

**The Pennsylvania State University**

**The Graduate School**

**College of Education**

**THE RELATIONSHIP OF SOCIAL SKILLS AND LEARNING**

**BEHAVIORS TO ACADEMIC ACHIEVEMENT**

**IN A LOW-INCOME URBAN ELEMENTARY SCHOOL**

**POPULATION**

**A Thesis in**

**School Psychology**

**by**

**Jeremy L. Pearson**

**© 2005 Jeremy L. Pearson**

**Submitted in Partial Fulfillment  
of the Requirements  
for the Degree of**

**Doctor of Philosophy**

**May 2005**

UMI Number: 3173817

### INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

**UMI**<sup>®</sup>

---

UMI Microform 3173817

Copyright 2005 by ProQuest Information and Learning Company.

All rights reserved. This microform edition is protected against unauthorized copying under Title 17, United States Code.

ProQuest Information and Learning Company  
300 North Zeeb Road  
P.O. Box 1346  
Ann Arbor, MI 48106-1346

The thesis of Jeremy L. Pearson has been reviewed and approved\* by the following:

Frank C. Worrell  
Associate Professor of Education  
Thesis Advisor  
Co Chair of Committee

Joseph French  
Professor Emeritus of Education  
Co Chair of Committee

James K. McAfee  
Associate Professor of Special Education

Jeffrey G. Parker  
Associate Professor of Psychology

Marley W. Watkins  
Professor of Education  
In Charge of Graduate Programs in School Psychology

\*Signatures are on file in the Graduate School.

### **Abstract**

The purpose of this study was to examine the relationship between the ability, social skills, learning behaviors, and gender and the academic achievement of the children who attend a low-income urban elementary school in Baltimore, Maryland. In order to develop a clearer understanding of the variables that contribute to academic achievement in a low-income urban population, an examination of multiple variables previously shown to affect achievement was necessary.

The participants in the study included 72 students who attended 1<sup>st</sup> and 2<sup>nd</sup> grade and their teachers in this low-income elementary school in Baltimore. Each teacher completed the Social Skills section of the Social Skills Rating System (SSRS) and the Learning Behavior Scale. Each student was assessed on the Otis-Lennon School Ability Test- 8 (OLSAT-8), and his or her achievement scores from the Stanford Achievement Test- 10 (Stanford 10) were accessed. The resulting model comparison indicated that school ability and learning behaviors both have significant direct effects on academic achievement. School ability and social skills were found to have significant direct effects on learning behaviors. However, the addition of social skills and gender to a model comprised of learning behaviors and school ability did not increase the model's ability to predict academic achievement.

## Table of Contents

|   |     |
|---|-----|
| List of Tables .....  | vi  |
| Acknowledgements .....  | vii |
| <p style="text-align: center;">The Relationship of Social Skills and Learning Behaviors<br/>to Academic Achievement in a Low-Income Urban Elementary School</p> |     |
| Population .....  | 1   |
| Economics of Urban Schools.....   | 4   |
| Variables Correlated with Low Academic Achievement.....   | 6   |
| School Characteristics .....  | 6   |
| Student Characteristics .....   | 8   |
| Gender .....  | 8   |
| Race .....  | 8   |
| Socioeconomic Status .....  | 9   |
| School Ability .....  | 10  |
| Attempted School Reform Efforts .....   | 12  |
| Academic Enablers .....   | 16  |
| Motivation .....  | 16  |
| Academic Engagement .....   | 16  |
| Study Skills .....  | 17  |
| Interpersonal Skills .....  | 17  |
| Academic Enablers in the Current Study .....  | 18  |
| Social Skills.....  | 18  |

|                                |    |
|--------------------------------|----|
| Learning Behaviors .....       | 21 |
| Summary .....                  | 24 |
| The Present Study .....        | 25 |
| Method .....                   | 27 |
| Participants .....             | 27 |
| Measures .....                 | 27 |
| Procedure .....                | 32 |
| Instructions to Students ..... | 33 |
| Instructions to Teachers ..... | 33 |
| Results .....                  | 35 |
| Preliminary Analysis .....     | 34 |
| Major Analysis.....            | 39 |
| Discussion .....               | 43 |
| Limitations .....              | 50 |
| Future Research .....          | 50 |
| Conclusion .....               | 52 |
| References .....               | 53 |

**List of Tables**

|  |    |
|--|----|
| Table 1 Means and Standard Deviations of the Major Variables in the Study..... | 36 |
| Table 2 Correlations Between the Variables for the Total Sample.....           | 37 |
| Table 3 Correlations Between the Variables for the Boys .....                  | 38 |
| Table 4 Correlations Between the Variables for the Girls .....                 | 38 |
| Table 5 Regression for All the Variables .....                                 | 40 |

## **Acknowledgements**

I would like to acknowledge the assistance of my committee members who have guided me throughout this process: Dr. Joseph French, Dr. James McAfee, and Dr. Jeffrey Parker. Additionally I would like to acknowledge the contributions of Dr. Frank Worrell, my thesis advisor. Without Dr. Worrell's persistence and attention to detail, this work would not have been possible.

I would also like to thank the Baltimore City Public School System as well as the staff and students at Frederick Elementary School. I would especially like to thank the teachers and administrators at Frederick Elementary School who gave of their time to participate in this research.

Finally, I am grateful to all of my friends and family who have provided emotional support, each in his or her own way, for me to complete this task. Without the support and confidence of these incredible people, this daunting task would have been insurmountable.



## **The Relationship of Social Skills and Learning Behaviors to Academic Achievement in a Low-Income Urban Elementary School Population**

Currently there is a great deal of pressure from a number of sources to improve the achievement of low achieving students in the United States (Bracey, 2001; Hoff 2001; Taylor & Williams, 2001). With regard to student achievement, the United States does not compare favorably with other countries (Applebee, Langer, & Mullis, 1989; Sheffield, 1999; Stedman 1997). In fact, the U.S. ranked in the middle on a 32-nation study of educational achievement, and the gap between America's best readers and worst readers is wider than in any other country (Hoff).

While such international comparisons can be viewed as enlightening, their appropriateness has been questioned. It has been argued that American educators should focus on educating students according to America's needs and standards rather than worrying about how they compare with other nations (Wallinger, 1999). Furthermore, some feel that many of these across-the-board comparisons with other countries are inappropriate because other countries frequently place enormous emphasis on and allocate significant resources toward learning methods centered on rote memorization and recall (Aviel, Aviel, & Aviel, 1997). Further, the school calendar in the U.S. has not changed in 50 years. It is still 180 days, while top-achieving countries schedule up to 40 more eight-hour days per year (French, 2003). While these concerns about international comparisons appear to be valid, they still do not address the large gap between America's best readers and worst readers.

Student achievement on standardized tests has become the single most important factor by which school improvement and policy initiatives are evaluated (Brandt, 2001). The importance of improving academic achievement in urban school districts can be illustrated by the Baltimore City Public School System's Master Plan II. This master plan cites improving academic achievement, pre-kindergarten through 12<sup>th</sup> grade, as objective number one (Baltimore City Public School System, 2002). As states move toward models that embrace systems of student assessment and minimum standards for advancement, public awareness of differences among schools' achievement level is heightening (Goddard, Sweetland, & Hoy, 2000). This heightened public awareness often creates increased public pressure on schools to outperform other schools and improve their own performance. This public pressure is especially evident in traditionally low-performing urban schools. The performance of these schools often draws a great deal of media attention and is frequently a centerpiece of political platforms. In fact, municipal officials, while not typically responsible for overseeing public schools, perceive school improvement and enhanced academic achievement as keys to their city's futures (Kieff, 2001).

Researchers, policy makers, and practitioners have both praised and criticized accountability systems, particularly concerning their impact on children of color and children from low-income homes (Fuller & Johnson, 2001). Accountability in and of itself does not produce change, however. Once schools are held accountable for the academic achievement of their students, the question arises, "What is being done to improve this achievement?" (Fuller & Johnson).

Much of the current literature on academic achievement in urban schools focuses on factors such as gender (Buckner, Bassuk, & Weinreb, 2001), race (Gibson & Ogbu, 1991), socioeconomic status (Hart & Risley, 1995), and intelligence (Neisser et al., 1996). None of these factors are particularly alterable and therefore they are of limited use in the design of interventions to improve academic achievement. Additionally, the lack of resources available to poor urban schools often limits the possible solutions for improving achievement. For example, variables that are the focal point of a number of current initiatives to improve academic achievement, such as school size (Lee & Smith, 1995; Lindsay, 1982; Pittman & Haughwout, 1987), class size (Finn & Achilles, 1990; Glass, Cahen, Smith & Filby, 1982), improving technology in the classroom (Bain & Smith, 2000) and providing monetary rewards for teachers (Kelley, Kimball, & Conley, 2000), are extremely dependent on financial resources. Useful research on academic achievement goes beyond descriptive statistics and provides possible areas in which to intervene in an attempt to address the needs of low-achieving students. Therefore, there is a need for more research into variables that can be altered. Furthermore, variables that demonstrate the possibility of being altered with limited financial investment would be particularly useful for poor urban schools.

One such teachable skill that has been a traditional and valued education objective for American schools involves the promotion of socially responsible behavior in the form of moral character, conformity to social rules and norms, cooperation, and positive styles of social interaction (Wentzel, 1991). Stedman (1987) included an orderly environment as one of the necessary factors for effective schools. Furthermore, DiPerna and Elliott

(2000) hypothesized that time spent fostering positive social behaviors in school is time spent fostering positive academic behaviors or academic enabling behaviors. The concept of academic enablers is based on the assertion that academic success or competence requires more than academic skill proficiency. More specifically, DiPerna and Elliott asserted that interpersonal skills, motivation, study skills, and engagement are all forms of academic enablers.

In the battle to improve academic achievement, many poor urban schools and districts face a great many risk factors. Given that many of the risks for poor achievement are environmental in nature and very resistant to change, academic enablers appear to be a viable area of exploration. In the following sections, I will (a) discuss the economics of urban schools and summarize the literature on underachievement in these schools, (b) review variables that have been identified as causative and highlight the failure of these factors to effect changes in urban schools, (c) discuss academic enablers and indicate how they may be useful tools for improving achievement of students attending low-income urban schools, and (d) propose some hypotheses to examine the relationship of specific academic enablers to achievement and a methodology to use in this examination.

### *Economics of Urban Schools*

The economics of cities present many challenges that are unique to urban public education. Many believe that poor educational outcomes are due in large part to high concentrations of poverty and to other social and economic barriers faced by disadvantaged minorities in urban centers (Ballou, 1996). For educators, the challenges of public schooling and its history are often exacerbated by social and environmental

conditions that schools must account for and accommodate, but can rarely influence (National Institute for Urban School Improvement [NIUSI], 2003). Many urban children and youth must fight hunger, constantly monitor danger, and choose virtue in the face of an abundance of easy and appealing choices that lead to short-term pleasure and long-term loss (NIUSI). Unlike many other schools, urban schools are faced with the additional tasks of coordinating and ensuring the availability of the panoply of social services that might assist students and their families with supplementing their often-meager resources and enabling them to have a more adequate quality of life (NIUSI). Large sections of our cities have become reservoirs of marginalized and often also disenfranchised people (NIUSI).

