's psychological or emotional balance in spite of forces or events that are disruptive or disturbing" (Dixon, Mains, & Reeves, 1996, p. 20). Behavioral scientists have used the term resilience to describe three trends: (a) positive developmental outcomes among children who live in high-risk contexts, such as chronic poverty; (b) sustained competence under prolonged stress, such as the events surrounding parents' divorce; and (c) recovery from trauma, especially the horrors of war and concentration camps (Henderson & Milstein, 1996).

Resilience involves the ability to deal with stress and pressure, the capacity to cope and feel confident; the capability to handle disappointments, adversity, and trauma;
and the skill of developing goals (Brooks & Goldstein, 2001). Resilience also includes coping with challenges, relating with others, and treating both the self and others with respect. According to resiliency theory, when an individual of any age experiences adversity, he or she also experiences individual and environmental characteristics, called protective factors, that may buffer him or her from that adversity (Henderson & Milstein, 1996). With enough protective factors, an individual may adapt to adversity without experiencing a significant disruption in life.

**Characteristics**

Resilient children tend to be hopeful, have a high self-worth, feel special and appreciated, develop realistic goals and expectations and able to solve problems and make decisions (Brooks & Goldstein, 2001). They also display productive coping strategies, are aware of their weaknesses and talents, and have effective interpersonal skills. In addition, resilient children tend to view their mistakes as challenges and focus their energy on parts of their lives that they can control. Resilient children also tend to seek out assistance and nurturance from adults in an appropriate manner.

Benard (1991) suggests that resilient children have similar characteristics that are very similar to the characteristics of resilient adults. Resilient children and adults tend to be socially competent with life skills such as problem solving, critical thinking, and the ability to take initiative. They also tend to have a sense of purpose and foresee a positive future for themselves. Resilient children and adults usually have special interests, goal directedness, and the necessary motivation to achieve in school and in life.
Cytryn and McKnew (1998) found that resilient children were able to function well even with a high number of risk factors in their lives. In their research, Cytryn and McKnew divided the protective factors of resilient children into two groups: inherited characteristics and support systems. Inherited characteristics of the child included qualities such as above average intelligence, easy temperament, quality interpersonal relationships, a strong sense of self, and a clear understanding of their parent’s affective disorder if one was present. The second group of factors in Cytryn and McKnew’s study involved the child’s support system. Resilient children had strong support systems both inside and outside of the family.

The Wolins (1993) propose that there are seven internal characteristics termed resiliencies that are typical in both resilient children and adults. Their studies involved children and youth from alcoholic families and other stressful environments. The Wolins suggest that as individuals develop problems from growing up in dysfunctional environments, they also develop internal resiliencies that serve as lifelines for overcoming the damage. The seven resiliencies include: initiative, independence, insight, relationship, humor, creativity, and morality. The Wolins (1993) point out that even one of these characteristics can be enough to boost a person over the challenges of dysfunctional and stressful environments. Furthermore, resiliencies can often develop from an initial single strength. However, it is also important to note that resiliency is a process more than a list of traits and to keep that in mind when building a resiliency at home or at school (Henderson & Milstein, 1996).
One of the largest studies of resiliency among at-risk children was the longitudinal study of a multiracial group of 698 infants born on the island of Kauai, Hawaii, in 1955 (Werner, 1984). In the examination of the life-span developmental course of these high-risk children, three types of protective factors emerged. The first factor involved having at least an average intelligence along with dispositional factors, such as self-efficacy and self-esteem that elicited positive responses from others. The second factor included the development of affective ties within the extended family for support. The third factor was access to an external support system at school, work or church.

The longitudinal data also indicated a shift in vulnerability with developmental stage and gender (Werner, 1989). During the first decade of life, boys seemed to be more vulnerable than girls, experiencing more medical, learning, and behavior problems. Throughout the second decade of life, especially during adolescence, girls became more vulnerable and the balance shifted in favor of the boys. However, at the age of 30 the balance then appeared to favor the females again. Women reported fewer health problems and relied on more sources of support than the men who seemed to rely only on their own resources.

Fostering Resiliency

Henderson and Milstein (1996) have identified six consistent themes in research that shows how schools as well as families and communities can provide both the environmental protective factors and the conditions that foster individual protective factors. From these themes, Henderson and Milstein (1996) have formed a six-step
strategy for fostering resiliency in schools. These steps emphasize the importance schools play in developing social, academic, and vocational skills young children need to do well in life.

The first three steps involve mitigating risk (Henderson & Milstein, 1996). The first step is increasing bonding, which means increasing the connections between individuals. Research suggests that children with strong positive bonds are less likely to be involved in risk behaviors than children without these bonds (Werner, 1984). The second step is to set clear and consistent boundaries (Henderson & Milstein, 1996). The school must develop consistent policies and procedures for expectations and behaviors. This step also includes developing appropriate consequences that are consistently enforced. The third step involves teaching life skills. Life skills include cooperation, healthy conflict resolution, resistance and assertiveness skills, communication skills, problem-solving and decision-making skills, and healthy stress management. All of these skills help children navigate through high-risk situations.

The last three steps involve building resiliency (Henderson & Milstein, 1996). The following recommendations stem from Benard’s (1991) research on environmental conditions that are typically present in resilient individuals (Henderson & Milstein, 1996). The fourth step is providing care and support and this is the most critical element in fostering resiliency. Without care and support, it may be almost impossible for children to overcome adversity. Support and caring can come from family members, but also from teachers, neighbors, and other individuals in a child’s life (Werner, 1984).
The fifth step involves setting and communicating high expectations (Henderson & Milstein, 1996). It is also important to note that expectations should be both high and realistic. Unfortunately, children who are stuck with a label in school may experience unrealistically low expectations due to stereotypes and other assumptions. The sixth and final step is providing opportunities for meaningful participation. Providing students, families, and staff with a lot of responsibility for what goes on in school and providing opportunities for problem solving, decision making, planning, goal setting, and helping are all strategies involved in this step.

Research suggests positive results when all six steps are used in combination (Hawkins, Catalano, & Miller, 1992). Results indicate an increase in positive self-concept, attachment to school, a belief in rules, and higher standardized test scores. Other positive results include a decrease in delinquency, drug use, and suspension for students. The previous steps “consistently appear as critical factors in fostering resiliency in children” (Henderson & Milstein, 1996, p. 14). Therefore, they are important concepts to keep in mind for mitigating and building resiliency in school and outside of school.

Characteristics of Resiliency, Characteristics of Giftedness

Gifted children have many characteristics associated with resiliency (Bland et al., 1994). For example, resiliency researchers describe intelligence, social competence, critical thinking, initiative, humor, creativity, and independence as traits of resilient individuals (Benard, 1991; Brooks & Goldstein, 2001; Cytryn & McKnew, 1998; Werner, 1984; Werner & Smith, 1992; Wolin & Wolin, 1993). Similar traits have been described as characteristic of gifted children (Clark, 1997; Davis & Rimm, 1998; Sisk,
1998; Smutny, 2000; Torrance, 1998). Table 1 displays these gifted and resilient characteristics and the authors who reported these characteristics in their research.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Gifted Research</th>
<th>Resiliency Research</th>
</tr>
</thead>
</table>
Although gifted children share many resilient characteristics, there are many outside variables such as gender, socioeconomic status, race, and ethnicity that put certain populations of gifted children at risk. Kline and Short (1991a, 1991b) found gender differences in children and adolescents very similar to the differences found in the Kauai longitudinal study. During junior high years, gifted boys showed a significantly higher level of discouragement and hopelessness as compared to gifted boys of senior high school age. In high school years, boys tended to rely less on relationships than they did when they were younger and they preferred to be left alone by adults. In contrast, gifted girls in senior high school who placed high value on relationships indicated increased feelings of discouragement and hopelessness. As the males' feelings of discouragement and hopelessness decreased during late adolescence, the females' increased.

In Hebert’s study on gifted Latino students, several themes of resiliency emerged (1996). The young men in the study described family support, other supportive adults, and the involvement in a variety of extra-curricular activities and summer enrichment programs as influential in their success. These protective factors boosted their self-esteem and motivated them to work hard. The men also had realistic goals and career aspirations connected to their sense of identity.

Ford (1994) reports that African American youth show resilient characteristics such as internal locus of control, a strong belief in themselves, effective coping skills, and strong family values. However, Ford suggests that African American youth also show resilient characteristics that are culturally specific. For example, they often assume a bi-
cultural identify or put on a facade of racelessness. African American youth also heavily depend on their peers for emotional and physical support.

Implications for Social-Emotional Development

Social-emotional development is noted as an important part of resiliency in the Devereux Early Childhood Assessment (DECA) (Koralek, 1999). Although some authors suggest that gifted individuals are more likely to be social misfits, research findings have mostly refuted these views (Kopala, 2000). The review of the resilience literature suggests that gifted children have resources that may enable them to develop social-emotional strengths. Recent findings suggest that gifted children may be at least as well as or better socially and psychologically adjusted than their nongifted peers (Janos & Robinson, 1985; Olszewski-Kubilius et al., 1988; Sternberg & Davidson, 1986; Terman, 1925).

