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ABSTRACT

PARENTAL INVOLVEMENT, SOCIO-ECONOMIC STATUS AND STUDENTS'
PERCEPTIONS OF THE CLASSROOM LEARNING ENVIROMENT
AS PREDICTORS OF 8TH GRADE STUDENTS' ACADEMIC
ACHIEVEMENT: A STRUCTURAL EQUATION MODEL.

by

Allyson Blandin

Chair: Larry D. Burton

ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University

School of Education

Title: PARENTAL INVOLVEMENT, SOCIO-ECONOMIC STATUS AND STUDENTS' PERCEPTIONS OF THE CLASSROOM LEARNING ENVIRONMENT AS PREDICTORS OF 8TH GRADE STUDENTS' ACADEMIC ACHIEVEMENT: A STRUCTURAL EQUATION MODEL.

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Date completed: July 2016

Problem

Academic achievement among the nation's youth has been on the decline for decades. The statistics from the National Assessment of Educational Progress (NAEP) paints a bleak picture of the academic performance of more than half of the 4th and 8th grade students being below the required levels of proficiency in reading and mathematics. This is evidence that a problem of low academic achievement exists among certain student groups within the public education system. Therefore, it creates an academic achievement gap, which is reflected in the disparity in the standardized scores between students of color from low socio-economic status with their white/ middle-class

counterparts. The negative ramifications associated with this low level of academic achievement cannot be underscored sufficiently.

Purpose

The purpose of this study was to analyze the collective influence of the predictors parental involvement, socio-economic status and students' perceptions of the classroom learning environment on 8th grade students' academic achievement in mathematics and language arts. The intention was to provide an analysis of these predictors of academic achievement and to expand knowledge of the inter-relationships between the variables correlated with it. Additionally, insights into the academic achievement gap are provided.

Research Design

The study employed a quantitative, cross-sectional, survey, Structural Equation Modeling design. The sample was drawn from the middle school population. There were 77 student participants with their parents who were from two middle schools across two states in the US. The data was analyzed using AMOS statistical package to estimate the parameters and to determine the fit of the structural model with the observed data. The statistical significance level of .05 was established for the study.

Results

The results from the analysis partially supported the structural model. Some of the hypothesized relationships emerged as expected with positive, moderate and statistically significant correlations. These include Parental Educational Status (PES) with Free and Reduced Lunch (FRL), FRL with academic achievement (AA), PES with Parental Involvement (PI). The hypothesized relationship between FRL and PI, PI and AA, PI and

CLE and CLE and AA did not emerge as expected. Their correlations were statistically non-significant with the correlation between CLE and AA and PI and CLE being in an inverse direction.

Regarding the sub-models, the lack of a statistically significant correlation between PI and AA, resulted in its inability to mediate the relationship between PES and AA and FRL and AA. Therefore, PI failed to mediate the influence of both FRL and PES on AA. These sub-models of the inter-relationship between FRL, PI and AA and PES, PI and AA were not confirmed as expected. Further investigation is required to explain these unexpected findings, although the small sample size could be partially responsible for this outcome.

Conclusions

The conclusions that were drawn from the results of this study are that a direct relationship existed between the variables FRL and AA, PES and FRL and PES and PI. PI was unable to mediate the relationship between FRL and AA because of its non-significant relationship with AA. However, the direct robust influence of FRL on AA, eliminated the need for mediation from PI. This confirmed the potency of FRL to influence AA without any mediation from PI. The correlation between FRL and PI was not practically or statistically significant, which is in contrast with the relationship between PES and PI. PES had a strong and positive correlation with PI, which signifies that the higher levels of PES result in higher levels of PI. Therefore, it appears that PI is a function of PES, as evidenced by the higher parental involvement scores reported by more educated parents.