In addition to the aforementioned challenges of urban schools, a great deal of concern has centered on inter-district disparities in per pupil expenditure (Ballou, 1996). Today, per pupil expenditures in many urban school systems continue to lag behind those of other systems (Lippman, 1996). In addition, teacher allocation policies and practices in many urban school districts result in inexperienced, poorly qualified, and unsatisfactory teachers being routinely placed in schools with large proportions of low-income students (Krei, 1998). Given the depth and breadth of problems facing public schooling in the urban context, research is necessary to examine how these problems can be addressed and how students can achieve in the face of the aforementioned challenges. The first step to addressing these problems is to more specifically examine the variables that are correlated with academic achievement.

### *Variables Correlated with Low Academic Achievement*

Because education systems have a hierarchical structure (students nested within schools), researchers must examine different components of that structure in order to achieve an accurate portrayal of the entire education system (Bryk & Raudenbush, 1992). That is, academic achievement must be examined both in terms of school characteristics and individual student characteristics. School characteristics can be conceptualized as social, cultural, and economic forces that affect schools and thus shape the lives of children. Student characteristics can be conceptualized as characteristics specific to each child that also influence their lives on a daily bases.

#### *School Characteristics*

A few school characteristics that have been demonstrated to be related to academic achievement include school size (Lee & Smith, 1993, 1995), class size (Finn & Achilles, 1990), school mean SES (Ma & Klinger, 2000), and school racial composition (Bankston & Caldas, 1996). Lee and Smith demonstrated that larger school size is shown to be associated with lower levels of academic achievement, reduced academic engagement, and lower student participation in school activities. School size has also been associated with lower school attendance (Lindsay, 1982) and higher dropout rates (Pittman & Haughwout, 1987). Moreover, smaller class size, where greater attention can be given to each student, leads to greater student learning (Finn & Achilles).

In addition to school size and classroom size, the composition of the school population is related to achievement. The socioeconomic status of the school's population has been shown to be associated with academic achievement (Ma & Klinger 2000;

Okpala, Okpala, & Smith, 2001). Ma and Klinger found that mean school SES was significantly correlated with students' mathematics, reading, and writing achievement. Okpala et al. showed that the percentage of students in a school who were in the free/reduced lunch programs was related negatively to the academic achievement of all students who attended that school.

Bankston and Caldas (1996) analyzed scores on the Louisiana Graduation Exit Examination for over 42,000 Louisiana 10<sup>th</sup> graders. This analysis revealed that the proportion of African American students in a school was powerfully and negatively related to achievement test results. Besides, this strong relationship was evident for both African American and White students.

The knowledge that school structure and composition are correlated with academic achievement is of limited use when attempting to design and implement improvement initiatives in low-income urban schools, however. School size and class size are variables that are theoretically under the control of the school districts. But, in order to reduce the school size and/or the class size, districts must have resources to replace the current larger schools with smaller schools and resources to hire more teachers to reduce class size. Such resources are rarely available in many urban school districts. School composition as it relates to race and socioeconomic status is subject to many environmental, economic, and cultural factors that are beyond the control of school districts. Consequently, low-income, urban school districts are forced to look beyond these structural correlates of academic achievement for insight into school improvement initiatives.

### *Student Characteristics*

The second component of the hierarchical structure of school systems is the student population. Various characteristics of students, such as gender (Buckner et al., 2001), race (Gibson & Ogbu, 1991), socioeconomic status (Hart & Risley, 1995), and intelligence (Neisser et al., 1996), are related to academic achievement.

*Gender.* Much of the research on gender asserts that gender differences in achievement tend to be subject specific (Sammons, West, & Hind, 1997). Males outperform females in math and science (Beller & Gafni, 1996), while females outperform males in reading and writing (Sammons et al.). Conversely, one recent study found that girls achieve at a consistently higher level than boys in all subjects (Buckner et al., 2001). One possible explanation for the different achievement levels of boys and girls lies in certain characteristics that are specific to each gender. Hancock, Stock, and Kulhavy (1996) asserted that girls use a more deliberate, planful review preparing for tests. They also concluded that boys are more concerned with independent study behaviors and deep processing of oral interaction. They asserted that these differences in study strategies appear to account for gender differences in academic achievement identified in other research.

*Race.* The relationship between ethnicity and academic achievement has been studied extensively for years and is often a controversial subject (Gibson & Ogbu, 1991; Sleeter & Grant, 1993). Racial gaps in students' GPAs and achievement test scores in mathematics and reading remain significant even after controlling for SES (Roscigno & Ainsworth-Darnell, 1999). There have been certain characteristics of African American



students that are believed to influence this achievement gap. African American students are, on average, less likely to go on cultural trips and participate in extracurricular cultural classes (Roscigno & Ainsworth-Darnell). They also tend to have significantly fewer household education resources than do their White counterparts (Roscigno & Ainsworth-Darnell). In addition, African American students are less attached to school when compared with their counterparts from other races (Johnson, Crosnoe, & Elder, 2001).

*Socioeconomic status.* The subject of SES as it relates to academic achievement has been of interest to researchers for many years (Battin-Pearson et al., 2000; Hart & Risly, 1995; Ma & Klinger, 2000). Ma and Klinger employed hierarchical linear modeling of student and school effects in an attempt to predict academic achievement. They used questionnaires completed by 6,883 students to estimate the SES of families of 6<sup>th</sup> graders in New Brunswick, Canada. These estimates of SES were then compared with curriculum based achievement tests that were previously administered to the students. The results showed that student SES correlated significantly with students' mathematics, reading, and writing achievement.

Two theories that attempt to address the poor academic performance of students from low SES backgrounds focus on the lack of academic readiness skills and poor school attendance. When children from low SES background begin school, they often do so with a dearth of academic readiness skills (Hart & Risly, 1995). One such essential skill is language. By the age of four, the average child in a welfare family may have 13 million fewer words of cumulative language experience (i.e., total number of words

heard) than the average child in a working-class family (Hart & Risly). Furthermore, the recorded vocabulary size of the average three-year-old from a professional family exceeded that of a child of an average welfare parent (Hart & Risley). Given the disadvantage with which children from poor families often begin, it is not surprising that SES has also been found to correlate negatively with achievement. In addition, SES has been found to have a positive relationship with dropout rates and poor attendance (Battin-Pearson et al., 2000). In order for any child to benefit from education, he or she must actually attend school regularly.

*School ability.* One final student characteristic that has been demonstrated to affect academic achievement is ability. Ability is not a clearly defined, commonly agreed upon construct but has been used interchangeably with intelligence. When 24 prominent theorists were asked to define intelligence, they gave 24 different definitions (Sternberg & Detterman, 1986). The most commonly used and widely accepted definition of intelligence involves the psychometric approach. This approach makes use of intelligence tests to estimate an IQ. One common view today envisages something like a hierarchy of factors with g (i.e., some form of general ability) at the apex. But there is no full agreement on what g actually means (Neisser et al., 1996). In spite of the lack of full agreement on the specific construct of intelligence, many intelligence and ability tests correlate significantly with academic achievement. In general, ability measures predict school performance fairly well: the correlation between ability and teacher-assigned grades is about .50 (Neisser et al.).

The strong relationship between ability and academic achievement exists across SES and ethnic groups (Lavin, 1996; Prewett & Farhney, 1994; Prewett & McCaffery, 1993). The Wechsler Intelligence Scale for Children: Third Edition (WISC-III; Wechsler, 1991) and the Wechsler Individual Achievement Test (WIAT; Wechsler, 1992) are two of the most commonly used intelligence and achievement tests. According to the WIAT manual, correlations between IQ and achievement range from .3 to .7 (Wechsler, 1992). The correlation between IQ and standardized achievement test scores ranges from .3 to .71 (McGrew & Woodcock, 2001; Wechsler, 1992). In addition, the Woodcock-Johnson III technical manual cites correlations between General Intellectual Ability and Reading and Math achievement ranging from .68 to .71 (McGrew & Woodcock). Given that there is such a strong link between ability and achievement, any study examining correlates of academic achievement must account for intellectual ability.

Group ability measures also have an established correlation with academic achievement (Antonak, 1988; Archer & Edwards, 1982; Caskey, 1983; Otis & Lennon, 1996). In the Otis Lennon School Ability Test Manual, correlations with the Stanford Achievement Test range from .56 to .64. In fact, Beck (1986) wrote that one of the predominant uses for tests like the OLSAT is for comparison with achievement. Antonak used a multivariate statistical analysis to determine the relationship between scores on the OLSAT and the Stanford Achievement Test at grades 2, 4, and 6 for 272 students. He concluded that while the best predictor of current achievement was past achievement, OLSAT scores were a very strong predictor of achievement as well.

It is clear that individual student characteristics such as gender, race, and SES are correlated with academic achievement. But it is also clear that these variables are not practically alterable. Ability has also been shown to relate to academic achievement. However, notwithstanding the compelling role of ability in explaining school performance, information from these measures is generally of limited relevance for intervention processes (Brown & Campione, 1982; Ceci, 1990; Scarr, 1981). These factors can help account for some of the variability in the academic achievement scores of children, but they provide little assistance with regard to intervention design. Therefore, to find variables that can be readily linked to intervention processes, researchers are forced to look beyond these demographic and ability factors.

### *Attempted School Reform Efforts*

The term 'educational reform' often brings to mind ideas of improved efficiency, higher academic standards, successful outcomes, and smarter schools (Knight-Abowitz, Rousmanier, Gaston, Kelley, & Solomon, 2000). Since successful outcomes are most frequently defined in terms of academic achievement, many school reform efforts have been implemented in the last 10 years to improve academic achievement (Bain & Smith, 2000; Greenfield & Klemm, 2001; Jacobson, 2001; Kelley et al., 2000). Two notable school reform efforts have attempted to capitalize on the research regarding how school factors, such as school size (Greenfield & Klemm) and class size (Jacobson) are related to academic achievement.

One idea that has been a recurring topic of papers on school improvement is the restructuring of schools to minimize overall size, in particular the idea of developing

several smaller schools from a larger school (Greenfield & Klemm, 2001). The reasons generally revolve around the belief that smaller schools provide better educational environments by reducing the distance and anonymity between the learner and teacher. Thus, smaller schools are thought to provide a more caring and supportive context for learning that can foster student achievement and interest in school (Greenfield & Klemm).

In a related study, Greenfield and Klemm (2001) looked retrospectively at one school's seemingly successful restructuring effort, from its origins to its eventual near-extinction years later. The restructuring effort was based on a school-within-a school (SwaS) model, in which the student population of a large high school was divided into several smaller "cores," each led by a single faculty team. The change was initiated by a small group of teachers and endorsed by administrators. Under these conditions, the first core students experienced increased achievement and decreased behavior problems. The core teachers were provided more time and opportunities for collaboration. In addition, because of the early success of the initiative, it was expanded to include more teachers and students. In addition to an increase in the number of students, this expansion also brought in more teachers. Many of these teachers had not originally bought into the program or participated in its planning, development, or governing. Furthermore, these teachers were now required to deal with strategies and schedules they had not necessarily endorsed and in which they had not been trained. However, this additional time came at the expense of non-core teachers, and as this disparity became more evident, the faculty became increasingly demoralized and polarized. These factors combined with the

disparity between non-core and core teachers contributed to both the context and the climate being altered and, ultimately, the program collapsing (Greenfield & Klemm). These results demonstrate promise for reform efforts focused on the research-driven goal of reducing school size. They also illustrate the practical difficulty of implementing desired research-based reforms without the time resources for planning and the financial resources for training.