Olszewski-Kubilius et al. (1988) reviewed the literature on personality differences between gifted students and nongifted students and made the following generalizations: gifted students appear to be more independent, intrinsically motivated, flexible, self-accepting, and psychologically well-adjusted than their nongifted peers. Self-confidence and independence are personality traits also suggested by Davis and Rimm (1998). Gifted children do tend to develop emotional levels rapidly and they understand and empathize with others, and express their own feelings well; however, there is no guarantee that a very bright child will be as socially or emotionally mature as he or she is cognitively advanced (Clark, 1997).
In a compilation of research, Clark (1997) suggests that the social-emotional characteristics of gifted children emerge in a positive profile in comparison with their peers. For instance, gifted children tend to show better emotional adjustment, are more independent, less conforming, and are more comfortable with themselves in interpersonal relationships. Gifted children also often hold high social status among their classmates, show leadership ability and tend to be very idealistic, seeking what is fair and just at an early age.

However, not all of these traits may result in positive social-emotional adjustment (Knopper, 1998). Uneven development in social, cognitive, and physical skills can result in adjustment problems that may be expressed in temper tantrums, depression, and aggressive behavior. Knopper suggests that some children may be advanced intellectually but become frustrated because they lack life experiences and/or physical capabilities needed to carry out complex activities. Kerr (1991) claims that boredom and disappointment in school may lead to a fear and dread about attending school, arguments with playmates, and withdrawing into fantasy and daydreams. Preschool and kindergarten are critical periods of adjustment for young children and these characteristics may lead to anxiety and depression if not appropriately addressed.

Tannenbaum (1983) suggests that the more highly gifted the child, the more the risk of social maladjustment. Roedell (1984) identified eight areas of vulnerability to be aware of to help in minimizing these risks: uneven development, perfectionism, adult expectations, intense sensitivity, self-definition, alienation, inappropriate environments,
and role conflicts. The most frequent symptom among this population is lack of confidence resulting in a helplessness orientation toward perceived failure.

Davis and Rimm (1998) suggest that gifted students from rural, economically disadvantaged and many other culturally diverse communities may struggle with social-emotional adjustment because of the absence of support in and outside of school. Gifted children from culturally diverse backgrounds face the same issues regarding emotional adjustment that all gifted children face; however, cultural and racial differences and varied experiences may create different problems (Kopala, 2000). For instance, gifted culturally diverse children experience unique external barriers, such as stereotypes, biased testing, and mixed messages from their own culture and the dominant culture. With few role models, gifted children from culturally diverse backgrounds may be confused about how they feel concerning their ethnic background and they may be uncomfortable in their own and other social groups.

Awareness of these social and emotional characteristics is critical in supporting the unique needs of these children and in developing their potential. In addition, these social-emotional needs may also affect a child’s resiliency in the face of adverse conditions, such as poverty, discrimination, and language difficulties (Henderson & Milstein, 1996). Therefore, identifying culturally diverse, low-income, gifted children’s social-emotional needs and attending to those needs may potentially increase their resiliency in adverse conditions.
Critique of the Literature

The literature in the field of giftedness is often vague and contradictory. Many researchers postulate about the needs of the underserved gifted population; however, little is being done in the early grades to identify potential gifted students from diverse backgrounds. The identification process for underserved potentially gifted children is still a stumbling block in today's education. Future research should attempt to gain better insight into the effectiveness of new identification procedures for underserved populations (e.g., portfolios, matrix models, case studies, and culturally appropriate checklists). Furthermore, research should look at the effectiveness of such identification measures at early ages such as preschool and kindergarten. Finding an acceptable identification procedure is the first step in appropriately meeting the needs of the underserved gifted population.

Future research should also investigate the pattern of social-emotional development in young gifted children from culturally diverse, low socioeconomic backgrounds. Research in the area of social-emotional development of gifted children is often ambiguous. For instance, many researchers suggest that gifted children are more socially and emotionally well adjusted than their non-gifted peers (Janos & Robinson, 1985; Olszewski-Kubilius et al., 1988; Sisk, 1998; Sternberg & Davidson, 1986; Terman, 1925). However, other experts contend that gifted children face many obstacles in social-emotional development (Kerr; 1991; Knopper, 1998; Roedell, 1984; Tannenbaum, 1983). In addition, others point out that gifted children from culturally diverse, low socioeconomic, and disadvantaged backgrounds may face an even greater challenge in
developing social-emotional skills (Davis & Rimm, 1998, Kopala, 2000). Awareness of 
these social and emotional characteristics is critical in supporting the unique needs of 
these children and in developing their potential.

With the limited amount of research in the area of giftedness and resiliency, 
further studies are needed to determine how resiliency and giftedness are related. For 
example, whether gifted children possess resilient characteristics as personality traits or if 
these characteristics are acquired skills (Bland et al., 1994). In addition, further 
longitudinal studies are needed in both the areas of resiliency and giftedness to determine 
how the two are related over time and what specific factors contribute to social-emotional 
adjustment difficulties of gifted children.
CHAPTER 3
METHODOLOGY

Participants

The participants included 54 children enrolled in Head Start and eight teachers from four Head Start centers. The children were all four (n = 47) and five-year olds (n = 7). Approximately half the children were female (n = 28). The ethnicity of the children was approximately 38% Caucasian (n = 21), 50% African American (n = 27), 7% Hispanic (n = 4), and 4% Bosnian (n = 2). The children who participated in the study were drawn from the multi-county Head Start program in northeastern Iowa. The Devereux Early Childhood Assessment (DECA) coordinator from a multi-county Head Start chose the classrooms that participated in the study. All the children involved in the study live with families below the poverty level. The teachers involved in the data collection were trained in the Devereux Early Childhood Assessment by the program coordinator at Head Start. The teachers were also trained in the Gifted Evaluation Scale Second Edition (GES-2) assessment by the researcher.

Instruments

Gifted Evaluation Scale Second Edition (GES-2)

The GES-2 is a rating scale that was developed on the basis of a synthesis and integration of federal and state definitions of giftedness (McCarney & Anderson, 2000). These definitions suggest that gifted students demonstrate abilities in one or more of the following areas: intellectual aptitude, creativity, academic skills, leadership ability, and performing and visual arts. The instrument is appropriate for a variety of purposes: to
screen students for gifted characteristics, to collect data to develop program goals, and to
specify instructional strategies in the areas of gifted behavior and performance.

The GES-2 is appropriate for rating children from the ages of 4.5 to 18
(McCarney & Anderson, 2000). The rating scale consists of 48 items that were
developed on the basis of recommendations from gifted education teachers and
educational diagnosticians. Each item on the scale is rated with scores ranging from 1
(does not demonstrate the behavior or skill) to 5 (demonstrates the behavior or skill at all
times, consistently; see Appendix A). The items are organized into five subscales:
Intellectual, Creativity, Specific Academic Aptitude, Leadership Ability, and Performing
and Visual Arts.

Four types of scores are obtained through the administration of the GES-2: raw
scores, subscale standard scores, quotient scores, and percentile scores (McCarney &
Anderson, 2000). The quotient score is a total score and gives a global measure of
student performance. The quotient has a mean of 100 and a standard deviation of 15.
Quotient scores between 85 and 115 are considered statistically within the normal range
of student performance. The raw scores and the subscale standard scores are used to
determine the specific areas of exceptional ability and to guide program development for
individual children. Each subscale standard score has a mean of 10 with a standard
deviceation of three. A standard score between 7 and 13 is considered average. A student
who obtains at least a standard score of 14 on one of the 5 scales is considered potentially
gifted in that area.
The 48 items on the GES-2 were developed on the basis of feedback from 37 educational diagnosticians and educational personnel in 1985 (McCarney & Anderson, 2000). The original list consisted of 53 items that combined similar measurable traits. This list was evaluated and modified by 31 of the original 37 consultants resulting in a list of 49 items. On the basis of face validity, the items were assigned to 5 subscales. A field test was accomplished by randomly selecting 109 teachers from 10 districts in Missouri and asking them to complete the scale for four randomly selected students in their classes. One item was then eliminated based on the results of that study. The final scale then consisted of 48 items. Sample items include "uses extensive and accurate vocabulary to convey thoughts, report experiences, expresses needs, etc.,” "engages in self-initiated activities,” and "naturally assumes leadership roles."

**Standardization.** The scale was standardized from August 1997 through April 1998 using a sample of 1,439 students from 20 school systems in 14 states (McCarney & Anderson, 2000). A shortcoming of the scale is that it is not stratified on demographics according to the U.S. census. When compared to the national census, the sample was predominantly white (89.3% vs. 73.1% in the U.S.) and urban-suburban (83.9% vs. 75.2%) in the U.S.). The sample, when compared to the national census data, was overrepresented in the Midwest and South and underrepresented in the Northeast and West.

**Validity.** Content validity is based on the item development process by educational diagnosticians and educational personnel (McCarney & Anderson, 2000). Construct validity is based on factor analysis results using a norming sample. The results
in the test manual do not support a model of five distinct characteristics to giftedness. The empirical evidence supports the notion of a single gifted construct because a dominant first factor accounts for nearly 65% of the variance in the item scores. Even though a five-factor solution was chosen, the authors do not justify why it is more meaningful than the one-factor solution.

One study on concurrent validity is reported in the manual (McCarney & Anderson, 2000). The study involved 105 students who were rated using both the GES-2 and another gifted rating scale, the Gifted and Talented Evaluation Scale (GATES) (Gilliam, Carpenter, & Christensen, 1996). Subscale scores from both instruments measuring the same construct had high correlations ranging from .74 to .86. Correlations of scores from the two instruments that purported to assess different constructs were occasionally high; thus, supporting the one-dimensional model of giftedness.