Additionally, the intensity of the correlation between PES and FRL is not as strong as that of PES and PI. PI and AA did not achieve a statistically significant relationship, which may be attributed to the strong and robust correlation between FRL and AA. The school-based forms of PI like communication, decision making and volunteering as well as the home-based form of PI, academic socialization require social/cultural capital. This resource is not readily available to lower socio-economic parents, compared to their middle class counter-parts. The disparity in the standardized tests scores between students from the diverse socio-economic status groups requires an understanding of the role of parental involvement in academic achievement and how its types are influenced by SES. A comprehensive perspective of academic achievement must be filtered through the lens of these variables. Thus, it is imperative that the home/school partnership be effectively promoted and maintained.

Andrews University

School of Education

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A Dissertation

Presented in Partial Fulfillment
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APPROVAL BY THE COMMITTEE:

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Member: Elvin Gabriel

External: Audrey Henry

Date approved

DEDICATION

This research is dedicated to my late father, Kelvin Blandin, who inculcated within me a profound cognizance of ‘Knowledge is Power.’ It is my sincere hope and earnest prayer for this research to become an instrument for empowerment, fueling the quest for more knowledge. I also dedicate this study to my daughter Schae, my pumpkin. I am truly proud of the remarkable person you have become.

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LIST OF ABBREVIATIONS

AA	Academic Achievement
BCPS	Broward County Public Schools
CFI	Comparative Fit Index
CES	Classroom Environment Scale
CLE	Classroom Learning Environment
EOG	End of Grade
EPPE	Effective Pre-School, Primary and Secondary Education Study
FRL	Free and Reduced Lunches
GCSE	General Certificate of Secondary Education
GPA	Grade Point Average
ICEQ	Individualized Classroom Environment Questionnaire
ILEQ	Instructional Learning Environment Questionnaire
IRB	Institutional Review Board
MCI	My Classroom Learning Inventory
NAEP	National Assessment of Educational Progress
NCLB	No Child Left Behind
PTA	Parent Teacher Association
PIAT	Peabody Individual Achievement Test
PIQ	Parental Involvement Questionnaire

PI	Parental Involvement
PES	Parental Educational Status
RMSEA	Root Mean Square Error of Approximation
SES	Socio-Economic Status
SEM	Structural Equation Modeling

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CHAPTER 1

INTRODUCTION AND BACKGROUND TO THE PROBLEM

The nation is no longer able to ignore the poor academic achievement of students from diverse racial/ethnic and socio-economic backgrounds. The adverse ramifications associated with such underachievement, extends beyond the education system, it threatens the social, moral and economic fabric of the society itself (Evans, 2005). The academic decline of these young people places the quality of the future workforce and the stability of the nation at grave risk. Therefore, the urgency of this problem requires a comprehensive understanding of its intricate nature in order to formulate and implement the most effective solutions to this perennial academic achievement gap.

There has been extensive investigation regarding students' academic achievement over the decades. Many researchers have corroborated the effect of parental involvement on academic achievement (Chen & Gregory, 2010; DeSimone, 1999; Eccles & Harold, 1993; Epstein, 1987; Hill & Tyson, 2009; Hoover- Dempsey & Sandler, 1995; Sook Lee & Bowen 2006). Another predictor of academic achievement that has received considerable attention in educational research is socio-economic status as indicated by education, occupational status and income level. (Caro, 2009; Dotterer, Iruka, & Pingello, 2012; Flowers & Flowers, 2008; Fram, Cribbs & Horn, 2007; Lareau, 1987; Orr, 2003; Sirin, 2005; Van Laar, & Sidanius, 2001). Additionally, studies on school variables like students' perceptions of the classroom learning environment as predictive of academic

achievement have also occupied a prominent position in the literature (Fraser & Fischer, 1982; La Rocque, 2008; Saki, Pape & Hoy, 2012; Waxman & Huang, 1998). Frequently, educational research on the predictors of academic achievement is at an individual level. However, a holistic investigation into the complexity of this phenomenon is required.

The measurement of academic achievement in educational research is usually in the form of performance on tasks in either one or both of these academic content areas, reading and math. (Eamon, 2002; Flowers & Flowers, 2008; Hughes, 2003; La Rocque, 2008). These two domains are central to a student's academic trajectory because they represent literacy and numeracy. The use of behavioral measures is not as prevalent. Standardized scores from national and state assessments are frequently the measures of academic achievement. It is the outcome that is of concern because of the emphasis on accountability.