A related initiative based on research that has risen to the top of the nation's school improvement agenda involves reducing class size in the early grades (Jacobson, 2001). At least 20 states, as well as the federal government, now have class-size-reduction initiatives, and teachers' unions tout the approach as the best alternative to private school vouchers (Jacobson). The amount of money that has been spent on class size reduction over the past decade serves to illustrate its popularity as a reform initiative. For example, Nevada has spent almost \$500 million to keep class sizes to fewer than 20 students, and Georgia initiated legislation to spend \$18.9 million to extend its year-old class-size reduction initiative (Jacobson).

Two additional initiatives that warrant mentioning involve paying teachers for results (Kelley et al., 2000, Urbanski & Erskine, 2000) and the wide-scale use of technology in the classroom (Bain & Smith, 2000). Urbanski and Erskine describe one goal of the Teacher Union Reform Network (TURN), which espouses that efforts to improve the quality of instruction in all schools can be reinforced by new approaches to teacher compensation. The underlying principle of a school-based performance award program is that some incentive, typically monetary, is granted to a school or to individual

teachers if specified performance goals or improvement gains are met (Urbanski & Erskine).

An example of a technology initiative was part of Brewster Academy's comprehensive school reform effort (Bain & Smith, 2000). This initiative provided students and faculty with portable computers and access to a ubiquitous campus network (Bain & Smith). An eight-year longitudinal study of SAT I performance showed average increases of 94 points in combined SAT performance for students participating in this program over those who participated in the traditional program at Brewster (Bain & Ross, 1999).

These school reform efforts are examples of a few recent popular attempts to improve schools and achievement. Each of them is heavily dependent upon financial resources at some level. These initiatives, regardless of promise, do not appear to be financially feasible for many urban school districts, though. Therefore, urban school districts must continue searching for other alternatives. One logical alternative for urban schools to pursue in regard to reform involves student skills that are both alterable and financially feasible.

### *Academic Enablers*

One set of alterable skills that has a substantiated relationship with academic achievement has been called academic enablers. Academic enablers are defined as attitudes and behaviors that allow students to participate in, and ultimately benefit from, academic instruction in the classroom (DiPerna & Elliott, 2002). They identified motivation, engagement, study skills, and interpersonal skills as academic enablers.

*Motivation.* Psychologists and educators have long considered the role of motivation in student learning (Linnenbrink & Pintrich, 2002). They asserted that motivation is not a stable individual trait, but is more situated, contextual, and domain specific. In addition, student motivation probably varies as a function of subject matter domains and classrooms (Bong, 2001). According to a model proposed by DiPerna and Elliott (2002), motivation is influenced by both prior achievement and interpersonal skills.

*Academic engagement.* Academic engagement refers to a composite of specific classroom behaviors such as writing, participating in tasks, reading aloud, reading silently, talking about academics, and asking and answering questions (Greenwood, Delquadri, & Hall, 1984). It is reasonable to assume that academic engagement would be positively related to academic achievement. In fact, what is learned in school--the academic skills attained by each individual--is largely defined by the interplay of experiences such as how well behaved the students are, whether they choose to study, and to what extent they can access needed materials to independently perform academic tasks (Greenwood, Hart, Walker, & Risley, 1994). According to DiPerna and Elliott (2002),



academic engagement is influenced primarily by motivation and is directly linked to academic achievement.

*Study skills.* Study skills are related to motivation and engagement. Failure to engage in effective study behaviors may be due to insufficient motivation, low engagement, or lack of home support. For study skills to be effective in promoting academic competence, students must be willing and motivated to study (Gettinger & Seibert, 2002). Unlike good studiers who employ a variety of study tactics in a flexible yet purposeful manner, low-achieving students tend to use a restricted range of study skills. They cannot explain why good study strategies are important for learning, and tend to utilize the same, often ineffective, study approach for all learning tasks, irrespective of task content, structure, or difficulty (Decker, Spector, & Shaw, 1992). According to the aforementioned model proposed by DiPerna and Elliott (2002), study skills are influenced primarily by motivation and are directly related to academic achievement.

*Interpersonal skills.* The final academic enabler that has received recent research attention is the set of skills referred to as interpersonal skills (Elliott, Malecki, & Demaray, 2001; Wentzel, 1993). Interpersonal skills include the communication and cooperation behaviors necessary to interact with peers and adults (DiPerna & Elliott, 2000). These behaviors that are necessary to interact with peers and adults have also been referred to as interpersonal skills (DiPerna, Volpe, & Elliott, 2002), social responsibility (Wentzel, 1991), social behavior (Wentzel, 1993), or social skills (Elliott et al.). These behaviors have a significant positive correlation with academic outcomes (DiPerna et al.; Wentzel, 1991, 1993). DiPerna and Elliott suggested that interpersonal skills have a

dynamic relationship with prior academic achievement, and that both of these influence motivation.

### *Academic Enablers in the Present Study*

*Social skills.* Difficulties in social competence and peer relations quite frequently manifest themselves in school (Ladd, 1990). Children who demonstrate persistent social skill deficits and peer relationship difficulties are frequently in trouble in school and consequently are often unable to take advantage of instruction (Ladd). Social competence is positively related to feeling happy and being involved in school (Ladd), and not dropping out (Ensminger & Slusarcick, 1992; Parker & Asher, 1987). Furthermore, social competence is related directly to academic achievement in some populations (Alexander & Entwisle, 1988; Ladd).

Wentzel's 1993 study examined the relationships among measures of academic achievement and peer and teacher ratings of social and academic behavior. Her sample employed 423 sixth and seventh graders and used grade point averages (GPAs) and scores from the Stanford Achievement Test as outcome variables. Measures of social behaviors were based on peer and teacher nominations of students who demonstrated certain prosocial behaviors or antisocial behaviors. It was discovered that GPA and Stanford Achievement Test scores were significantly related to prosocial and antisocial behavior, academic behavior, and teacher preference for students.

Basing their work on the Wentzel (1993) study and using the Social Skills Rating System, Malecki and Elliott (2002) established that in an urban population of third and fourth graders, social skills were positively predictive of concurrent levels of academic

achievement and that problem behaviors were negatively predictive of concurrent academic achievement. They found that social skills accounted for approximately 25% of the variance on the Iowa Test of Basic Skills.

In addition to the literature base that links social skills to academic achievement, research has also demonstrated that social skills can be improved. A wide variety of social skills training programs have been designed for non-disabled students (Metzler, Biglan, Rusby, & Sprague, 2001; Solomon, 1997) and for disabled students (Bock, 2001; Forgan & Jones, 2002; Irvin & Walker, 1993). More specifically, social skills training programs have demonstrated effectiveness with difficult disabled populations of children such as students with Attention Deficit Hyperactivity Disorder (Landau, Milich, & Diener, 1998) and students with emotional disturbances (Muscott, 1988).

Social skills training programs offer an effective means of controlling behavior problems in the classroom (Manuele & Cicchelli, 1984). Solomon (1997) described a strategically designed plan that was incorporated into a physical education curriculum. The plan enhanced the social skill development of elementary school students identified as at risk for dysfunctional behavior. More specifically, children who had participated in this program demonstrated improvement in communication skills, cooperation, and sharing (Solomon).

Social skills training programs have not been shown to be particularly effective with all populations, however. One recent meta-analysis indicated that in the context of group comparison studies, the use of universal social skill interventions with students with emotional or behavioral disorders produced less than substantial changes in behavior

(Quinn, Kavale, Mathur, Rutherford, & Forness, 1999). A separate meta-analysis with a different disabled population found that social skills training alone produced only modest results for students with learning disabilities (Kavale & Forness, 1996).

While there has been a fair amount of research on social skills training programs, little research exists on their relevance or effectiveness specifically for non-White populations. For example, in their otherwise extensive review of social skills training programs with adolescents, Hansen, Watson-Perczel, and Christopher (1989) acknowledge neither the race nor the ethnicity of the participants involved, nor do they consider the generalizability of social skills training across racial/ethnic groups (Banks, Hogue, Timberlake, & Liddle, 1996). Consequently, Banks et al. studied the effects of social skills training with an urban African American sample and found such training to be beneficial. Adolescents were divided into two different training groups, one consisting of an Afrocentric training program and one consisting of a non-Afrocentric training program. Both groups of adolescents demonstrated significant increases in assertiveness and self control following completion of the social skills training programs.

Using a sample of children at risk for behavioral problems in a Head Start program, Kamps, Tankersley, and Ellis (2000) examined the effects of social skills interventions designed to impact children's behaviors directly through promotion of social well-being as well as through reduced contributing variables such as aggression and antisocial behaviors. These students received affection activities and direct social skills instruction. The affection activities included games and songs that incorporated affectionate peer interactions such as hugging friends, patting each other's back and

giving “high fives.” Social skills lessons included teacher instruction (i.e., modeling, role playing) of social behaviors such as sharing, using names, agreeing with friends, organizing, playing, and assisting during play activities (Kamps et al.). The results of this two-year, follow-up study support (a) the use of social skills groups incorporating a direct instruction and incidental reinforcement teaching model for young students with behavioral problems; (b) the use of social and behavioral instruction as one component to universal prevention programs for all students in high-risk urban environments such as Head Start and the primary grades, and (c) the need for additional teacher training in the implementation of effective individual and classroom management systems to address more serious antisocial behaviors at an early age (Kamps et al.).

The previously addressed research base supports the positive relationship between social skills and academic achievement. This literature also suggests that social skills can be improved with the implementation of research-based social skills training programs.

*Learning behaviors.* Successful student learning is dependent upon a host of foundational behaviors, which has been referred to as basic or stylistic learning behaviors (McDermott & Glutting, 1997). Learning behaviors include listening attentively, participating willingly, responding reflectively, accepting correction, and appreciating novelty (Carter & Swanson, 1995; Finn & Cox, 1992; Jussim, 1989). Consequently, learning behaviors can be closely theoretically linked with the aforementioned academic enablers such as motivation, study skills, and academic engagement.

Crosby and French (2002) examined the relationship between the Classroom Performance Profile (CPP) and the Woodcock-Johnson Psycho-Educational Battery -

Revised: Tests of Achievement. Results suggest that the ratings on this teacher rating scale were positively correlated with this measure of academic achievement in a rural, primary grade, and low SES population. The CPP requires classroom teachers to compare a target child with other children in the class and to rate the child on a Likert-type scale on the frequency of specific behaviors in the classroom. Items generated fell into the subscales of learning items, socialization items, and creativity items (Crosby & French).

Basic learning behaviors are perhaps best measured by the Learning Behaviors Scale (McDermott, Green, Francis, & Stott, 1996). The Learning Behaviors Scale (LBS) is a teacher rating scale that requires the observer to rate whether a certain statement (e.g., “Is reluctant to tackle a new task,” “Is willing to be helped when a task proves too difficult”) most often applies, sometimes applies, or does not apply for a particular child. Scores on this measure have been shown to correlate with intellectual ability and academic achievement scores (McDermott, 1999).

In an effort to establish convergent validity for the LBS with cognitive ability, 1,366 students were individually administered the Differential Ability Scales (DAS; Elliot, 1990). A slightly smaller portion of the 1,366 students were administered various achievement subscales of the DAS, and teacher-assigned grades were collected for 216 to 508 of the participants (depending upon academic subject area) and converted to a uniform point scale (McDermott). Product moment correlations yielded positive and significant relationships between LBS scores and the various ability and achievement measures.