**Reliability.** Test-retest reliability data for 125 students randomly selected from the standardization sample and rerated after 30 days produced reliability coefficients ranging from .86 to .93 (McCarney & Anderson, 2000). Interrater reliability was found using 304 students rated by two educators with equal knowledge of the students. Pearson Product Moment correlations ranged from .69 to .91 for all age levels with Total Test reliability of .91. Internal consistency reliability was calculated for each of the five subscales for the total norming sample and for both sexes and five racial-ethnic groups. Most of the coefficient alpha values were high, typically between .94 and .96.
Devereux Early Childhood Assessment (DECA)

As stated by Koralek (1999), the Devereux Early Childhood Assessment (DECA) is the first component of the Devereux Early Childhood Assessment Initiative (DECI). The Devereux Foundation launched the DECI to encourage the development of healthy social and emotional skills in early childhood. The DECI stems from the results of resilience research involving protective factors, or factors that allow individuals to "bounce back" from adversity. Protective factors may buffer the negative effects of stress for at-risk children. The primary goal of the DECI is to identify and build upon children's protective factors to increase their resilience in adverse conditions. A second goal is to support teachers, families, and communities to reduce potential risk factors that may hinder healthy social and emotional development.

The DECI includes four components: assessment, classroom strategies, working with families, and continuous follow-up (Koralek, 1999). The first component, Devereux Early Childhood Assessment (DECA), involves a rating scale along with other formal and informal assessment tools and practices. The DECA focuses on behaviors and skills related to three protective factors: attachment, self-control, and initiative. The protective factors support each other and social and emotional growth. For instance, attachment yields trust, trust is needed for gaining self-control, and children who can control themselves and trust others are ready to explore and take initiative. The DECA also includes a Behavioral Concerns Scale. Teachers can use the DECA to determine within-child protective factors and to identify potential behavioral disorders. DECA results can
serve as a planning tool for teachers to use as they implement new strategies into their classroom to promote children’s social and emotional strengths.

The second part of DECI, classroom strategies, involves developmentally appropriate practices that foster positive attachment, self-control, and initiative (Koralek, 1999). The strategies focus on the following elements: the environment, a daily program, activities and experiences, supportive interactions, and partnerships with families and the community. The third component of DECI involves creating a collaborative and supportive partnership between teachers and families. A Devereux booklet, *For Now and Forever, A Guide for Families on Promoting Social and Emotional Development*, is given to every child’s parent/guardian. The booklet recommends a few simple, clear strategies for families to use to encourage their children’s social and emotional health. The booklet can also be used to develop parenting workshops and to stimulate discussion with families. The fourth DECI component is continuous follow-up. Devereux’s system encourages educators to communicate with peers and experts to ask and answer questions, share concerns, and seek confidential advice. This component promotes the use of behavioral health care specialists as resources for children, families, and staff.

There are six underlying principles of the DECA (Koralek, 1999). The first principal is that the DECI is child-centered. All the components of the DECI respond to children’s individual characteristics and encourage the role of families and communities in child development. The DECI reflects the relationship between children’s behaviors and development. The second principal is that the DECI is strength-based. The DECA
provides insight into each child’s strengths as related to each protective factor (self-control, attachment, and initiative). The DECA results can be used to set goals for each child. The third principal is that the DECI encourages partnerships between teachers and families. The fourth principal involves recommending strategies that fit within an early childhood program’s current practices. The fifth principal is the support of effective collaborations between families, teachers, and specialists. These individuals work as a team to understand and address each child’s needs. The sixth principal is that the DECI stresses the importance of being data-driven early care and education professionals.

Throughout the year, the staff collects data about their program practices and about each child’s skills, needs, and interests. This information guides the program development and allows teachers to plan for individuals and the group.

The Devereux Early Childhood Assessment (DECA) is a nationally normed behavior rating scale purported to measure protective factors among preschool children ages 2-5 years (LeBuffe & Nagleiri, 1999b). Both caregivers and educators can complete the DECA. Raters record the frequency of 27 positive behaviors and 10 concern behaviors. Sample items include “shows patience,” “trusts familiar adults and believes what they say,” and “starts or organizes play with other children” (see Appendix B). The DECA has three main purposes. First, to identify children who score low on protective factors so that classroom and home-based strategies can be generated to increase these skills. Second, to develop classroom profiles that represent the strengths of the entire classroom so that classroom design and instructional strategies can build on healthy
social-emotional development. Third, to screen for behavior concerns so that they can be addressed before they manifest into behavior disorders.

Scale items were developed through a two-step process (LeBuffe & Nagleiri, 1999b). The first step involved a review of the literature on resilience. During the second step, researchers conducted focus groups with parents of preschoolers and preschool teachers. The focus groups yielded positive and negative behavioral descriptors related to social and emotional health. Following a pilot study and a separate standardization study, a factor analysis was conducted on the items. A three-factor solution including attachment, self-control, and initiative was developed. A fourth scale involving behavior concerns was also constructed.

LeBuffe and Nagleiri (1999a) state that the ratings on the DECA range from 0 (never displays the behavior) to 4 (very frequently displays the behavior). Scoring the DECA generates a Scale Raw Score, T-Score, Percentile Score, and a category rating assignment of strength, typical, or concern for each subscale: attachment, initiative, self-control, and behavior concerns. Strength is considered a score at or above the 83rd percentile, a typical score falls between the 82nd and 18th percentiles, and a concern is at or below the 17th percentile. The cut-off scores for classifications of strength, typical, and concern were derived from the standardization of the DECA. Adding the scores for the subscales of attachment, initiative, and self-control yield a Total Protective Factors (TPF) score.

Standardization. The DECA was standardized from the fall of 1997 to the spring of 1998 (LeBuffe & Nagleiri, 1999b). Two standardization samples were conducted. The
first sample consisted of 2,000 children ages 2 years 0 months to 5 years 11 months, 30 days. Half of the children sampled were rated by a family caregiver and the remaining half were rated by a preschool teacher or childcare provider. Approximately 51% of the children were males and 49% were females. One quarter of the children were from families receiving public assistance or subsidized childcare, matching the prevalence of poverty among young children. The sample was stratified on race and geographic region based on 1997 United States Census information.

Reliability. Reliability studies have analyzed the DECA's internal consistency, test-retest, and interrater reliability (LeBuffe & Nagleiri, 1999b). Internal consistency for the Total Protective Factor (TPF) scores for both parents and teachers exceeds an alpha of .90. Parent and teacher internal consistency values for the subscales of attachment (.76, .85), initiative (.84, .90), self-control (.86, .90), and behavior concerns (.71, .80) ranged from .71 to .90 respectively. Test-retest reliabilities were collected over a 24-72 hour time range. Test-retest reliability scores for parent and teacher ratings on the subscales of attachment (.55, .87), initiative (.80, .91), self-control (.64, .91), and behavior concerns (.55, .68) range from .55 to .91 respectively. These correlations were significant at the .01 level. Interrater reliability was found by comparing ratings from teachers and teacher's aides (.57 to .77). These correlations were also significant at the .01 level.

Validity. Content, criterion and construct validly for the DECA has also been examined (LeBuffe & Nagleiri, 1999b). Given that there are no other measures currently available to measure protective factors, content related validity is based only on an extensive review of resiliency literature and the results of focus groups. Criterion validity
was established by examining the DECA’s ability to correctly predict whether a child was part of a clinical \((n = 95)\) or a matched non-referred \((n = 86)\) sample. The clinical sample included any child who had been given a psychiatric diagnosis, was being seen by a mental health professional, had been asked to leave the child care program because of behavior problems, or had an individualized behavior management plan. Children not meeting these criteria were placed in the non-referred sample. The DECA was able to accurately classify 69% of the children in the study. Construct validity was examined by correlating the scores on the Total Protective Factors (TPF) scale and the Behavior Concerns scale. A correlation of -.65 indicates an inverse relationship.

**Procedure**

The researcher contacted the DECA coordinator at Head Start and arranged a proposal meeting where the study was discussed and evaluated. A research proposal (see Appendix C) was submitted to Head Start and a letter of cooperation (see Appendix D) was obtained when the study was approved by Head Start. A Human Participants Review Form was then completed and submitted to the University of Northern Iowa. The methodology of the study was explained and described at length on the review form. The graduate college reviewed the procedures for ethical considerations. The study’s methodology was approved on September 19, 2002, and the researcher then began to recruit participants (see Appendix E).

The researcher also applied for funding through the University of Northern Iowa Foundation for student research. The researcher submitted a proposal and a budget for
the study. Funding was granted to cover the costs of the assessment protocols and the books to give to the children in the participating classrooms.

The researcher arranged meetings with all eight of the participating teachers. The study was described to the participating teachers and their consent was obtained. Each teacher was given a consent form to sign (see Appendix F). All the teachers contacted agreed to participate in the study.

A consent form (see Appendix G) was distributed to approximately 100 parents/guardians whose children were in the classrooms participating in the study. Only children who were four- or five-years old were recruited for the study due to the age constraints on the GES-2. The consent forms informed the parents and teachers of the purpose of the research and how the data would be collected and used. The parents and teachers were informed of the confidentiality of the results and given the option to not participate in the study.