According to the National Assessment of Educational Progress (NAEP, 2013) there has been minimal increases in the reading performance of 4th, 8th and 12th grade students over the past four years. A similar picture exists of low performance in the area of mathematics. The recently released NAEP (2015) performance data of reading assessment for 4th and 8th grades indicated that scores at 4th grade were not different as compared to 2013; however, they were lower at 8th grade by two points. Additionally, the students who were not eligible to receive free and reduced lunch outperformed by their free and reduced lunch counter-parts by 28 points. The data indicated that there were more than one-third of the students at 4th and 8th grade performing at or above the proficient levels.

While, in the area of math the scores were lower for both grades. The decrease was one point for the 4th grade and two points for the 8th grade. The non- free and reduced lunch students outperformed their free and reduced lunch counter-parts by 24 points. The data indicated that forty percent of the 4th grade students were performing at or above the proficient level in math and thirty-three percent of the 8th graders performed at or above the proficiency level.

These statistics are rather staggering, reflecting the dire condition of the public education system. Students from diverse ethnic/racial and socio-economic status (SES) backgrounds are more likely than their more affluent counter-parts to attain lower levels of academic performance according to the data reported by these assessment bodies. One factor that could possibly explain this outcome is the exposure of lower SES students to lower quality instruction from ineffective teachers in learning environments that are less conducive to academic achievement. (Hughes, 2003; Quinn, 2015; Van Laar & Sidanius, 2001; Waxman, Huang, Anderson, & Weinstein, 1997). They lack the support and encouragement that influences positive motivational orientation and attributional styles. When this merges with a lack of parental involvement as well as the multiplicity of risk factors embedded in their economically disadvantaged backgrounds, the academic outcome is disastrous.

The negative effect of the economically disadvantaged backgrounds on the academic achievement of these students is clearly reflected in their low-test scores. There is a 71% probability that a student who is on reduced lunch will have low math scores and an 82% probability that he/she will have low math scores if they receive free lunch. (Hughes, 2003). The student's home environment inter-locks with their school

environment; emerging as the two key environments most responsible for students' cognitive development. Therefore, the need to explore the inter-connectedness of these two contexts is imperative in the investigation of student achievement.

The Bioecological Model attest to the inter-relatedness of these key environments (Bronfenbrenner, 1999) and their profound influence on the development of the individual. Researchers (e.g. Christenson, 2003; Eccles & Harold, 1993; Epstein, 1995; Hoover-Dempsey & Sandler, 1995; Lareau, 1987, Ream & Palardy, 2008; Sook Lee & Bowen, 2006) continue to investigate the importance of the home/school connections in promoting student's academic achievement. According to Marchant, Paulson, and Rothlisberg (2001), the exploration of this collective influence of home and school on the early adolescent academic achievement will contribute immensely to the literature. An understanding of the importance of these two most influential environments- the home and the school in the students' development, is mandatory to the unravelling of the enigma of the academic achievement gap among the diverse groups of students. Parental involvement in their child/children's education facilitates this connection between the home and school.

Statement of the Problem

Academic achievement is a significant issue with far reaching implications for an individual's future, influencing the very quality of her/his life. There is empirical support in regards to the low performance of students from low socio-economic backgrounds as compared to their more affluent counter-parts (DeSimone, 1999; Hughes, 2003; Mickelson, 2015; Sook Lee & Bowen 2006; Van Laar & Sidanius, 2001). As the academic achievement gap continues to baffle the minds of educators, policy makers and

researchers, these disparities in academic achievement requires urgent attention. However, there appeared to have been minimal improvement to this problem of underachievement over the decades despite the concerted efforts through legislation and school reform, aimed at reducing its deleterious effects. (Bainbridge & Lasley, 2002; Bower, 2011; Dotterer et al., 2012; Fram et al., 2007; Hall Mark, 2013).