Schaefer and McDermott (1999) used hierarchical regression models to investigate the relative effects that learning behaviors and intelligence had on academic achievement. Graduate students were recruited nationally and trained in the application of the LBS, administration of the DAS, and collection of ancillary data. Participant students were recruited from 154 public school districts, and 47 private schools were selected in order to maximize sampling requirements according to U.S. census data. They determined that both intelligence and learning behaviors were significantly correlated with teacher-assigned grades. However, they found that learning behaviors accounted for more of the variance of teacher-assigned grades and that intelligence accounted for more of the standardized test scores. Furthermore, the variance explained jointly by learning behaviors, intelligence, and their interactions exceeded appreciably the contribution of any one source. Additionally, these patterns remained consistent after control for demographics.

Given the relatively recent formal conceptualization of learning behaviors, with the LBS, there is no research on the extent to which its scores can be improved and, if so, what is necessary to do so. However, there is a plethora of research that supports that behaviors, in general, can be altered by many different means. Unlike cognitive ability, students' approaches to learning tasks are a good target for intervention activities because they are readily observable and can be changed effectively through modeling, successive approximations, and reinforcement (Barnett, Bauer, Ehrhardt, Lentz, & Stollar, 1996; Engelmann, Granzin, & Severson, 1979; Stott & Albin, 1975; Weinberg, 1979). In addition, the fact that learning behaviors are specific to the educational setting, which is

directed by educators, provides confidence in the possibility of educators being able to design successful interventions for improving learning behavior.

### *Summary*

After reviewing the research literature on the correlates of academic achievement, it is evident that there is much to be learned in this area. Specifically, there is a need to examine student characteristics that are correlated with academic achievement and that are relevant to intervention processes, such as social skills and learning behaviors. Previous research has indicated that social skills, learning behaviors, gender, and ability are all correlated with academic achievement individually. More specifically, social skills as measured by the SSRS had a significant correlation with the Iowa Test of Basic Skills (Malecki & Elliott, 2002) and the Woodcock-Johnson Psychoeducational Battery (Bramlett, Scott, & Rowell, 2000). Learning behaviors as measured by the LBS had a significant correlation with curriculum-based achievement tests (Dubrow, Schaefer, & Jimerson, 2001), the Basis Achievement Skills Individual Screener (McDermott, 1999), and the Differential Ability Scales achievement battery (Schaefer & McDermott). Some research indicates that girls achieve at a consistently higher level than boys in all subjects (Buckner et al., 2001). Finally, school ability as measured by the OLSAT had significant correlations with the Stanford Achievement Test (Antonak, 1988; Otis & Lennon, 1996).

Each of the previously discussed studies addresses the individual contributions of the respective measures to standardized achievement scores. However, none of these studies investigated the combined effect of social skills, learning behaviors, gender, and ability in predicting academic achievement, specifically within a low-income urban



elementary school population. The implications of establishing an effective model using these variables to predict academic achievement could be useful for designing interventions. Such a model would, theoretically, allow educators to pursue the improvement of academic achievement by way of behavioral interventions that have been shown to be of benefit themselves. That is, educators could be more efficient and effective in the design of interventions that would benefit both the social/behavioral atmosphere of the school and the academic achievement as well.

### *The Present Study*

The purpose of the present study was to investigate the effects of social skills, learning behaviors, gender, and school ability on standardized academic achievement and learning behaviors among urban, predominantly African American 1<sup>st</sup> and 2<sup>nd</sup> graders from a low-income elementary school. Social skills are defined as socially acceptable learned behaviors that enable a person to interact effectively with others and were measured using the social skills area subtest of the Social Skills Rating System (Gresham & Elliott, 1990). Learning behaviors are uniquely behavioral correlates of school achievement that require no inferences concerning mediating thoughts or feelings (McDermott, 1999). This construct was measured using the LBS (McDermott et al. 1996). School ability encompasses the verbal, quantitative, and figural reasoning skills that are most closely related to school achievement and was measured using the OLSAT (Otis & Lennon, 2003). The measure of standardized academic achievement used was the Total Reading Test on the Stanford Achievement Test 10 (Harcourt Brace Educational Measurement, 2003). More specifically, the following research questions were examined:

(a) What are the effects of social skills, learning behaviors, gender, and school ability on standardized academic achievement, and (b) what is the most efficient model for predicting academic achievement that can be devised using these four variables?

Multiple regression was chosen to determine the degree to which each of the independent variables was predictive of standardized academic achievement. Based on the results of this multiple regression, two different models were designed to compare the efficiency of each. The model comparison approach, as described by Judd and McClelland (1989), compares a compact model with fewer predictor variables with an augmented model with one or more additional predictor variables. These models represent less complex and more complex regression equations, respectively. Consequently by using the model comparison approach, the second of the previously mentioned research questions is addressed.

## **Method**

### ***Participants***

The sample consisted of 39 1<sup>st</sup> graders and 33 2<sup>nd</sup> graders enrolled at Frederick Elementary School in the Baltimore City Public School System during the 2003-2004 school year. Six teachers participated in this study, three 1<sup>st</sup> grade teachers and three 2<sup>nd</sup> grade teachers. All of the 1<sup>st</sup> and 2<sup>nd</sup> graders from the 2003-2004 school year were recruited to participate. Students' ages ranged from 6 years 1 month to 9 years 11 months ( $M = 7.62$  and  $SD = .09$ ). The student sample was 97% African American, 3% Caucasian, and 50% female. Teachers had known each student in their class for at least one semester before completing the Social Skills Rating System (SSRS) and the Learning Behaviors Scale (LBS).

Frederick Elementary School is located in a low-income neighborhood in Baltimore, Maryland, where 98% of the school population is eligible for free and reduced lunch prices. This eligibility is determined by monthly income relative to number of people in the home. For example, a four-person household whose monthly income is less than \$2,575 qualifies for reduced lunch prices. Of the students who participated in this study, 93% were eligible for free and reduced lunch.

### ***Measures***

#### ***Otis-Lennon School Ability Test (OLSAT)***

In order to learn new things, students must be able to think logically, to understand relationships, to abstract from a set of particulars, and to apply generalizations to new and different contexts (Otis & Lennon, 2003). The Otis-Lennon School Ability

Test (OLSAT-8, Otis & Lennon) is designed to measure school ability for grades K through 12 by means of verbally and nonverbally presented items. The OLSAT-8 is designed to assess the examinees' ability to cope with school learning tasks, to suggest their possible placement for school learning functions (Otis & Lennon). When used in conjunction with a measure of academics, the OLSAT can be used to evaluate the children's achievement in relation to the ability they bring to school learning situations (Otis & Lennon). The OLSAT is one of the most frequently used group ability tests in the United States and has been for decades (Beck, 1986).

Estimates of reliability are provided for total scores, verbal scores, and nonverbal scores. Using the Kuder-Richardson 20 reliability coefficient, estimates of reliability range from .78 to .97 for total scores, from .68 to .96 for verbal components and from .63 to .95 for nonverbal components (Otis & Lennon, 2003). In addition, alternate form validity is established by correlations between the two forms (A and B) of the OLSAT. These correlations range from .82 to .92 (Otis & Lennon). Only form A was used in this study. The total score is used to compute the School Ability Index (SAI). The SAI is the score of interest for this study ( $M = 100$ ,  $SD = 15$ ).

### ***Learning Behaviors Scale (LBS)***

The LBS (McDermott et al., 1996) is a teacher rating measure consisting of behavioral descriptive items for students in kindergarten through grade 12. There are 29 items designed to describe observable and modifiable learning-related behavior in the classroom environment (McDermott, 1984). Teachers are asked to rate each behavior as either *most often applies*, *sometimes applies*, or *does not apply*. Of the 29 items, 23 are

negatively phrased and have corresponding values of “0” for *most often applies*, “1” for *sometimes applies*, and “2” for *does not apply*. The remaining 6 are positively phrased and have corresponding values that are the inverse of the negatively phrased items. Computing these scores yields raw scores. Raw scores are then converted into an overall T Score as well as T Scores for the four dimensions of Competence/Motivation, Attitude Toward Learning, Attention/Persistence, and Strategy/Flexibility. For the purposes of this study, the total score is the only score of interest ( $M = 50$ ,  $SD = 10$ ).

The LBS was normed on a national standardization sample ( $N = 1500$ ) of 5- through 17-year-old American students. The normative sample was stratified according to the 1992 U.S. Census for age, sex, race/ethnicity, national region, parent education, family structure, community size, and regular versus special education placement. McDermott (1999) reported strong internal consistency coefficients for the LBS scores based on the norming sample. Coefficient alphas for the four factor scores ranged from .75 to .85 with an average coefficient for all dimensions of .82. For the LBS total score, the alpha coefficient for the norm sample was .91. Internal consistency for the four factor scores ranged from .75 to .85. Internal consistency for the LBS total score ranged from .89 to .91. Test-retest reliability ranged from .91 to .94 based on two-week intervals with a sample size of 77 (McDermott).

### ***Social Skills Ratings System (SSRS)***

Social skills are socially acceptable learned behaviors that enable a person to interact effectively with others and to avoid socially unacceptable responses (Gresham & Elliott, 1990). The Social Skills Rating System: Teacher Form (SSRS: TF, Gresham &

Elliott) is used to assess the students' social skills. The SSRS: TF consists of frequency ratings on students' behavior that falls into one of three areas: Social Skills - 30 items, Problem Behaviors - 18 items, and Academic Competence - 9 items. Problem Behaviors are assessed because of their potential negative impact on the acquisition and performance of social skills (Gresham & Elliott). The social skills items consist of descriptions of social skills, and the respondents are asked to rate the frequency and the importance of the skill on a three-point Likert-type scale. The problem behaviors items are descriptions of problem behaviors, and the respondents are asked to rate the frequency of the behavior on a three-point Likert-type scale. The Social Skills score was the score of interest for this study ( $M = 100$ ,  $SD = 15$ ).

The SSRS was standardized on a national sample of approximately 4,000 children using their self-ratings, their parents' ratings, and their teachers' ratings. The data collection for the normative sample was conducted in 1988. The distribution of the normative sample approximated the national distribution figures from the 1986 U.S. Bureau of the Census Current Populations Report for the variables of gender, ethnic status, geographic region, and community size.

The estimates of internal consistency reported in the SSRS manual range from .83 to .94 across all forms, .73 to .88 for the Problem Behaviors scale scores, and .95 for the Academic Competence scale scores. The Problem Behaviors and Academic Competence scales were not used in the present study. The retest-retest (stability) coefficients for teachers' ratings reported for a four-week period were .85 for Social Skills, .84 for Problem Behaviors, and .93 for Academic Competence (Gresham & Elliott, 1990). The

stability coefficients for the parents' ratings were .87 for Social Skills and .65 for Problem Behaviors.

The SSRS (Gresham & Elliott, 1990) has been shown to be an excellent instrument for measuring social skills. In fact, the SSRS was found to be the most comprehensive instrument available due to its multi-source approach, intervention linkage, and overall strong reliability and validity (Demaray et al., 1995). Additionally, the SSRS has been used with many different populations, including predominantly African American samples (Bain & Pelletier, 1999), learning disabled and mildly mentally retarded samples (Bramlett & Smith, 1994), urban Head Start children (Fagan & Fantuzzo, 1999), and rural Appalachian children from families with low incomes (Pedersen, Worrell, & French, 2001).

Convergent and discriminant validity evidence were reported between the SSRS and the Behavior Assessment Systems for Children (Flanagan, Alfonso, Primavera, Povall, & Higgins, 1996), peer referenced measures (Wright & Torrey, 2001), and Connors' Teacher Rating Scale scores (Bain & Pelletier, 1999). The relationships between the SSRS and other scores were meaningful and in the appropriate directions.