The consent forms were handed out during the month of October. Each Head Start center had their own policy of distributing the consent forms. The distribution of the forms ranged from handing the form to the parents/guardians, giving the form to the child to take home, and taking the consent form to the parents/guardians on a home visit. The researcher periodically contacted the teachers throughout the month of October to check on the return rates of the consent forms. The return rate ranged from 50%-67% from each of the centers with the total of 55 student participant consent forms returned. All consent forms were collected during October. Free books were given to every child in the participating classrooms, regardless of the child’s participation in the study.
Assessment

The children who received parental consent to participate in the study were rated by their teacher on the GES-2 and the DECA scales. The teachers completed both the scales throughout the first three weeks in November. All the teachers participating in the data collection had known the children they were assessing for at least 45 days, as required by the DECA. All the participating teachers had previously been trained how to complete the DECA assessment. The researcher met with each teacher and explained how to use the GES-2 rating scale. The teachers completed the scales during their free time. Some teachers completed the scales during work hours and some during personal time.

The DECA scales were scored by the family workers at the Head Start as requested by the coordinator of the DECA program. The researcher scored the GES-2 scales and returned them to the Head Start. All of the scales were then kept on file at Head Start and the teachers and parents/guardians of the students had access to the results.

Data Analysis

The quotient scores on the GES-2 and the Total Protective Factor scores on the DECA were correlated using Pearson's product moment correlation coefficient. Group means and standard deviations were calculated. The correlations between the DECA subscales (initiative, self-control, attachment, and behavior concerns) and the GES-2 subscales (intellectual aptitude, creativity, academic skills, leadership ability, and performing and visual arts) were analyzed. The scales within the GES-2 were correlated
and then compared to the standardization sample to determine generalizability. A one-way between-groups analysis of variance was also conducted to explore the differences between class and center scores on the DECA and GES-2. Significant findings were reported and results were interpreted.
CHAPTER 4
RESULTS

Descriptive Report

Fifty-five students were rated by their teachers using the DECA and GES-2 scales. An outlier test identified one extreme score in the data set on the DECA scale. The outlier affected the standard deviation of the DECA scores $SD = 12.01$ (before the removal) vs. $SD = 11.09$ (after the removal). Thus, the outlier was excluded from the data set leaving a sample size of 54 participants (28 females).

Table 2 displays the means and standard deviations for the quotient score (Q) on the GES-2 and the Total Protective Factor (TPF) score on the DECA. Means and standard deviations for the GES-2 subscales (intelligence, creativity, specific academic, leadership, and performance/visual) and DECA subscales (initiative, self-control, attachment, and behavior concerns) are also reported.

In the standardized sample for the GES-2, the quotient has a mean of 100 and a standard deviation of 15. Quotient scores between 85 and 115 are considered statistically within the normal range of student performance. Each subscale standard score has a mean of 10 with a standard deviation of three. A standard score between 7 and 13 is considered average. A student who obtains at least a standard score of 14 on one of the 5 scales could be considered potentially gifted in that area.

In the present study, the quotient scores for the GES-2 yielded a mean ($M = 114$), almost a full standard deviation higher than the standardized mean ($M = 100$), suggesting that the sample group may be somewhat different from the standardized group for the
GES-2. The means for the subscales ranged from 11.00 to 14.31. The means for the subscales were also moderately above the standardized mean. The mean for the scale of performance/visual arts ($M = 14.31$) was moderately higher than the rest of the subscales. The standard deviation of the performance/visual arts subscale ($SD = 4.68$) was also higher than the rest, suggesting a greater range in scores on this scale.

Table 2

*Means and Standard Deviations for the GES-2 and DECA Scales*

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>GES-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>114.8</td>
<td>13.61</td>
</tr>
<tr>
<td>Intelligence</td>
<td>12.35</td>
<td>3.10</td>
</tr>
<tr>
<td>Creativity</td>
<td>13.30</td>
<td>2.94</td>
</tr>
<tr>
<td>Specific Academic</td>
<td>11.00</td>
<td>2.58</td>
</tr>
<tr>
<td>Leadership</td>
<td>13.87</td>
<td>3.18</td>
</tr>
<tr>
<td>Perf/Visual</td>
<td>14.31</td>
<td>4.68</td>
</tr>
<tr>
<td>DECA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TPF</td>
<td>54.07</td>
<td>11.09</td>
</tr>
<tr>
<td>Initiative</td>
<td>53.63</td>
<td>9.71</td>
</tr>
<tr>
<td>Self-Control</td>
<td>53.89</td>
<td>11.48</td>
</tr>
<tr>
<td>Attachment</td>
<td>55.41</td>
<td>11.27</td>
</tr>
<tr>
<td>Behavior Concerns</td>
<td>50.54</td>
<td>12.17</td>
</tr>
</tbody>
</table>

In the standardized sample for the DECA, raw scores were converted to $t$-scores for each scale and set with a mean of 50 and a standard deviation of 10. On the DECA scales $t$-scores of 60 and above are considered areas of strength and $t$-scores of 40 and
below areas of concern. In the current study, the means for the scales in the DECA ranged from 50.54 to 55.41.

Figures 1 and 2 are histograms that represent the distribution of the Total Protective Factors scores (TPF) and Quotient scores (Q) on the DECA and the GES-2 scales for the present study.

*Figure 1.* Histogram of TPF Scores

![Histogram of TPF Scores](image)

*Note:* Each bar represents the score ± 2.5 points.
Figure 2. Histogram of Quotient Scores

Note: Each bar represents the score ± 2.5 points.

A large portion, over half, of the Quotient scores on the GES-2 fell within 118-132 range, which indicates that the sample was somewhat different from the standardized sample. Also, on the DECA, a large portion of the TPF scores fell above 50. To further explore the scores on the DECA and the GES-2 scales, differences between classes and Head Start centers were also examined. Tables 3 and 4 represent the means and standard deviations of the TPF and Quotient scores for each of the eight classes.
A one-way between-group analysis of variance was conducted to explore the differences of the TPF scores between the eight classes. There was a statistically significant difference at the $p < .05$ level in the TPF scores for the classes [$F(7, 46) = 2.6$, $p = .03$]. The effect size, calculated using eta squared, was .28, indicating a large difference in the mean scores of the classes. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Class 2 ($M = 65.9$, $SD = 7.0$) was significantly different from Class 5 ($M = 47.9$, $SD = 11.0$) and Class 8 ($M = 50.0$, $SD = 13.7$).

Table 3

*Means and Standard Deviations for Class TPF Scores*

<table>
<thead>
<tr>
<th>Class</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1</td>
<td>6</td>
<td>54.7</td>
<td>13.6</td>
</tr>
<tr>
<td>Class 2</td>
<td>9</td>
<td>65.9</td>
<td>7.0</td>
</tr>
<tr>
<td>Class 3</td>
<td>5</td>
<td>52.2</td>
<td>7.3</td>
</tr>
<tr>
<td>Class 4</td>
<td>4</td>
<td>54.0</td>
<td>5.4</td>
</tr>
<tr>
<td>Class 5</td>
<td>10</td>
<td>47.9</td>
<td>11.0</td>
</tr>
<tr>
<td>Class 6</td>
<td>4</td>
<td>52.5</td>
<td>3.7</td>
</tr>
<tr>
<td>Class 7</td>
<td>7</td>
<td>54.9</td>
<td>8.5</td>
</tr>
<tr>
<td>Class 8</td>
<td>9</td>
<td>50.0</td>
<td>13.7</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>54.1</td>
<td>11.1</td>
</tr>
</tbody>
</table>
A one-way between-group analysis of variance was conducted to explore the differences of the Quotient scores between the eight classes. There was a statistically significant difference at the $p < .05$ level in the Quotient scores for the classes $[F(7, 46) = 2.5, p = .03]$. The effect size, calculated using eta squared, was .28, indicating a large difference in the mean scores of the classes. However, post-hoc comparisons using the Tukey HSD test did not indicate any significant differences between the mean scores for individual classes. The post-hoc comparisons may not have been significant at the individual level due to the small class size.

Table 4

*Means and Standard Deviations for Class Quotient Scores*

<table>
<thead>
<tr>
<th>Class</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1</td>
<td>6</td>
<td>117.7</td>
<td>10.4</td>
</tr>
<tr>
<td>Class 2</td>
<td>9</td>
<td>107.1</td>
<td>14.3</td>
</tr>
<tr>
<td>Class 3</td>
<td>5</td>
<td>127.0</td>
<td>6.2</td>
</tr>
<tr>
<td>Class 4</td>
<td>4</td>
<td>108.8</td>
<td>15.6</td>
</tr>
<tr>
<td>Class 5</td>
<td>10</td>
<td>108.8</td>
<td>16.8</td>
</tr>
<tr>
<td>Class 6</td>
<td>4</td>
<td>121.0</td>
<td>9.2</td>
</tr>
<tr>
<td>Class 7</td>
<td>7</td>
<td>124.7</td>
<td>4.8</td>
</tr>
<tr>
<td>Class 8</td>
<td>9</td>
<td>112.9</td>
<td>11.8</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>114.8</td>
<td>13.6</td>
</tr>
</tbody>
</table>
Tables 5 and 6 represent means and standard deviations of TPF and Quotient scores for each Head Start center. Center 1 includes classrooms 1 and 2. Center 2 includes classrooms 3 and 4. Center 3 includes classrooms 5, 6, and 7. Center 4 includes classroom 8. A one-way between-group analysis of variance was conducted to explore the differences of the TPF scores between the four Head Start centers. There was a statistically significant difference at the $p < .05$ level in the TPF scores for the centers $[F(3, 50) = 3.6, p = .03]$. The effect size, calculated using eta squared, was .18, indicating a large difference in the mean scores of the centers. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Center 1 ($M = 61.4, SD = 11.3$) was significantly different from Center 3 ($M = 51.1, SD = 9.4$) and from Center 4 ($M = 49.9, SD = 13.7$).