The racial/ethnic academic achievement gap, has been occupying educational research for many years. Statistics from the NEAP, revealed that the gap appeared to have narrowed between African American and Hispanic students with their White counter-parts during the 1970s and mid- 1980s, however, this trend has since reversed during the 1990s (Lee, 2002). However, the socio-economic academic achievement gap has been gaining attention in the literature and it is the focus of the current study.

The disparity in the standardized test scores between the students from low socio-economic status groups with that of their middle class counter-parts is evident. The income achievement gap is nearly twice as large as the black/white achievement gap (Reardon, 2011).

The problem of the academic achievement gap affects a wide section of the global community and not only this nation. There is the perspective that the variance in the academic achievement of the diverse groups finds affiliation with the country's stratification, reflected in the socio-economic/ ethnic landscape. "Many nations within the Organization of Economic Cooperation and Development (OECD) have student achievement profiles that are essentially socio-economically and ethnically stratified" (OECD, 2001; as cited in Timperley & Parr, 2007). Therefore, the presence of the inequities at the educational level is a reflection of those at the societal level. It is

apparent that the educational inequities that abound within educational institutions such as inadequate educational resources, lack of qualified and experienced teachers, low funding, and the absence of a conducive learning environment for the pursuit of quality education by all students demand that this phenomenon be comprehensively investigated.

An understanding of the academic achievement gap requires a combined focus on these two central environments responsible for the child's developmental trajectory. It requires an integration of these two environments-home and school. The problem of low academic achievement is multidimensional; therefore, it requires a solution that is equally comprehensive in nature. "When we set the achievement gap and schooling itself in the broader context of how children grow up, it becomes clear that the issue transcends the classroom. Its reach lies well beyond the reach of the schools and so the understanding of the dilemma will require much more than school-based strategies and programs" (Evans, 2005, p.582).

Therefore, an inquiry into the combined influence of these home and school-based variables on academic achievement is imperative. Parental involvement at the level of the school and home as well as the influence of such collaborative efforts on student achievement must be the focus of investigation. The contexts of home and the school in which the student functions and engages in proximal processes with adults and peers exert a profound influence on their socio-emotional and cognitive development.

The classroom is the formal setting where learning transpires. Thus, the quality of that environment must be at a high level in order to facilitate students' learning. The problem of low academic achievement is grave and it needs to be addressed in a comprehensive manner (Bower, 2011; Evans, 2005; Rothstein, 2008; Timperley, & Parr,

2007). The data procured from this study that focuses on academic achievement at the middle school level will ensure that the educational outcomes for students at the lower levels of schooling are improved. This will contribute to the elevation of students' academic achievement at the higher levels of the education system.

Middle school signifies a point in a student's academic life with severe educational implications because it is the transition point from the security and intimacy of the elementary setting to a more impersonal and less supportive one. It places them closer to the more advanced stages of their academic trajectory, high school and beyond. Moreover, these early adolescents have to cope with severe challenges and changes surrounding this developmental period of puberty. (Eccles et al, 1993). Their inability to cope with these multiple simultaneous changes intensifies without the necessary support. (Simmons, Burgeson, Ford-Carlton, & Blythe, 1987).

There is a critical need for students to experience supportive learning environments in which they can develop optimally. The classroom-learning environment should be conducive to the academic growth of all students. The narrowing of the academic achievement gap at the middle school level can avert subsequent failure at the high school level. Therefore, the possibility of the Cumulative Advantage Theory, which states that the academic advantage that an individual has over another individual increases with time, will dissipate (Caro, 2009).

Middle school students are required to perform at higher levels and the absence of a proper foundation established during pre-school would inevitably result in academic failure (Slaby, Loucks, & Stelwagon, 2005; Sylva, 2014). The literature attests to the need for prevention of academic failure from as early as during the pre-school years, by

providing high quality pre-school education (Slaby et al., 2008; Sylva, 2014). This will ensure that students do not face any disadvantage because they lack the necessary skills and knowledge upon entry into the school system. It is mandatory that the opportunities for academic success exist for all students. This will contribute to their desire to remain in school and inevitably becoming productive citizens.