### ***Stanford Achievement Test (Stanford 10)***

The Stanford Achievement Test—10th Edition (Stanford 10; Harcourt Brace Educational Measurement, 2003) is widely regarded as one of the best achievement batteries of its type for assessing overall student achievement in grades 1 through 10. The Stanford 10 is administered citywide in the spring of each academic year to all elementary students (grades 1 to 5) attending Baltimore City Public Schools as a measure

by which progress towards the aforementioned Goal #1 of the BCPS Master Plan is assessed. In addition, the Stanford 10 is used as one criterion to determine whether a child is retained in his or her current grade or promoted to the next grade. The Stanford 10 assesses students' skills in the areas of reading, mathematics, language, spelling, listening, science, and social science.

The test yields a variety of scores, including raw scores, percentile ranks, scaled scores, stanines, grade equivalents, and NCEs. The Stanford 10 has excellent internal consistency; with total and composite score reliabilities in excess of .95. The Total Reading score was used as a measure of academic achievement in the present study ( $M = 600$ ,  $SD = 50$ ). The subtests that make up Total Reading measure the spectrum of important reading components, from recognizing sounds to word identification, from vocabulary skills to comprehension. These subtests reflect and support a balanced, developmental curriculum and sound instructional practices. At appropriate levels, the subtests measure phonemic awareness, decoding, phonics, vocabulary, and comprehension. Within each type of text, questions measure achievement in four modes of comprehension: initial understanding, interpretation, critical analysis, and awareness and usage of reading strategies.

### ***Procedure***

Permission to conduct this study was obtained from the Baltimore City Public School System and The Pennsylvania State University Office of Regulatory Compliance Institutional Review Board prior to beginning the study.



### ***Instructions to Students***

Prior to beginning the study, the researcher gave a brief presentation explaining the study to the students in each classroom. Letters explaining the study and parental permission forms were then sent home with the students. Follow-up communication took place as needed to acquire parental permission. As parental permission forms were returned, small group testing sessions were scheduled. The majority ( 63%) of the students were administered the OLSAT at the school over the summer break from school. However, a number of the parents were unable to be contacted over the summer and permission was not acquired until the beginning of the 2004-2005 school year. In these cases, the OLSAT was administered to the students based on their grade from the 2003-2004 school year. This was not judged to be a problem as none of the students assessed approached the ceiling of the respective OLSAT forms.

Of the 101 1<sup>st</sup> and 2<sup>nd</sup> grade students who attended the elementary school, permission was obtained for 72 students, resulting in a 72% response rate. Given the highly transient population that historically comprises this elementary school, this was a reasonable response rate. In fact, the 29 students for whom parental permission was not attained all had transferred to other schools, and no forwarding information was available.

### ***Instructions to Teachers***

The researcher met each teacher individually to explain the study and to obtain consent for the teacher's participation. At these individual meetings, the teacher was provided with an LBS and SSRS for each student in their class. They were instructed to

complete one rating form for each of the students in their class. Any ratings forms that contained omissions or duplicate answers were returned to the teachers for correction.

## Results

### *Preliminary Analyses*

The means and standard deviations for boys, girls, and the total sample as well as skew and kurtosis scores for the whole sample are presented in Table 1 for the major variables of interest. Independent t tests were conducted to test the significance of the differences between boys and girls on each measure. The test between boys and girls on the LBS revealed significant difference ( $t = 2.56, p < .05$ ). There were no significant differences found between boys and girls on the OLSAT ( $t = .66, p > .05$ ), SSRS ( $t = .16, p > .05$ ) or the Stanford 10 ( $t = 1.02, p > .05$ ).

Table 1

*Means and Standard Deviations of the Major Variables in the Study*

| Variable    | Males ( <i>n</i> =36) |           | Females ( <i>n</i> = 36) |           | Total ( <i>N</i> = 72) |           |       |       |
|-------------|-----------------------|-----------|--------------------------|-----------|------------------------|-----------|-------|-------|
|             | <i>M</i>              | <i>SD</i> | <i>M</i>                 | <i>SD</i> | <i>M</i>               | <i>SD</i> | Skew  | Kur   |
| OLSAT       | 84.42                 | 16.16     | 86.53                    | 12.97     | 85.47                  | 14.59     | 0.37  | -0.40 |
| SSRS        | 97.72                 | 13.83     | 98.33                    | 15.44     | 98.03                  | 14.56     | 0.30  | 0.04  |
| LBS         | 43.33                 | 6.00      | 46.64                    | 9.80      | 45.99                  | 8.50      | 0.21  | -0.47 |
| Stanford 10 | 560.25                | 61.63     | 575.27                   | 51.38     | 567.76                 | 56.84     | -0.41 | -0.97 |

*Note.* Kur = Kurtosis. OLSAT = Otis-Lennon School Ability Test- 8. SSRS = Social Skills Rating System. LBS = Learning Behaviors Scale. Stanford 10 = Stanford Achievement Test - 10.

Each of the variables in the current sample was determined to be normally distributed as the skew and kurtosis did not approach 1 or -1. It should also be noted that the current sample appeared to differ from the normative samples described in the manuals for each instrument. For example, the mean for the OLSAT scores of the current sample was nearly one full standard deviation below that reported in the normative sample, and the mean for the LBS scores of the current sample was nearly one half of a standard deviation below that reported in the normative sample.

Correlations were computed among the variables for the total sample (Table 2), for the boys (Table 3), and for the girls (Table 4). The correlations for the total sample ranged from 0.26 to 0.56. The correlation between the LBS score and the Stanford 10 score is the highest of these correlations. The correlation between the LBS score and the SSRS score are also relatively high. The correlations between the SSRS score and OLSAT score and the SSRS score and Stanford 10 score are both relatively weak.

Table 2

*Correlations Between the Variables for the Total Sample*

---

|             | OLSAT   | SSRS    | LBS     | Gender | Stanford 10 |
|-------------|---------|---------|---------|--------|-------------|
| OLSAT       | 1.00    |         |         |        |             |
| SSRS        | 0.26*   | 1.00    |         |        |             |
| LBS         | 0.41*** | 0.50*** | 1.00    |        |             |
| Gender      | 0.07    | 0.02    | 0.31*   | 1.00   |             |
| Stanford 10 | 0.42*** | 0.23*   | 0.56*** | 0.13   | 1.00        |

---

*Note.* OLSAT = Otis-Lennon School Ability Test- 8. SSRS = Social Skills Rating System. LBS = Learning Behaviors Scale. Stanford 10 = Stanford Achievement Test - 10.

\* $p < .05$ . \*\*\* $p < .001$

Table 3

*Correlations Between the Variables for the Boys*

---

|             | OLSAT   | SSRS    | LBS     | Stanford 10 |
|-------------|---------|---------|---------|-------------|
| OLSAT       | 1.00    |         |         |             |
| SSRS        | 0.17    | 1.00    |         |             |
| LBS         | 0.42*** | 0.47*** | 1.00    |             |
| Stanford 10 | 0.44*** | 0.18    | 0.58*** | 1.00        |

---

Table 4

*Correlations Between the Variables for the Girls*

---

|             | OLSAT   | SSRS    | LBS     | Stanford 10 |
|-------------|---------|---------|---------|-------------|
| OLSAT       | 1.00    |         |         |             |
| SSRS        | 0.37*** | 1.00    |         |             |
| LBS         | 0.44*** | 0.56*** | 1.00    |             |
| Stanford 10 | 0.37*** | 0.28*   | 0.59*** | 1.00        |

---

*Note.* OLSAT = Otis-Lennon School Ability Test- 8. SSRS = Social Skills Rating System. LBS = Learning Behaviors Scale. Stanford 10 = Stanford Achievement Test - 10.

\* $p < .05$ . \*\*\* $p < .001$

The correlations for the boys' sample ranged from 0.17 to 0.58. The correlations for the girls' sample ranged from 0.28 to 0.59. As was the case with the total sample, the correlation between the LBS score and the Stanford 10 score was the highest of these correlations. Overall, the correlations appeared very similar for the boys, girls, and total sample.

### *Major Analyses*

#### *Research Question 1*

To examine the contributions of school ability, social skills, and learning behaviors to achievement, a multiple regression was conducted using SSRS, LBS, OLSAT scores, and gender to predict the Stanford 10 score. The regression equation was significant,  $F(4, 67) = 9.65, p < .001, \text{Adj } R^2 = .33$ . As indicated in Table 5, OLSAT and LBS scores were significant predictors of Stanford 10 scores, with the latter contributing more unique variance. However, neither social skills nor gender contributed significantly to the equation.

Table 5

*Regression of OLSAT, SSRS, LBS Scores and Gender on the Stanford-10 Scores*

| Variable | <i>B</i> | <i>SE B</i> | $\beta$ | <i>t</i> | <i>sr</i> <sup>2</sup> |
|----------|----------|-------------|---------|----------|------------------------|
| Gender   | -5.64    | 11.76       | -.05    | -.48     | -.05                   |
| OLSAT    | .89      | .42         | .23     | 2.12*    | .21                    |
| SSRS     | -.40     | .45         | -.10    | -.90     | -.09                   |
| LBS      | 3.59     | .85         | .54     | 4.21***  | .41                    |

*Note.* *B* = Unstandardized Coefficient. *SE* = Standard Error.  $\beta$  = Standardized Coefficient. *sr*<sup>2</sup> = semipartial correlation coefficient.

\**p* < .05. \*\*\**p* < .001

### ***Research Question 2***

Research question two addressed the most efficient model that can be devised, using the four variables of school ability, learning behaviors, social skills, and gender. Hierarchical multiple regression was chosen to address this question.

The compact model used in the first model comparison was comprised of the single variable of school ability. The first augmented model added the variables of gender and social skills to the compact model and therefore was comprised of school ability,



social skills and gender. Finally, the second augmented model added the variable of learning behaviors to the first augmented model was comprised of school ability and learning behaviors and therefore was comprised of school ability, social skills, gender, and learning behaviors. This model comparison is represented as follows:

$$\text{Compact: } \text{Stanford 10} = B_0 + B_1\text{OLSAT} + \text{Error}$$

$$\text{Augmented 1: } \text{Stanford 10} = B_0 + B_1\text{OLSAT} + B_2\text{GENDER} + B_3\text{SSRS} + \text{Error}$$

$$\text{Augmented 2: } \text{Stanford 10} = B_0 + B_1\text{OLSAT} + B_2\text{GENDER} + B_3\text{SSRS} + B_4\text{LBS} \\ + \text{Error}$$

The test for main effect revealed that the compact model does significantly predict academic achievement,  $F(1, 70) = 14.6, p < .001, \text{Adj } R^2 = .16$ . However, the addition of gender and social skills did not add significantly to the accuracy of the compact model. For the first augmented model,  $F(3, 68) = 5.6, p < .01, \text{Adj } R^2 = .16$ , which obviously results in no increase in the amount of variance for which the model accounts. The addition of learning behaviors did, however, add significantly to the accuracy of the compact model. For the second augmented model,  $F(4, 67) = 9.65, p < .001, \text{Adj } R^2 = .33$ . Therefore, the model including learning behaviors accounts for 33% of the variance, or 17% more variance than the models that do not include learning behaviors.