**Table 5**

*Means and Standard Deviations for Center TPF Scores*

<table>
<thead>
<tr>
<th>Center</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center 1</td>
<td>15</td>
<td>61.4</td>
<td>11.3</td>
</tr>
<tr>
<td>Center 2</td>
<td>9</td>
<td>53.0</td>
<td>6.2</td>
</tr>
<tr>
<td>Center 3</td>
<td>21</td>
<td>51.1</td>
<td>9.4</td>
</tr>
<tr>
<td>Center 4</td>
<td>9</td>
<td>49.9</td>
<td>13.7</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>54.1</td>
<td>11.1</td>
</tr>
</tbody>
</table>
A one-way between-group analysis of variance was conducted to explore the differences of the Quotient scores between the four Head Start centers. There was not a statistically significant difference between the mean Quotient scores for the centers \( (p = .53) \). The effect size, calculated using eta squared, was .04, indicating a minimal difference in the mean scores of the centers. Post-hoc comparisons using the Tukey HSD did not find a difference between the means of individual centers. The one-way between-group analysis of variance may not have been significant due to the small center size.

### Table 6

**Means and Standard Deviations for Center Quotient Scores**

<table>
<thead>
<tr>
<th>Center</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center 1</td>
<td>15</td>
<td>111.3</td>
<td>13.6</td>
</tr>
<tr>
<td>Center 2</td>
<td>9</td>
<td>118.9</td>
<td>14.2</td>
</tr>
<tr>
<td>Center 3</td>
<td>21</td>
<td>116.4</td>
<td>14.3</td>
</tr>
<tr>
<td>Center 4</td>
<td>9</td>
<td>112.9</td>
<td>11.8</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>114.8</td>
<td>13.6</td>
</tr>
</tbody>
</table>

**Generalizability**

To determine the generalizability of the data, correlations from the sample GES-2 scores were compared to those in the standardized samples found in the technical manual. Table 4 represents GES-2 subscale and total scale correlations in the present study. Table
5 displays the GES-2 subscale and total scale correlations for the sample used in the standardization. The correlations ranged from $r = .40$ to $r = .88$. All the correlations within the scales were statistically significant ($p \leq .01$). The correlations for the standardized sample were slightly higher; however, they appear to be similar to the present study. The reason for the lower correlations in the present study may be due to the smaller sample size. The high correlations between the subscales suggest that the subscales are highly related and may even be assessing the same thing, not five separate characteristics.

Table 7

**GES-2 Subscale and Total Scale Correlations: Present Study**

<table>
<thead>
<tr>
<th>Sub-Scales</th>
<th>Intelligence</th>
<th>Creativity</th>
<th>Specific Academic</th>
<th>Leadership</th>
<th>Performance Visual Arts</th>
<th>Total Scale</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligence</td>
<td>1.00</td>
<td>.74**</td>
<td>.60**</td>
<td>.62**</td>
<td>.67**</td>
<td>.88**</td>
<td></td>
</tr>
<tr>
<td>Creativity</td>
<td>.74**</td>
<td>1.00</td>
<td>.60**</td>
<td>.52**</td>
<td>.60**</td>
<td>.82**</td>
<td></td>
</tr>
<tr>
<td>Specific Academic</td>
<td>.60**</td>
<td>.60**</td>
<td>1.00</td>
<td>.40**</td>
<td>.53**</td>
<td>.73**</td>
<td></td>
</tr>
<tr>
<td>Leadership</td>
<td>.62**</td>
<td>.52**</td>
<td>.40**</td>
<td>1.00</td>
<td>.65**</td>
<td>.79**</td>
<td></td>
</tr>
<tr>
<td>Performance Visual Arts</td>
<td>.67**</td>
<td>.60**</td>
<td>.53**</td>
<td>.65**</td>
<td>1.00</td>
<td>.88**</td>
<td></td>
</tr>
<tr>
<td>Total Scale Q</td>
<td>.88**</td>
<td>.82**</td>
<td>.73**</td>
<td>.79**</td>
<td>.88**</td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

**$p \leq .001$**
Table 8

*GES-2 Subscale and Total Scale Correlations: Standardized Sample*

<table>
<thead>
<tr>
<th>Sub-Scales</th>
<th>Intelligence</th>
<th>Creativity</th>
<th>Specific Academic</th>
<th>Leadership</th>
<th>Performance Visual Arts</th>
<th>Total Scale Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligence</td>
<td>1.00</td>
<td>.92</td>
<td>.93</td>
<td>.80</td>
<td>.70</td>
<td>.95</td>
</tr>
<tr>
<td>Creativity</td>
<td>.92</td>
<td>1.00</td>
<td>.91</td>
<td>.84</td>
<td>.75</td>
<td>.96</td>
</tr>
<tr>
<td>Specific Academic</td>
<td>.93</td>
<td>.91</td>
<td>1.00</td>
<td>.72</td>
<td>.92</td>
<td>.94</td>
</tr>
<tr>
<td>Leadership</td>
<td>.80</td>
<td>.84</td>
<td>.80</td>
<td>1.00</td>
<td>.79</td>
<td>.92</td>
</tr>
<tr>
<td>Performance Visual Arts</td>
<td>.70</td>
<td>.75</td>
<td>.72</td>
<td>.79</td>
<td>1.00</td>
<td>.84</td>
</tr>
<tr>
<td>Total Scale Q</td>
<td>.95</td>
<td>.96</td>
<td>.94</td>
<td>.92</td>
<td>.84</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Research Questions**

The relationship between giftedness and resiliency as measured by the GES-2 and the DECA scales was investigated using Pearson product-moment correlation coefficient. There was a small correlation between the quotient scores on the GES-2 and the TPF scores on the DECA ($r = .24$). The coefficient of determination indicates that the two scales have only 5.62% shared variance, which means that the variance in one variable only accounts for 5.62% of the variance in the other variable.

The following scatterplot, Figure 7, displays each participant GES-2 and DECA scores. The scores appear to follow a slight trend line. However, the correlation was not
large enough to be statistically significant. With a larger or more heterogeneous sample the correlation may have been stronger. Also, with greater teacher training on how to complete the two scales the results may have been more consistent.

*Figure 3. Scatterplot of GES-2 and DECA Scores*

To determine the relationship between subscales on the GES-2 and DECA, correlations were calculated for all subscales. Table 6 displays the correlations between the subscales. Statistically significant correlations were found between initiative and intelligence \((r = .30^*)\), initiative and creativity \((r = .38^{**})\), attachment and intelligence \((r = .36^{**})\), attachment and creativity \((r = .34^*)\), TPF and intelligence \((r = .35^{**})\), and TPF and Creativity \((r = .35^{**})\).

The data suggest that initiative and attachment have the strongest relationship with intelligence and creativity. Furthermore, intelligence and creativity seem to have the strongest relationship with the TPF combined score on the DECA. The relationship
among these factors may suggest that some characteristics of giftedness, possibly intelligence and creativity, may impact resiliency due to the connection to initiative and attachment. On the other hand, initiative and attachment may also impact giftedness, especially advanced intelligence and creativity. Another interesting pattern to note is the relationship between self-control and the performance/visual scales. The inverse relationship indicates that the higher the performance/visual scores, the lower the self-control scores and vice versa. Also, the data analysis found a positive correlation between the performance/visual scale and the behavior concerns scale. Perhaps this relationship indicates that the more active children are the more likely they may be seen as having behavior problems, even though they may be expressing their visual or performance talents.

Table 9

_Correlations between GES-2 and DECA Subscales_

<table>
<thead>
<tr>
<th>Sub-Scales</th>
<th>Initiative</th>
<th>Self-Control</th>
<th>Attachment</th>
<th>Behavior Concerns</th>
<th>TPF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligence</td>
<td>.30*</td>
<td>.23</td>
<td>.36**</td>
<td>-.20</td>
<td>.35**</td>
</tr>
<tr>
<td>Creativity</td>
<td>.38**</td>
<td>.18</td>
<td>.34*</td>
<td>-.15</td>
<td>.35**</td>
</tr>
<tr>
<td>Academic</td>
<td>.24</td>
<td>.05</td>
<td>.16</td>
<td>-.05</td>
<td>.17</td>
</tr>
<tr>
<td>Leadership</td>
<td>.13</td>
<td>.07</td>
<td>.20</td>
<td>-.01</td>
<td>.18</td>
</tr>
<tr>
<td>Perf/Visual</td>
<td>.09</td>
<td>-.18</td>
<td>.08</td>
<td>.21</td>
<td>.02</td>
</tr>
<tr>
<td>Quotient</td>
<td>.26</td>
<td>.05</td>
<td>.26</td>
<td>-.02</td>
<td>.24</td>
</tr>
</tbody>
</table>

*p ≤ .05    **p ≤ .01
CHAPTER 5
DISCUSSION

Discussion of Results

The present study sought to determine the relationship between resiliency and giftedness among Head Start children. Fifty-four Head Start children were rated by their teachers on a measure of resiliency, the DECA, and a measure of giftedness, the GES-2. The DECA claims to measure initiative, self-control, attachment, behavior concerns and yields a combined score called Total Protective Factors (TPF). The GES-2 purports to measure giftedness in the areas of intelligence, creativity, specific academic, leadership, and visual/performance with a total Quotient score.