Students need exposure to positive classroom learning environments, which will enhance their opportunities for optimal academic performance. It will also foster beneficial learning experiences. However, the students from disadvantage backgrounds have restricted opportunities, thus impeding their academic success. Prior research has demonstrated that a correlation exists between students' perceptions of the learning environment and their academic achievement (Fraser & Fischer, 1982, La Rocque, 2008, Waxman & Huang, 1998).

Therefore, a strategy for narrowing the academic achievement gap and the reduction of the disparity in the performance between students from low socio-economic status and their more affluent counterparts is imperative. It requires the establishment and maintenance of effective classroom environments, characterized by supportive teacher/student relationships, opportunities for participation in and autonomy over the learning process that facilitates a constructivist and differentiated instruction. (McCoach et al., 2010; Padron, Waxman, & Hsuan, 2014; Saki et al., 2012).

Purpose of the Study

The purpose of the study was to investigate parental involvement, socio-economic status and students' perceptions of the classroom-learning environment as collective predictors of 8th grade students' academic achievement. Additionally, it would determine

the direct, indirect and total effects of these variables as they inter-act with each other to influence the outcome as well as expand understanding regarding the intensity of these relationships. Moreover, it would identify which predictors were more potent through its focus on both the home and school level variables. It would provide empirical support for the structural model of the inter-relationships between parental involvement, socio-economic status and students' perceptions of classroom learning environment as predictors of 8th grade students' academic achievement investigation and deepen understanding of the academic achievement phenomenon.

Research Question / Hypothesis

The research question asked whether Parental Involvement, Socio-economic Status and Students' Perceptions of the Classroom Learning Environment were collective predictors of 8th grade students' academic achievement. The study hypothesized that the simultaneous analysis of the measurement model and the structural model will indicate a match between the theoretical covariance matrix and the empirical covariance matrix. Furthermore, it hypothesized that the structural model would be a good fit with the observed/actual data. This will therefore justify the model's explication of the phenomenon, academic achievement, through the predicted relationships of its variables.

Using the conceptualized model depicted below in figure 1, this study hypothesized the inter-relationships between these variables with the outcome variable academic achievement. The direct relationship between parental educational status (PES) and free and reduced lunch (FRL) will exist; FRL was hypothesized to indirectly affect academic achievement (AA) through parental involvement (PI). Additionally, PES was hypothesized to indirectly affect AA through PI. FRL was hypothesized to have a direct

effect on AA. FRL was hypothesized to have a direct effect on PI. Another hypothesized direct relationship was between classroom learning environment (CLE) and academic achievement.

Significance of the Study

The study is significant because of the information it would disseminate to educators, parents, administrators and policymakers, who all play a central role in students' academic achievement. The findings from this study would serve to guide their understanding regarding the combined impact of these three predictors on academic achievement. It would also provide them with the opportunity to make the required modifications and implementation to both educational policy and practice.

This would facilitate enhanced academic achievement as well as promote stronger links between the home and the school in the educational interest of the student.

This investigation into the declining academic achievement of middle school students is too profoundly important to dismiss. The devastating effects of not addressing this problem will demonstrate itself in the form of high levels of unemployment and other societal ills associated with it.

The data procured from this study could be employed to address the problem of low levels of academic achievement, which would contribute to the enhancement of the quality of life for those students from diverse socio-economic/racial ethnic backgrounds. Additionally, the recommendations proposed, once utilized, could assist in the narrowing of the academic achievement gap as well as it could reduce the group-based inequalities that are existent within the fabric of the society.