The compact model used in the second model comparison was once again comprised of the single variable of school ability. For this hierarchical multiple regression, the variable of learning behaviors was added first to the compact model. The resulting first augmented model was comprised of school ability and learning behaviors. Finally, social skills and gender were then added to the first augmented model resulting

in the second augmented model being comprised of school ability, learning behavior, gender, and social skills. This model comparison is represented as follows:

$$\text{Compact: } \text{Stanford 10} = B_0 + B_1\text{OLSAT} + \text{Error}$$

$$\text{Augmented 1: } \text{Stanford 10} = B_0 + B_1\text{OLSAT} + B_2\text{LBS} + \text{Error}$$

$$\text{Augmented 2: } \text{Stanford 10} = B_0 + B_1\text{OLSAT} + B_2\text{LBS} + B_3\text{GENDER} + B_4\text{SSRS} \\ + \text{Error}$$

As demonstrated previously, the test for main effect revealed that the compact model does significantly predict academic achievement,  $F(1, 70) = 14.6, p < .001, \text{Adj } R^2 = .16$ . The addition of learning behaviors to the compact model did significantly increase the amount of variance in achievement accounted for by the model. For the first augmented model,  $F(2, 69) = 19.14, p < .001, \text{Adj } R^2 = .34$ . In this sequence as well, the addition of gender and social skills did not add significantly to the accuracy of the prediction model. For the second augmented model,  $F(4, 67) = 9.65, p < .001, \text{Adj } R^2 = .33$ . Consequently, the variables of gender and social skills add no value to the predictive ability of a model containing school ability and learning behaviors.

## **Discussion**

This research study investigated the relationships between the variables of school ability, social skills, learning behaviors, gender, and standardized academic achievement. Multiple regressions were conducted to examine the effects of school ability, social skills, learning behaviors, and gender on academic achievement. The predictor variables of school ability and learning behaviors had significant effects on academic achievement. The predictor variables of social skills and gender did not have significant effects on academic achievement.

Previous literature has focused primarily on the relationship of unalterable variables, such as ability and gender, to academic achievement. The results of this research support the conclusion that ability was a significant predictor of academic achievement in this population; gender was not. However, this study goes beyond such descriptive information to focus on variables that are conceivably alterable, such as learning behaviors and social skills. These results support the conclusion that learning behaviors was a significant predictor of academic achievement but that social skills were not.

### ***Preliminary Analyses***

The results of the current study indicate that significant differences exist between boys and girls with regard to learning behaviors. Girls demonstrated a higher level of learning behaviors than did boys. This is consistent with the findings of Hancock et al. (1996) who reported girls' tendency toward deliberate and planful review for performance goals, whereas boys tended to be more concerned with independent study.

While Hancock et al. were not examining the LBS specifically, deliberate and planful review for performance goals could certainly be seen by teachers as learning-related behaviors. Conversely, boys' tendency to be concerned more with independent study does not necessarily translate into observable learning behaviors on which teachers can rate students.

The majority of the literature base on gender differences in achievement asserts that these differences tend to be subject specific (Sammons et al., 1997). The current study found no significant differences in the reading achievement of boys and girls. This result could be due, in part, to the fact that this sample was taken from a historically low-achieving school and, therefore, all of the scores could be more condensed. However, a lack of significant differences between boys' and girls' achievement becomes more surprising given the significant differences between their learning behaviors.

The correlations between the variables do not appear to differ significantly for girls compared with boys.

### *Major Analysis*

#### *Research Question 1*

The first research question of this study examined the direct effects of school ability, social skills, learning behaviors, and gender on academic achievement in this low-income urban population. School ability and learning behaviors were demonstrated to have a significant direct effect on academic achievement in this low-income urban population.

### ***Ability and Achievement***

School ability appears to hold consistent as a significant predictor of academic achievement, according to this study. However, the results are different than those of previous research (Otis & Lennon, 2003; Schaefer & McDermott, 1999). The strength of the relationship observed in the current study is less than half as strong as that reported in the OLSAT Manual (Otis & Lennon, 1999). One possible explanation for this difference is the fact that the OLSAT Manual (Otis & Lennon) reports simple correlations between the OLSAT and the Stanford 10 without taking any other variables into account. The current study includes social skills and learning behaviors in the model to predict academic achievement.

Schaefer and McDermott (1999) also reported a stronger relationship between ability and achievement than the one found in the current study, although not as strong as the relationship reported in the OLSAT Manual (Otis & Lennon, 2003). Schaefer and McDermott reported the effect of ability on achievement while taking into account the role of certain demographic variables and learning behaviors. Therefore, it is logical that, with these other variables explaining some of the variance, the correlation between ability and achievement is not as strong. Consequently, the explanation offered to explain the strength of the relationship between ability and achievement described in the OLSAT Manual is unable to account for the strength of the same relationship described by Schaefer and McDermott.

Given the similarity of the variables examine by Schaefer and McDermott (1999) and the current study, the most evident difference between the two involves the

populations that were examined. Schaefer and McDermott used a representative cross-sample of schoolchildren ages 6 to 17 blocked for gender, age, and grade level and stratified proportionately according to race/ethnicity, national region, parent education level, family structure, community size, and educational placement. The current study was limited to 1<sup>st</sup> and 2<sup>nd</sup> graders, the majority of whom are African American and all of whom attended a low-income urban elementary school in Baltimore, Maryland. Therefore, the relatively small relationship between ability and achievement in the current study may be attributable to some variable or variables germane to low-income urban populations in general or to some variable or variables germane to this specific population in Baltimore. These variables could include race, socioeconomic status, low ability, or some other variable that was not addressed in this study.

The relationship between ability and achievement has very limited implications for educators since no research base exists that suggests that school ability can be easily or significantly altered. Therefore, its predictive ability is not particularly useful in designing interventions to improve academic achievement.

### ***Learning Behaviors and Achievement***

In this study, learning behaviors were demonstrated to have a significant direct effect in the prediction of academic achievement. The previous research on learning behaviors offers a somewhat limited literature base with which to compare the results of the current study. However, the direct effects found in this study are stronger than those found by Schaefer and McDermott (1999) who found that learning behaviors accounted for an average 27% of the variability in teacher-assigned grades and 12% in achievement

test scores. These results, in comparison with the current study, are particularly intriguing because they remained consistent after controlling for demographics. This implies, perhaps, that there is something unique about this population that predisposes learning behaviors to be important predictors of academic achievement. As discussed with regard to ability, the pertinent variables may include race, socioeconomic status, low ability, or some other variable that was not addressed in this study.

### ***Social Skills and Achievement***

When correlations were computed between the instruments in this study, the correlation between social skills and academic achievement appeared to suggest a significant relationship. However, the multiple regression that was conducted, taking learning behaviors and school ability into account, failed to yield a significant direct relationship between social skills and academic achievement. This result raises the question as to whether the results of previous studies that found significant relationships between social skills and academic achievement (Wentzel, 1993; Malecki & Elliott, 2002) would have held constant if learning behaviors had been factored into the model. Given the depth of the literature base linking social skills to academic achievement, the lack of such a significant link in the current study is somewhat surprising. This suggests that, while improved social skills may be a legitimate goal in and of themselves, the role that social skills play in predicting academic achievement appears to be very limited in this low-income urban population. That is, implementing a social skills training program with this population may impact such factors as school climate or teacher job satisfaction, but it is unlikely to improve academic achievement, according to the results of this study.

### ***Gender and Achievement***

The results of the current study, with regard to gender, differ from the majority of the literature base previously discussed. Some previous research suggests that gender differences in achievement tend to be subject specific with girls achieving at a higher level than boys in reading (Sammons, West, & Hind, 1997). Other research suggests that girls achieve at a higher level than boys across all subjects (Buckner et al., 2001). When correlations were computed between the instruments in this study, the correlation between gender and academic achievement suggested a non-significant relationship. Furthermore, the multiple regression that was conducted, taking all variables into account, failed to yield a significant direct relationship between gender and academic achievement. The inclusion of gender added no predictive ability to the model. This result raises the question as to whether the results of previous studies are applicable to the current population. Other variables, such as social skills, appeared to have a significant relationship at first examination and the significance disappeared with the inclusion of learning behaviors and ability into the model. For gender, however, there was no significant relationship even in the preliminary correlations. The lack of a significant relationship in the current study suggests that there are no overall gender differences in reading achievement with the current population.

### ***Research Question 2***

The second research question in this study examined the most efficient model, using the variables of school ability, learning behaviors, social skills, and gender in predicting academic achievement. The results of the model comparisons indicated that



the model consisting of only learning behaviors and school ability was the most efficient in predicting academic achievement in this low-income urban elementary school population. The addition of gender to the prediction equation resulted in no discernable increase in the amount of variance accounted for by the model. The addition of social skills to the prediction equation resulted in no discernable increase in the amount of variance accounted for by the model.

The fact that the addition of gender to the prediction equation resulted in no discernable increase in the variance accounted for by the model is somewhat surprising. Previous research suggests that females tend to outperform males with regard to reading and writing (Sammons, West, & Hind, 1997). Furthermore, Buckner et al. (2001) suggest that girls tend to outperform boys with regard to all subjects. These results raise the question of what the differences are between these studies and the current study. Perhaps the lack of impact that gender had on the model is the result of characteristics that are specific to the current population.

Given the strength of the relationship between social skills and academic achievement in previous studies (Malecki & Elliott, 2002; Wentzel, 1993), the lack of impact that this variable had on the current model is also surprising. However, given the strong correlation between social skills and learning behaviors, it is quite possible that the observed relationship in previous studies was actually between learning behaviors and academic achievement since learning behaviors were not considered.

### *Limitations*

As with any study, the results presented here should be interpreted cautiously until they can be replicated. This study had a relatively small sample size that was taken from two grades in the same elementary school that serves one neighborhood in Baltimore, Maryland. Therefore, there is limited information to suggest whether these results would generalize to other low-income urban elementary schools.

This study is a correlational design and therefore causality cannot be inferred. Furthermore, the current sample is composed of low-income, predominantly African American students who also demonstrated relatively low school ability. Consequently, it is not known which variable (i.e., SES, race, or ability) is primarily responsible for the strength of the observed relationships, which are stronger than those found in previous studies.

### *Future Research*

While parents from this population have a reputation in school for demonstrating very little involvement in the education of their children, a wide variability in parental involvement was evident during the data collection for this study. There was an extreme difficulty acquiring parental permission for a number of students in spite of the researcher's going to great lengths to do so. To begin with, many parents failed to provide the school with accurate contact information, including phone number and address. Even when the contact information provided to the school was accurate, many parents did not respond to mailings and phone calls from the school. Therefore, including

some form of parental involvement in future investigations may increase the ability to predict academic achievement.

Another possible course of research could investigate which variable is primarily responsible for the current results, which differ from previous research. That is, whether the results of the current study are a result of this population's income level, race, ability, or some other factor. Different populations could be chosen for study to examine whether the current model retains its predictive ability. Specific populations of interest could include low-income, racially representative students, African American students from different income levels, and students who have demonstrated ability scores in the average range.

Additionally, the question of whether the mediating effects of learning behaviors are as strong in the general population should be explored. While the current study demonstrates the need for improved academic achievement in this low-income urban population, this need is not specific to this population. All school districts are in search of ways to improve academic achievement. Therefore, whether the results of the current study hold true for other populations would be of interest.

Finally, follow-up research with this population could investigate whether an increase in learning behaviors would result in an increase in academic achievement. There is a literature base that has established that learning-related behaviors are a good target for interventions (Barnett, Bauer, Ehrhardt, Lentz, & Stollar, 1996; Engelmann, Granzin, & Severson, 1979; Stott & Albin, 1975; Weinberg, 1979). Therefore, the first step would be in designing a program that would improve learning behaviors and in

evaluating its efficacy. If gains can be made with learning behaviors, the next step would be to investigate whether such gains would result in corresponding gains in academic achievement.