A descriptive analysis found the means on the GES-2 and DECA scales to be slightly to moderately higher than the standardized sample. Therefore, differences in mean scores between classes and between centers were investigated. Significant differences were found between class means on TPF and Quotient scores. Significant differences were also found between center means on TPF scores. The significant differences between classes and centers may account for the inflated means on the GES-2 and DECA scales. These differences in the ratings may be due to individual differences in the rater’s perceptions or the limited training on how to complete the scales. The inflated means may also be a product of the homogeneity of the participants. All of the participants were 4 to 5 year-old students living in poverty in the Midwest.

The scores from the two scales were correlated to determine the relationship between the two constructs, giftedness and resiliency. No significant correlation was
found between the Quotient scores and the TPF scores on the two scales. However, significant correlations were found across the subscales of the two measures: initiative and intelligence, initiative and creativity, attachment and intelligence, attachment and creativity, TPF and intelligence, and TPF and creativity. Initiative and attachment appeared to have the strongest relationship with intelligence and creativity. Furthermore, intelligence and creativity seem to have the strongest relationship with the TPF combined score on the DECA. The relationship among these factors may suggest that some characteristics of giftedness, possibly intelligence and creativity, may impact resiliency due to the connection to initiative and attachment. Conversely, initiative and attachment may also impact giftedness, especially advanced intelligence and creativity.

Another curious, but non-significant pattern was the relationship between self-control and the performance/visual scales. An inverse relationship was found, indicating that the higher the performance/visual scores, the lower the self-control scores and vice versa. Also, the study found a positive correlation between the performance/visual scale and the behavior concerns scale. The children scoring higher on the performance/visual scale also tended to score higher on the behavior concerns scale. Perhaps this relationship indicates that the more active children are the more likely they may be seen as having behavior problems, even though they may be expressing their visual or performance talents.

Limitations

The current study has several limitations and the reader must be cautious when interpreting the results. Due to the small correlations between the scales and subscales,
one could argue that the two scales are measuring two different constructs that may have little to no relationship to one another. Furthermore, the significant correlations that were found still may have been due to chance. Further research is needed to determine the extent of the relationship between giftedness and resiliency.

The validity of the two scales may also be a concern. Measuring giftedness and resiliency is extremely difficult and whether or not the two scales are measuring what they purport to measure may be questionable. The current investigation was limited to the characteristics of resiliency and giftedness measured on the DECA and GES-2, respectively. Other characteristics that may also be part of these constructs were not considered. In addition, the participants in the study were also younger than the standardized sample for the GES-2. The GES-2 was standardized for 4.5 years-old and older and this study involved younger children who were between 4 and 4.5 years-old. Therefore, the results may not be valid for the population involved in the study.

Another limitation in this study was the homogeneity of the sample. The sample consisted of a small group of children who all lived in poverty in the Midwest and attend Head Start. Therefore, it may be difficult to generalize the results outside the specific population. Moreover, the sample was not a true random sample because the pool of participants was determined by the program director at the participating Head Start and by the parents who returned consent forms. Finally, small size of the sample is also a limitation. The results indicated a slight trend in the relationship between giftedness and resiliency and a larger sample is needed to establish the existence of this relationship more firmly.
A further limitation involves the use of teacher ratings to collect the data for the study. Although teacher ratings are often reliable, they are still subject to error. No scale or test is 100% free of error and thus one must be cautious of results from only one measure of one particular construct. Furthermore, the teachers in this study completed the surveys according to their own schedules and at differing times over a three-week period. The variance in the times and the conditions may have affected the results by increasing the amount of error in the teacher’s ratings. The order in which they completed the surveys may have also affected the results. The teachers completed the DECA first and then the GES-2. Completing the questions from the DECA first may have impacted how the questions were answered on the GES-2. Moreover, the time involved in completing the two scales may have caused stress to the teachers and further impacted the results. Accordingly, the interpretations of the results must not go beyond the limitations of the study.

**Implications for Educators**

The results of this study provide a variety of implications for educators who work with young children. The correlations between the GES-2 and DECA scales indicate that attachment and initiative are related to intelligence and creativity. If future research were to find similar results then educators may want to promote positive attachment skills and initiative-based programs early on for children. Role-playing social skills may promote the skills involved in building positive attachments to other students and adults. Providing opportunities to cultivate these relationship skills is also important for promoting positive attachment to others. Allowing children to work cooperatively
together or with mentors may also promote these skills. Overall, teaching children skills in isolation may not be effective. Children must be given the opportunity to practice the skills in meaningful real-life situations. Giving children the opportunity to participate in after-school activities, community activities, leadership roles, and other group situations will promote the skills needed to build positive relationships with others.

Teachers can promote initiative and creativity by giving children the chance to choose their own activities and by urging children to explore their environment. Allowing children to make their own decisions and to actively take part in meaningful learning experiences gives them the direct experience they need to generalize these skills to other situations. Activities involving simulation or construction opportunities promote these kinds of experiences. Furthermore, reinforcing the idea that mistakes are learning experiences and are not necessarily bad is important for children to build confidence in trying new things and for gaining the initiative needed to be successful later on in life.

**Implications for School Psychologists**

The results of this study also provide implications for school psychologists who work with young children. School psychologists are often called upon to identify gifted ability and provide suggestions for advanced or accelerated programs or classes for gifted children. As for identifying advanced ability or “giftedness” in preschool age children, the research suggests the most effective way to identify young gifted children is to use a variety of approaches over an extended period of time (Smutny, 2000). Researchers currently disagree on the specifics of exactly how to identify giftedness, but there is a general agreement that even bright children vary in the ways and rate they excel and the
areas in which they show potential (Gardner, 1993; Sternberg, 1981). The identification process must be a multifaceted, multidimensional process that includes a wide range of procedures and criteria for discovering talent (Kingore, 1998). Smutny (2000) also suggests developing a more complete picture of giftedness through collecting observations of behavior and verbal ability in different classroom settings, anecdotal information from parents, and child products (e.g., art work, diagrams, interventions, Lego buildings, stories—written or told).

School psychologists can also suggest programs that promote skills involved with building positive attachments with others and initiative. Social skills programs, resiliency based programs (e.g., DECI, DECA), conflict resolution programs, and self-advocacy programs are among a few programs that may address such skills. School psychologists can be involved in implementing such programs and providing support to educators who need a helping hand. School psychologists can take the lead in providing teachers with ideas to promote and build skills such as initiative and attachment, which allow children to be creative and gain advanced ability through a variety of experiences.

Implications for Future Research

Descriptions of giftedness and resiliency in the current literature appear to overlap consistently. The current study attempted to clarify the actual relationship between these two constructs. The results indicate a correlation between some of the characteristics of giftedness and resiliency. The strongest relationships appear between intelligence and initiative, intelligence and attachment, creativity and initiative, and creativity and attachment. These relationships may indicate a need to promote attachment and initiative
early on to promote the development of advanced abilities and creativity. Future studies should also examine the relationship between other factors related to giftedness and resiliency that were not addressed in the present study by the DECA and GES-2 scales.

Although gifted children may share some resilient characteristics, there are many outside variables such as gender, socioeconomic status, race, and ethnicity that put certain populations of gifted children at risk. Gifted children from culturally diverse backgrounds face the same issues regarding emotional adjustment that all gifted children face; however, cultural and racial differences and varied experiences may create different and or additional problems (Kopala, 2000). Culturally diverse children from low socioeconomic backgrounds experience unique external barriers, such as stereotypes, biased testing, and mixed messages from society that may negatively impact their ability to succeed in life.

Awareness of social and emotional characteristics is critical in supporting the unique needs of these children and in developing their potential. In addition, these social-emotional needs may also affect a child’s resiliency in the face of adverse conditions, such as poverty, discrimination, and language difficulties (Henderson & Milstein, 1996). Therefore, identifying culturally diverse, low socioeconomic, gifted children’s social-emotional needs and attending to those needs may potentially increase their resiliency in adverse conditions.

The identification process for underserved, culturally diverse, low socioeconomic, potentially gifted children is still a stumbling block in today’s education. Future research should attempt to gain better insight into the effectiveness of new identification
procedures (e.g., portfolios, matrix models, case studies, and culturally appropriate checklists) for this population. Furthermore, research should look at the effectiveness of such measures when used with preschool and kindergarten children. Finding an acceptable identification procedure is the first step in appropriately meeting the needs of the underserved gifted population.