### *Conclusion*

The results from this study offer substantial support for the hierarchical multiple regression, indicating that ability and learning behaviors play important roles in reading achievement in children who attend a low-income urban elementary school. Significant direct effects were demonstrated between ability and achievement and learning behaviors and achievement. Furthermore, a model consisting of ability and learning behaviors was the best predictor of academic achievement in this population. Including social skills and gender did not contribute significantly to the predictive ability of the model.

### References

- Alexander, K. L., & Entwisle, D. R. (1988). Achievement in the first 2 years of school: Patterns and processes. *Monographs of the Society for Research in Child Development, 53*, 27-42
- Applebee, A. N., Langer, J. A., & Mullis, I. N. S. (1989). *Crossroads in American education: A summary of findings*. Princeton, NJ: Educational Testing Service.
- Antonak, R. F. (1988). Relationships between group IQ and scholastic achievement at grades two, four and six. *Educational Research Quarterly, 12*(2), 23-29.
- Archer, P., & Edwards, J. R. (1982). Predicting school achievement from data on pupils obtained from teachers: Toward a screening device for the disadvantaged. *Journal of Educational Psychology, 74*, 761-770.
- Asher, H. B. (1984). *Causal modeling*. Beverly Hills, CA: Sage.
- Aviel, D. S., Aviel, S., & Aviel, B. (1997). A closer examination of American education. *Childhood Education, 73*, 130-132.
- Bain, S. K., & Pelletier, K. A. (1999). Social and behavioral differences among a predominantly African American preschool sample. *Psychology in the Schools, 36*, 249-259.
- Bain, A., & Ross, K. (1999). SAT I performance: A case study. *The International Journal of Educational Reform, 34*, 83-94.
- Bain, A., & Smith, D. (2000). Technology enabling school reform. *T.H.E. Journal, 28*, 90-97.

- Ballou, D. (1996). The condition of urban school finance: Efficient resource allocation in urban schools. National Center for Education Statistics: Selected papers in school finance.
- Baltimore City Public School System. (2002). *The Master Plan II 2002-2007*. Retrieved on October 31, 2002 from [http://www.bcps.k12.md.us/board/masterplan/mp2\\_masterplan\\_obj1.pdf](http://www.bcps.k12.md.us/board/masterplan/mp2_masterplan_obj1.pdf)
- Banks, R., Hogue, A., Timberlake, T., & Liddle, H. (1996). An Afrocentric approach to group social skills training with inner-city African American adolescents. *The Journal of Negro Education, 65*, 414-424.
- Bankston, C., & Caldas, S. (1996). Majority African American schools and social injustice: The influence of de facto segregation on academic achievement. *Social Forces, 75*, 535-555.
- Barnett, D. W., Bauer, A. M., Ehrhardt, K. E., Lentz, F. E., & Stollar, S. A. (1996). Keystone targets for changes: Planning for widespread positive consequences. *School Psychology Quarterly, 11*, 95-117.
- Battin-Pearson, S., Newcomb, M. D., Abbott, R. D., Hill, K. G., Catalano, R. F., & Hawkins, J. D. (2000). Predictors of early high school dropout: A test of five theories. *Journal of Educational Psychology, 92*, 568-582.
- Beck, M. D. (1986). The Otis and Otis-Lennon Tests: Their contributions. *Educational Measurement: Issues and Practice, 5*(5), 12-18.

- Beller, M., & Gafni, N. (1996). The 1991 international assessment of educational progress in mathematics and sciences: The gender differences perspective. *Journal of Educational Psychology, 88*, 365-377.
- Bock, M. A. (2001). SODS strategy: Enhancing the social interactions skills of youngsters with Aspergers syndrome. *Intervention in School and Clinic, 36*, 272-278.
- Bong, M. (2001). Between- and within-domain relations of academic achievement among middle and high school students: Self-efficacy, task value, and achievement goals. *Journal of Educational Psychology, 93*, 23-34.
- Bracey, G. W. (2001). The 11<sup>th</sup> Bracey Report on the condition of public education. *Phi Delta Kappan, 83*, 157-169.
- Bramlett, R. K., Scott, P., & Rowell, R. K. (2000). A comparison of temperament and social skills in predicting academic performance in first graders. *Special Services in Schools, 16*, 147-158.
- Bramlett, R. K., & Smith, B. (1994). A comparison of non-referred, learning-disabled, and mildly mentally retarded students utilizing the Social Skills Rating System. *Psychology in Schools, 31*, 13-19.
- Brandt, R. (2001). No best way: The case for differentiated schooling. *Phi Delta Kappan, 83*, 153-156.
- Brown, A., & Campione, J. (1982). Modifying intelligence or modifying cognitive skills: More than a semantic quibble? In D. K. Detterman & R. J. Sternberg (Eds.), *How and how much can intelligence be increased* (pp. 215-230). Norwood, NJ: Ablex.

- Bryk, A. S., & Raudenbush, S. W. (1992). *Hierarchical linear models*. Newbury Park, CA: Sage.
- Buckner, J. C., Bassuk, E. L. & Weinreb, L. F. (2001). Predictors of academic achievement among homeless and low-income housed children. *Journal of School Psychology, 39*, 45-69.
- Carter, J. D., & Swanson, H. L. (1995). The relationship between intelligence and vigilance in children at risk. *Journal of Abnormal Child Psychology, 23*, 201-220.
- Caskey, W. E. (1983). Relationship between selected kindergarten predictors and first and fourth grade achievement test scores. *Perceptual and Motor Skills, 56*, 815-822.
- Ceci, S. (1990). *On intelligence . . . more or less: A bioecological treatise on intellectual development*. Englewood Cliffs, NJ: Prentice-Hall.
- Decker, K., Spector, S., & Shaw, S. (1992). Teaching study skills to students with mild handicaps: The role of the classroom teacher. *The Clearing House, 65*, 280-284.
- Demaray, M. K., Ruffalo, S. L., Carlson, J., Busse, R. T., Olson, A. E., McManus, S. M., & Leventhal, A. (1995). Social skills assessment: A comparative evaluation of six published rating scales. *School Psychology Review, 24*, 648-671.
- DiPerna, J. C., & Elliott, S. N. (2000). *The Academic Competence Scales*. San Antonio, TX: The Psychological Corporation.
- DiPerna, J. C., & Elliott, S. N. (2002). Promoting academic enablers to improve student achievement: An introduction to the miniseries. *School Psychology Review, 31*, 293-297.



- DiPerna, J. C., Volpe, R. J., & Elliott, S. N. (2002). A model of academic enablers and elementary reading/language arts achievement. *School Psychology Review, 31*, 298-312.
- Dubrow, E. H., Schaefer, B. A., & Jimerson, S. R. (2001). Learning-related behaviours versus cognitive ability in the academic performance of Vincentian children. *British Journal of Educational Psychology, 71*, 471-483.
- Elliot, C. D. (1990). *Differential Ability Scales: Introductory and Technical Handbook*. San Antonio, TX: The Psychological Corporation.
- Elliott, S. N., Malecki, C. K., & Demaray, M. K. (2001). New directions in social skills assessment and intervention for elementary and middle school students. *Exceptionality, 9*, 19-32.
- Engelmann, B. A., Granzin, A., & Severson, H. (1979). Diagnosing instruction. *Journal of Special Education, 13*, 355-363.
- Ensminger, M. E., & Slusarcick, A. L. (1992). Paths to high school graduation or dropout: A longitudinal study of a first-grade cohort. *Sociology of Education, 65*, 95-113.
- Fagan, J., & Fantuzzo, J. W. (1999). Multirater congruence on the Social Skills Rating System: Mother, father, and teacher assessments of urban Head Start children's social competencies. *Early Childhood Research Quarterly, 14*, 229-242.
- Finn, J., & Achilles, C. (1990). Answers and questions about class size: A statewide experiment. *American Educational Research Journal, 27*, 557-577.

- Finn, J. D., & Cox, D. (1992). Participation and withdrawal among fourth-grade pupils. *American Educational Research Journal, 29*, 141-162.
- Flanagan, D. P., Alfonso, V. C., Primavera, L. H., Povall, L., & Higgins, D. (1996). Convergent validity of the BASC and SSRS: Implications for social skills assessment. *Psychology in the Schools, 33*, 13-23.
- Forgan, J. W., & Jones, C. D. (2002). How adventure activities can improve students' social skills. *TEACHING Exceptional Children, 34*(3), 52-58.
- French, J. (2003). *Schooling ain't what is used to be*. Manuscript submitted for publication.
- Fuller, E., & Johnson, J. (2001). Can state accountability systems drive improvements in school performance for children of color and children from low-income homes? *Education and Urban Society, 33*, 260-283.
- Gettinger, M., & Seibert, J. K. (2002). Contribution of study skills to academic competence. *School Psychology Review, 31*, 350-365.
- Gibson, M. A., & Ogbu, J. U. (1991). *Minority status and schooling; A comparative study of immigrant and involuntary minorities*. New York: Garland.
- Glass, G., Cahen, L., Smith, M., & Filby, N. (1982). *School class size*. Beverly Hills, CA: Sage.
- Goddard, R. D., Sweetland, S. R., & Hoy, W. K. (2000). Academic emphasis of urban elementary schools and student achievement in reading and mathematics: A multilevel analysis. *Educational Administration Quarterly, 36*, 683-702.

- Greenfield, T. A., & Klemm, E. B. (2001). When “good” school restructuring efforts still fail. *American Secondary Education, 30*, 2-25.
- Greenwood, C. R., Delquadri, J., & Hall, R. V. (1984). Opportunity to respond and student achievement performance. In W. Heward, T. Heron, D. Hill, & J. Trap-Porter (Eds.), *Behavioral analysis in education* (pp. 58-88). Columbus, OH: Merrill.
- Greenwood, C. R., Hart, B., Walker, D., & Risley, T. R. (1994). The opportunity to respond revisited: A behavioral theory of developmental retardation its prevention. In R. Gardner, D. M. Sainato, J. O. Cooper, T. E. Heron, W. L. Heward, J. W. Eshleman, & T. A. Grossi (Eds.), *Behavior analysis in education: Focus on measurably superior instruction* (pp. 213-223). Pacific Grove, CA: Brooks/Cole.
- Gresham, F. M., & Elliott, S. N. (1990). *The Social Skills Rating System*. Circle Pines, MN: American Guidance Services.
- Hancock, T. E., Stock, W. A., & Kulhavy, R. W. (1996). Gender and developmental differences in the academic study behaviors of elementary school children. *The Journal of Experimental Education, 65*, 18-39.
- Hansen, D., Watson-Perczel, M., & Christopher, J. (1989). Clinical issues in social skills training with adolescents. *Clinical Psychology Review, 9*, 365-391.
- Harcourt Brace Educational Measurement. (2003). *Technical Data Report: Stanford Achievement Test Series (10<sup>th</sup> ed.)*. San Antonio: Harcourt Brace.
- Hart, B., & Risly, T. R. (1995). Meaningful differences in the everyday experience of young American children. Baltimore: Brooks.

- Hoff, D. J. (2001). U.S. students rank among world's best and worst readers. *Education Week*, 21(15), 7-11.
- Irvin, L. K., & Walker, H. M. (1993). Improving social skills assessment of children with disabilities: Construct development and applications of technology. *Journal of Special Education Technology*, 12, 63-70.
- Jacobson, L. (2001). Sizing up small classes. *Education Week*, 20(24), 26-28.
- Johnson, M. K., Crosnoe, R. & Elder, G. H. (2001). Students' attachment and academic engagement: The role of race and ethnicity. *Sociology of Education*, 74, 318-341.
- Jussim, L. (1989). Teacher expectations: Self-fulfilling prophecies, perceptual biases, and accuracy. *Journal of Personality and Social Psychology*, 57, 459-480.
- Kamps, D. M., Tankersley, M., & Ellis, C. (2000). Social skills interventions for young at-risk students: A 2-year follow-up study. *Behavioral Disorders*, 25, 310-325.
- Kavale, K. A., & Forness, S. R. (1996). Social skills deficits and learning disabilities: A meta-analysis. *Journal of Learning Disabilities*, 29, 226-237.
- Kelley, C., Kimball, S., & Conley, S. (2000). Payment for results: Effects of Kentucky and Maryland group-based award programs. *Peabody Journal of Education*, 75, 159-199.
- Kieff, J. (2001). The silencing of recess bells. Issues in education. *Childhood Education*, 77, 319-320.
- Knight-Abowitz, K., Rousmanier, K, Gaston, A., Kelley, S., & Solomon, W. (2000). The tensions of urban school renewal in an era of reform. *The Educational Forum*, 64, 135-142.

- Krei, M. S. (1998). Intensifying the barriers: The problem of inequitable teacher allocation in low-income urban schools. *Urban Education, 33*, 71-94.
- Ladd, G. W. (1990). Having friends, keeping friends, making friends, and being liked by peers in the classroom: Predictors of children's early school adjustment? *Child Development, 61*, 1081-1100.
- Landau, S., Milich, R. & Diener, M. B. (1998). Peer relations of children with Attention-Deficit Hyperactivity Disorder. *Reading and Writing Quarterly: Overcoming Learning Difficulties, 14*, 83-106.
- Lavin, C. (1996). The relationship between the Wechsler Intelligence Scale for Children - Third Edition and the Kaufman Test of Educational Achievement. *Psychology in Schools, 33*, 119-123.
- Lee, V. E., & Smith, J. B. (1993). Effects of school restructuring on the achievement and engagement of middle-grade students. *Sociology of Education, 66*, 164-187.
- Lee, V. E., & Smith, J. B. (1995). Effects of school restructuring and size on early gains in achievement and engagement. *Sociology of Education, 68*, 241-270.
- Lindsay, P. (1982). The effect of high school size on student participation, satisfaction, and attendance. *Educational Evaluation and Policy Analysis, 4*, 57-65.
- Linnenbrink, E. A., & Pintrich, P. R. (2002). Motivation as an enabler for academic success. *School Psychology Review, 31*, 313-327.
- Lippman, L. (1996). Urban schools: The challenge of location and poverty. U.S. Department of Education, National Center for Educational Statistics. Washington, DC.

- McDermott, P. A. (1984). Comparative functions of preschool learning style and IQ in predicting future academic performance. *Contemporary Educational Psychology, 9*, 38-47.
- McDermott, P. A. (1999). National scales of differential learning behaviors among American children and adolescents. *School Psychology Review, 28*, 280-291.
- McDermott, P. A., & Beitman, B. S. (1984). Standardization of a scale for the study of children's learning styles: Structure, stability, and criterion validity. *Psychology in Schools, 21*, 5-14.
- McDermott, P. A., & Glutting, J. J. (1997). Informing stylistic learning behavior, disposition, and achievement through IQ subtests - Or, more illusions of meaning? *School Psychology Review, 26*, 163-175.
- McDermott, P. A., Green, L. F., Francis, J. M., & Stott, D. H. (1996). *The Learning Behavior Scale*. Philadelphia: Edumatic & Clinical Science.
- McGrew, R. W., & Woodcock, R. W. (2001). Technical Manual. *Woodcock-Johnson III*. Itasca, IL: Riverside.
- Ma, X., & Klinger, D. (2000). Hierarchical linear modeling of student and school effects on academic achievement. *Canadian Journal of Education, 25*, 41-55.
- Malecki, C. K., & Elliott, S. N. (2002). Children's social behaviors as predictors of academic achievement: A longitudinal analysis. *School Psychology Quarterly, 17*, 1-23.
- Manuele, C., & Cicchelli, T. (1984). Discipline revisited: Social skills programs and methods for the classroom. *Contemporary Education, 55*, 104-109.

- Metzler, C. W., Biglan, A., Rusby, J. C., & Sprague, J. R. (2001). Evaluation of a comprehensive behavior management program to improve school-wide positive behavior support. *Education and Treatment of Children, 24*, 448-479.
- Muscott, H. S. (1988). Prosocial skills training with emotional disturbances (ED) and behavioral disorders (BD): The journey of 1,000 miles begins with the first few steps. *Perceptions, 24*, 124-138.
- National Institute for Urban School Improvement. (2003). *Urban school symposium*. Retrieved April, 19, 2003 from <http://www.inclusiveschools.org/publicat.htm>
- Neisser, U., Boodoo, G., Bouchard, T. J., Boykin, A. W., Brody, N., Ceci, S. J., et al. (1996). Intelligence: Knowns and unknowns. *American Psychologist, 51*, 77-101.
- Okpala, C. O., Okpala, A. O., & Smith, F. E. (2001). Parental involvement, institutional expenditures, family socioeconomic attributes, and student achievement. *The Journal of Educational Research, 95*, 110-115.
- Otis, A. S., & Lennon, R. T. (2003). *Otis-Lennon School Ability Test: Manual for administering and interpreting*. San Antonio, TX: The Psychological Corporation.
- Parker, J. G., & Asher, S. R. (1987). Peer relations and later personal adjustment. Are low-accepted children at risk? *Psychological Bulletin, 102*, 357-389.
- Pedersen, J. A., Worrell, F. C., & French, J. F. (2001). Reliability of the Social Skills Rating System with rural Appalachian children from families with low income. *Journal of Psychoeducational Assessment, 19*, 45-53.
- Pittman, R., & Haughwout, P. (1987). Influence of high school size on dropout rate. *Educational Evaluation and Policy Analysis, 9*, 337-343.

- Prewett, P. N., & Farhney, M. R. (1994). The concurrent validity of the Matrix Analogies Test - Short Form with the Stanford-Binet Fourth Edition and the KTEA-BF (academic achievement). *Psychology in Schools, 31*, 20-25.
- Prewett, P. N., & McCaffery, L. K. (1993). A comparison of the Kaufman Brief Intelligence Test (K-BIT) with the Stanford-Binet, a two-subtest short form, and the Kaufman Test of Educational Achievement (KTEA) Brief Form. *Psychology in Schools, 30*, 299-304.
- Quinn, M. M., Kavale, K. A., Mathur, S. R., Rutherford, R. B., & Forness, S. R. (1999). A meta-analysis of social skills intervention for students with emotional or behavioral disorders. *Journal of Emotional and Behavioral Disorders, 7*, 54-64.
- Roscigno, V. J., & Ainsworth-Darnell, J. W. (1999). Race, cultural capital, and educational resources: Persistent inequalities and achievement returns. *Sociology of Education, 72*, 158-178.
- Sammons, P., West, A., & Hind, A. (1997). Accounting for variations in pupil attainment at the end of Key Stage 1. *British Educational Research Journal, 23*, 489-511.
- Scarr, S. (1981). Testing for children: Assessment and the many determinants of intellectual competence. *American Psychologist, 36*, 1159-1166.
- Schaefer, B. A., & McDermott, P. A. (1999). Learning behavior and intelligence as explanations for children's scholastic achievement. *Journal of School Psychology, 37*, 299-313.
- Sheffield, L. J. (1999). The development of mathematically promising students in the United States. *Mathematics in School, 28*(3), 15-18.



- Sleeter, C., & Grant, C. (1993). Making choices for multicultural education: Five approaches to race, class, and gender (2<sup>nd</sup> ed.). New York: John Wiley.
- Solomon, G. B. (1997). Fair play in the gymnasium: Improving social skills among elementary school students. *Journal of Physical Education, Recreation and Dance*, 68(5), 22-25.
- Stedman, L. C. (1987). It's time we changed the effective schools formula. *Phi Delta Kappan*, 69, 214-224.
- Stedman, L. C. (1997). International achievement differences: An assessment of a new perspective. *Educational Researcher*, 26, 4-15.
- Sternberg, R. J., & Detterman, D. K. (Eds.). (1986). *What is intelligence? Contemporary viewpoints on its nature and definition*. Norwood, NJ: Ablex.
- Stott, D. H., & Albin, J. B. (1975). Confirmation of a general factor of effectiveness motivation by individual tests. *British Journal of Educational Psychology*, 45, 153-161.
- Taylor, R. T., & Williams, R. D. (2001). Accountability: Threat or target? *The School Administrator*, 58(6), 30-36.
- Urbanski, A., & Erskine, R. (2000). School reform, TURN, and teacher compensation. *Phi Delta Kappan*, 81, 367-370.
- Wallinger, L. M. (1999). World class standards in education: Are we there yet? *NASSP Bulletin*, 83(611), 80-86.
- Wechsler, D. (1991). *Wechsler Intelligence Scale for Children- III*. San Antonio: The Psychological Corporation.

- Wechsler, D. (1992). *Wechsler Individual Achievement Test*. San Antonio: The Psychological Corporation.
- Weinberg, R. A. (1979). Early childhood education and intervention: Establishing an American tradition. *American Psychologist*, *34*, 912-916.
- Wentzel, K. R. (1991). Social competence at school: Relation between social responsibility and academic achievement. *Review of Educational Research*, *61*, 1-24.
- Wentzel, K. R. (1993). Does being good make the grade? Social behavior and academic competence in middle school. *Journal of Educational Psychology*, *85*, 357-364.
- Wright, D., & Torrey, G. K. (2001). A comparison of two peer-referenced assessment techniques with parent and teacher ratings of social skills and problem behaviors. *Behavioral Disorders*, *26*, 173-182.

## **JEREMY L. PEARSON**

309 North Franklin Street  
Waynesboro, PA 17268  
[ilp242@psualum.com](mailto:ilp242@psualum.com)

### **EDUCATION:**

2005 Ph.D., Pennsylvania State University, Program in School Psychology  
1998 M.S., Pennsylvania State University, Program in School Psychology  
1994 B.A., Dickinson College

### **EXPERIENCE:**

2003 – present School Psychologist, West Perry School District  
2003 – present Task Force on Education, Maryland State Department of  
Education  
2000 – 2003 School Psychologist and Instructional Consultation Team  
Facilitator, Baltimore City Public Schools  
1999 – 2000 School Psychologist/Intern, Alexandria City Public Schools  
1998 – 1999 Teaching Assistant, Department of Human Development and  
Family Studies, Pennsylvania State University

### **SCHOLARLY AWARDS:**

1997 Rose Drexel Award, College of Education, Pennsylvania State  
University  
1997 Graham Fellowship, College of Education, Pennsylvania State  
University  
1996 School Psychology Award, School Psychology Program,  
Pennsylvania State University

### **PUBLICATIONS AND PRESENTATIONS:**

Watkins, Crosby & Pearson (2001). Role of the school psychologist: Perceptions of  
school staff. School Psychology International, 21, 64-73.  
Pearson (2001). Functional Behavior Assessments and Behavior Intervention Plans.  
Research presented at the 2001 Annual CEO's Leadership Academy. Baltimore,  
MD. August 24, 2001.