With the limited amount of research in the area of giftedness and resiliency, further studies are needed to determine how resiliency and giftedness are related. For example, future research should examine whether gifted children possess resilient characteristics as personality traits or if these characteristics are acquired skills (Bland et al., 1994). Future research should also investigate the pattern of social-emotional development in young gifted children from culturally diverse, low socioeconomic backgrounds. In addition, further longitudinal studies are needed in both the areas of resiliency and giftedness to determine how the two are related over time and what specific factors contribute to social-emotional adjustment difficulties among gifted children. Other research could also look at the predictive power of the GES-2 and the DECA scales to determine how well they predict resiliency and giftedness over time. The current study offers just a glimpse into the realm of giftedness and resiliency; a multitude of questions still remain unanswered.
REFERENCES


APPENDIX A

GIFTED EVALUATION SCALE

SCHOOL VERSION RATING FORM

Stephen B. McCarny

COVER SHEET

RATING GUIDELINES

1. If the student is beginning to develop or demonstrate the behavior or skill but has not yet mastered it, the rating should be

2. IS DEVELOPING THE BEHAVIOR OR SKILL.

3. DEMONSTRATES THE BEHAVIOR OR SKILL INCIDENTLY.

4. DEMONSTRATES THE BEHAVIOR OR SKILL MOST OF THE TIME.

5. DEMONSTRATES THE BEHAVIOR OR SKILL AT ALL TIMES (CONSISTENTLY).

6. The student should be rated by educational personnel with primary observational opportunities who work directly with the student in instructional situations.

7. Any number of educators may rate the student. Each person should independently rate the student using a separate form.

8. It is recommended that the rater read each qualifier with the student before rating the item. Using item 10 as an example, the rater would first read, "Does not engage in self-initiated activities," then "Developing engaging in self-initiated activities," "Demonstrates engaging in self-initiated activities consistently," "Demonstrates engaging in self-initiated activities most of the time," and finally "Demonstrates engaging in self-initiated activities at all times (consistently)."

9. It is not necessary for the rater to complete the rating in one day. Several days may elapse before the rating is completed.

10. If the student does not possess the behavior or skill, or does not demonstrate the behavior or skill, the rating should be

GOES NOT DEMONSTRATE THE BEHAVIOR OR SKILL.

IMPORTANT *** PLEASE NOTE: *** IMPORTANT

It is your responsibility as a professional or parent to immediately inform the publisher if you are asked to complete any reproduction of this form. The original form is beige with brown print. If you have this form in any other color, it was illegally reproduced. You are not permitted to complete or use any reproduced form. Hawthorne Educational Services, Inc. will pay a reward of $1500.00 for actionable evidence of illegal copying or fixing.

(800) 542-1673

Copyright © 1985
Hawthorne Educational Services, Inc.

Page 1
TABLE 4

TO RATER: Rate the student using the guidelines (1-5) provided. Every Rater must be rated. Do not leave any items blank.

<table>
<thead>
<tr>
<th>DOES NOT DEMONSTRATE THE BEHAVIOR OR SKILL</th>
<th>DEMONSTRATES THE BEHAVIOR OR SKILL INCONSISTENTLY</th>
<th>DEMONSTRATES THE BEHAVIOR OR SKILL MOST OF THE TIME</th>
<th>DEMONSTRATES THE BEHAVIOR OR SKILL ALL TIMES CONSISTENTLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Scores high on intelligence tests (120 I.Q. or above), achievement tests (95th-99th percentile), etc.</td>
<td>2. Demonstrates superior academic performance (e.g., receives the highest score possible or the highest score in the class on quizzes, tests, etc.)</td>
<td>3. Uses an extensive and accurate vocabulary to convey thoughts, report experiences, express needs, etc.</td>
<td>4. Easily comprehends what he/she sees, hears, reads, etc. (e.g., understands directions, explanations, and instructions upon receiving them the first time; scores high on reading comprehension test, etc.)</td>
</tr>
<tr>
<td>5. Is an independent learner (e.g., will use the library to learn more about a particular subject, will research or pursue questions or areas of interest which are discussed during class activities, etc.)</td>
<td>6. Demonstrates short- and long-term memory skills (e.g., uses repetition, spatial sequencing, rhymes, detailed information learned in previous grade levels, etc.)</td>
<td>7. Demonstrates the ability to maintain concentration on a particular activity for extended periods of time (e.g., works through a difficult math problem to completion)</td>
<td>8. Expresses thoughts clearly and thoroughly in verbal and written form (e.g., accurately reports current events to the class, writes a detailed explanation of events leading up to the Civil War, etc.)</td>
</tr>
<tr>
<td>9. Demonstrates a superior ability to understand abstract concepts (e.g., mathematics, science, foreign languages, etc.)</td>
<td>10. Is a high achiever who sets personal goals and strives to achieve them</td>
<td>11. Applies information learned in one situation to a new situation which may be either similar or different</td>
<td>12. Makes the most appropriate decisions or choices based on information available and a consideration of probable outcomes (e.g., uses study time at school to complete assignments in order to be able to do the things he/she enjoys in the evening, is successful in simulated problem-solving activities in the classroom, etc.)</td>
</tr>
</tbody>
</table>

13. Understands complex concepts and perceives relationships (e.g., understands arithmetic concepts and their relationship to money, understands politics and its relationship to governmental affairs, understands analogies, etc.)

RAW SCORE

14. Consistently maintains or views already learned to form unique and original ideas (e.g., is successful in creative writing, designing plans, solving problems, etc.)

15. Develops creative and original ideas which are unique (e.g., solves math problems using operations which are different from those provided, through instruction, suggests a novel method of teaching an abstract concept to a group of students, etc.)

16. Engages in self-initiated activities (e.g., reads, writes, paints, draws, entertains self through imagination, etc.)

17. Is curious and interested in learning about those aspects of the environment which are new or different to him/her (e.g., asks questions about anything out of the ordinary) wants to know more about new discoveries in science, space, etc.)

18. Demonstrates a wide variety of interests (e.g., likes to play different sports and games, draw, read, conduct science experiments, solve math problems, etc.)

19. Recognizes errors, mistakes, or oversights in or around the educational environment (e.g., catches the teacher making a spelling error on the chalkboard, finds an error in a textbook, etc.)

20. Views situational problems, or issues from different perspectives (e.g., accepts negative consequences because they are necessary, even though he/she finds them unpleasant) can successfully argue both sides of an issue, etc.)

21. Successfully uses language and vocabulary to articulate thoughts and ideas (e.g., can readily find words to express thoughts, can quickly respond verbally to questions or problems, etc.)

22. Creates or produces elaborate detail in recreation or academic activities (e.g., creates an entire village with streets, houses, and slums for a toy or imaginary character, writes elaborate fictional short stories or detailed research papers for classes, etc.)

Copyright © 1988 Houghton Mifflin Educational Services Co.
# School Version Rating Form

**Profile Sheet**

**Name of student:**

**School:**

**Class:**

**City:**

**Date of rating:**

**Date of birth:**

**Age at rating:**

**Rated by (observer's name):**

**Dates during which observation of student occurred:**

**Amount of time spent with student:**

**Per day**

**Per week**

---

**How well the student is known by the observer (indicate type of interactions):**

---

### Summary of Scores

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Raw Score</th>
<th>Standard Score</th>
<th>SEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intellectual</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Creativity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Specific Academic Aptitude</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Leadership Ability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Performing and Visual Arts</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Scale**

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Sum of Subscale Scores</th>
<th>Quotient</th>
<th>Percentile</th>
<th>Percentile Rank</th>
</tr>
</thead>
</table>

---

### Subscales

<table>
<thead>
<tr>
<th>Standard Scores</th>
<th>Intellectual</th>
<th>Creative</th>
<th>Specific Academic Aptitude</th>
<th>Leadership</th>
<th>Performing and Visual Arts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Note:** All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any form of storage and retrieval of motion, without permission in writing from the publisher.

**Copyright © 1988**

Harcourt Educational Services, Inc.

Page 4
APPENDIX B

DEVEREAX EARLY CHILDHOOD ASSESSMENT

SCALE

The Devereux Early Childhood Assessment
(for children ages 2 through 5 years)

Paul A. Devereux, Jack A. Negretti

<table>
<thead>
<tr>
<th>Item</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Do things by himself/herself?</td>
</tr>
<tr>
<td>2.</td>
<td>Has trouble learning to eat, dress, wash, or do simple things?</td>
</tr>
<tr>
<td>3.</td>
<td>Has trouble with bowel or bladder control?</td>
</tr>
<tr>
<td>4.</td>
<td>Has trouble with body control?</td>
</tr>
<tr>
<td>5.</td>
<td>Has trouble in getting along with other children?</td>
</tr>
<tr>
<td>6.</td>
<td>Has trouble in getting along with adults?</td>
</tr>
<tr>
<td>7.</td>
<td>Has trouble in getting along with younger children?</td>
</tr>
<tr>
<td>8.</td>
<td>Has trouble in getting along with older children?</td>
</tr>
<tr>
<td>9.</td>
<td>Has trouble in getting along with same-age siblings?</td>
</tr>
<tr>
<td>10.</td>
<td>Has trouble in getting along with other siblings?</td>
</tr>
<tr>
<td>11.</td>
<td>Has trouble in getting along with friends?</td>
</tr>
<tr>
<td>12.</td>
<td>Has trouble in getting along with family?</td>
</tr>
<tr>
<td>13.</td>
<td>Has trouble in getting along with neighbors?</td>
</tr>
<tr>
<td>14.</td>
<td>Has trouble in getting along with teachers?</td>
</tr>
<tr>
<td>15.</td>
<td>Has trouble in getting along with other children?</td>
</tr>
<tr>
<td>16.</td>
<td>Has trouble in getting along with other adults?</td>
</tr>
</tbody>
</table>

Note: Items 1 through 16 are scored on a 5-point scale, with 1 being never observed and 5 being always observed.
APPENDIX C

RESEARCH PROPOSAL FOR HEAD START

November 9, 2003

In the spring of 2002, graduate students supervised by Dr. Annette Carmer from the University of Northern Iowa’s School Psychology Program assisted Head Start in collecting data for a pilot study involving the Devereux Early Childhood Assessment program (DECA), a new curriculum to promote resiliency. The study began with initial screenings to determine the current resiliency level of the students at Head Start. Approximately four teachers and 30 children participated in the study. The screenings consisted of observations and rating scales that assessed resiliency and potential areas of concern including hyperactivity, depression, and oppositional behaviors. The teachers and parents of the students completed the rating scales and the graduate students completed the observations. This preliminary data was then analyzed and reports summarizing the data for each child were compiled. The results were then given to the program director at Head Start and recommendations were made to connect children with resources in the community.

This fall, the study will continue in a new direction. Two school psychology graduate students supervised by Dr. Melissa Heston from the University of Northern Iowa will go on with the research. The study will continue with two parts. The first part will involve a comparison of gifted characteristics and resiliency of children in the Head Start setting. The second part of the study will assess the effectiveness of the new resiliency curriculum at Head Start. Both studies will be conducted in the Head Start and involve the new resiliency curriculum. The second study will also involve a control group made up of children from other preschool classrooms in the Waterloo area. An incentive (a free book) will be given to each child, regardless of the child’s participation in the study. The children will be screened in the beginning of the year for resiliency and advanced abilities in academics, creativity, leadership, and the arts. They will be screened for resiliency again after Christmas break. The screenings will consist of rating scales that the teachers at Head Start and the control classrooms will complete. The results will then be used by the graduate students for independent research. Results involving the DECA ratings will also be used by the Head Start to assess the long-term effectiveness of the new resiliency program.

Sincerely,

Angela Fry, MAE  Sarah Carroll, MAE
APPENDIX D

LETTER OF COOPERATION

Sarah Carroll and Angela Fry
UNI Research Request

The proposed research project, which extends a pilot project for the DECA Mental Health Assessment begun in the spring of 2002, received board approval at the September 17th meeting and may be implemented in classrooms during the current school year. Your interest in the Head Start Program is appreciated. Feel free to contact our Mental Health Specialist.

Associate Director/Education Services
APPENDIX E

HUMAN PARTICIPANTS REVIEW COMMITTEE APPROVAL

Date: September 20, 2002

To: Angela R. Fry
    School Psychology

From: Dr. Mary E. Losch, Chair
      UNI Human Participants Review Committee
      (Institutional Review Board)

Title: A Comparison of Giftedness and Resiliency Among Head Start Children

Re: ID# 02-0077

Your project "A Comparison of Giftedness and Resiliency Among Head Start Children," has received an expedited review and has been approved in accordance with the federal guidelines for human participant protections. You may begin enrolling human research participants in your project.

If you modify your project in a way that increases the physical, emotional, social, or legal risk to the participants or you change the targeted participants, you should notify the Human Participants Review Committee in the Graduate College Office before continuing with the research. Additionally, your project must be reviewed annually. You will receive a notification and continuing review form approximately 10 months from now asking for an update on your project.

If you have any further questions about the Human Participants Review policies or procedures, please contact me at mary.losch@uni.edu or David Walker, the Human Participants Committee Administrator, at 319.273.6148 or email david.walker@uni.edu. Best wishes for your project success.

cc: Institutional Review Board
    Dr. Melissa Heston, Advisor
APPENDIX F

TEACHER CONSENT FORM

Teacher Consent Form

Devereux Early Childhood Assessment Project

You are invited to participate in a research project conducted through the University of Northern Iowa. The University requires that you give your signed agreement to participate in this project. The following information is provided to help you make an informed decision whether or not to participate.

This fall, the Head Starts in the Tri-County area will begin a new program that will focus on promoting social and emotional growth. If you decide to participate in the study, you will be asked to fill out a checklist that addresses the relationships, independence, and self-control of each child in your class whose parents give permission for him or her to participate. You will also be asked to fill out a checklist that addresses advanced ability in creativity, academics, leadership, and the arts. Each checklist takes approximately 10 minutes to complete and the checklists will be completed in October.

The results from these checklists will be used by a graduate student to examine the link between resiliency and giftedness. Results may also be used by Head Start to examine the long-term effectiveness of the program. Participation in the research only allows the results of the checklists to be used and there is only the minimal risk of the inconvenience of filling out the checklists. Each child in your classroom will receive a free book, regardless of his or her participation in the study. Information collected during this study that could identify you or the children will be kept strictly confidential. All completed questionnaires, checklists, and materials used in the study will be kept on file at Head Start. The results of the study may be published in an academic journal or presented at a scholarly conference.

Thank you so much for your help and interest in improving the quality of education at Head Start.

Sincerely,

DECA Coordinator                        Angela R. Fry, MAE
Tri-County Head Start                   UNI Graduate Student
Permission Slip

I have been told that if I agree to participate in this study, I will fill out a checklist that addresses growth of positive relationships, independence, and self-control of each child in my class whose parents give permission for him or her to participate in the study. I have been told that I will fill out the checklist at the beginning of the year. In October, I will also fill out a checklist that addresses advanced ability in creativity, academics, leadership, and the arts. Each of these checklists will take approximately 10 minutes for me to complete. I have been told that these results will be used by a graduate student at the University of Northern Iowa and may also be used by Head Start to determine the effectiveness of their new program to promote social and emotional growth.

I have been told that my participation is completely voluntary. I have been advised that I am free to withdrawal from participation at any time or to choose not to participate at all and that by doing that I will not be penalized or lose benefits to which I am otherwise entitled.

I have been told that the investigators will answer any questions I have about my participation. I have also been told that if I desire information in the future regarding participation in the study, I can contact Angela Fry at 433-0030 or the projects faculty advisor Melissa Heston at the Department of Educational Psychology, University of Northern Iowa, 273-2236. I can also contact the office of the Human Participants Coordinator, University of Northern Iowa, at 273-2748, for answers to questions about the rights of research participants and the participant review process.

I have been told the nature and extent of my participation in this project as stated above and the possible risks arising from it. I hereby agree to participate in this project. I acknowledge that I received a copy of this consent statement. I am 18 years of age or older.

_____________________________  _______________________
Signature of participant          Date

_____________________________
Printed name of participant

_____________________________  _______________________
Signature of investigator        Date

_____________________________  _______________________
Signature of instructor/advisor  Date
APPENDIX G

PARENT CONSENT FORM

Devereux Early Childhood Assessment Project

September 2002

Dear Parents and Guardians,

Your child has been invited to participate in a research project conducted through the University of Northern Iowa. The University requires that you give your signed agreement to allow your child to participate in this project. The following information is provided to help you make an informed decision about whether or not to participate.

This fall, Head Starts in the Tri-County will begin a new program that will focus on promoting social and emotional growth. The program will target the growth of positive relationships, independence, and self-control. To gain an accurate picture of your child’s specific strengths and areas of concern, your child’s teacher will fill out a checklist that addresses these areas at the beginning of the year. In addition, the teachers will also fill out a checklist that addresses advanced ability in creativity, academics, leadership, and the arts.

With your permission, the results will be used to examine the link between resiliency and giftedness. The completed checklists will be kept on file at Head Start where the data will also be used to determine if the program has lasting effects. Participation in the research only allows the results of the checklists to be used. Risks to participation are minimal. All information from the checklists will be kept confidential. Your child’s name will not be used in reporting the results of the study. You can change your mind at any time and decide not to include your child in this project; participation is voluntary.

Every child will receive a free book, regardless of his or her participation in the study. Thank you so much for your help and interest in improving the quality of education at Head Start.

Sincerely,

DECA Coordinator                        Angela R. Fry, MAE
Tri-County Head Start                   UNI Graduate Student
Permission Slip

I understand that if I agree to have my child participate in this study, his or her teacher will fill out a checklist that addresses growth of positive relationships, independence, and self-control at the beginning of the year. In addition, the teacher will also fill out a checklist that addresses advanced ability in creativity, academics, leadership, and the arts. I have been told that these results will be used by a graduate student at the University of Northern Iowa to investigate the link between giftedness and resiliency. Head Start may also use the data to determine the effectiveness of their new program to promote social and emotional growth. All completed questionnaires and materials used in the study will be kept on file at Head Start. The results of the study may be published in an academic journal or presented at a scholarly conference.

I have been told that my child’s participation is completely voluntary. He/She is free to withdraw from participation at any time or to choose not to participate at all and that by doing that he/she will not be penalized or lose benefits to which he/she is otherwise entitled.

I have been told that the investigators will answer any questions I have about my child’s participation. I have also been told that if I desire information in the future regarding participation in the study, I can contact Angela Fry at 433-0030 or the projects faculty advisor Melissa Heston at the Department of Educational Psychology, University of Northern Iowa, 273-2236. I can also contact the office of the Human Participants Coordinator, University of Northern Iowa, at 273-2748, for answers to questions about the rights of research participants and the participant review process.

___ Yes, I understand the nature and extent of my child’s participation in this project as stated above and the possible risks arising from it. I hereby agree to allow my son/daughter to participate in this project.

___ No, I do not want my son/daughter to participate in this project.

Signature of parent/legal guardian ________________________________ Date ____________________

Printed name of legal guardian ________________________________

Printed name of child participant ________________________________