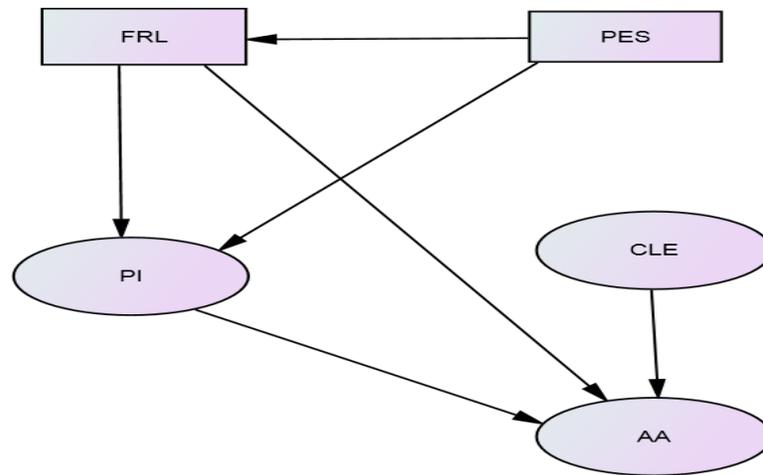


Figure 1. Conceptualized model of the predictive relationships of academic achievement.

Theoretical Framework

The theory employed in this study was the “Bioecological Model” developed by Urie Bronfenbrenner, which is an expansion of his earlier work “Ecological Systems Theory,”. The Bioecological Model postulates that the developmental trajectory of an individual is a “process of progressively more complex reciprocal interactions between an active and evolving biopsychological human organism and the persons, objects and symbols in its immediate environment. To be effective, the interaction must occur on a fairly regular basis over extended periods of time” (Bronfenbrenner, 1999, p. 5).

There are five systems identified in the Bioecological Model- Microsystem includes those individual contexts like the home, school, church, community in which the human

is developing. Mesosystem- It comprises of two microsystems like the home and the school or the school and the community that interact with each other.

The individual functions within both of these contexts. Exosystem- The processes that transpire between two or more contexts in which the individual is a part of one.

Macrosystem- The media, cultural beliefs and systems as well as the socio-economic environment's influence on the individual. The Chronosystem – The effect of change and consistency on the development of the individual during the course of their life.

(Bronfenbrenner, 1994, as cited in Eamon, 2001).

The model consists of these four essential components that are central to its focus. The first component- Process is pivotal to the theory and involves “particular forms of interaction between organisms and environment, called proximal processes that operate over time and are posited as the primary mechanisms producing human development” (Bronfenbrenner & Morris, 2006, p 795). This corroborates the potency of the proximal processes in influencing the individual's development. Moreover, it is not only assumed, but demonstrated that the ability of the processes to affect development differs considerably as a result of the characteristics of the developing individual in the distal and proximal settings over time (Bronfenbrenner & Morris, 2006).

The applicability of this theoretical framework to the current study is its emphasis on the integration between two microsystems, the home and the school, resulting in the meso system. The need to understand the mechanics through which this collaboration influences student academic achievement is imperative. The employment of this theory would facilitate that process. The examination of these two environments can provide insight into their intricate nature. The proximal processes within the contexts of the home

and the school have a potent influence on the developing individual. “Proximal processes are increasingly complex interactions between the individual and the environment that occur throughout the numerous ecological systems in which individuals are embedded” (Benner, Graham, & Mistry, 2008, p.840).

They have individual and collective roles in the lives of the individual (Epstein, 1987, 1995). According to Crosnoe (2004) in the exploration of the complex nature of the ecology of human development, it is not only a recognition of the individual influences of these institutions, but more so the collective impact they exert either negatively or positively on the individual’s development. He expressed the need for more inter-connection between these two domains of research because of its utility to achievement.

Therefore, more promotion of collaboration between the school and the home is necessary in order to enhance academic achievement especially during adolescence, which is a developmental period that poses numerous challenges (Eccles & Harold, 1993). Exploration of these two environments affords the opportunity to promote more collaboration between them. Their collective contribution to the child’s development is undeniable.

The child’s first teachers are her/his parents and the quality of the home environment as well as the proximal processes present there contribute to the child’s development (Evans, 2005; Rothstein, 2008). Parental involvement with their child/children enables these proximal processes to occur within that parent/child interaction. In addition, the socio-economic status of the parents as evidenced by their educational and income levels can influence the quality of the parental involvement (DeSimone, 1999; Eamon, 2002; Ream & Palardy, 2008). This can produce either

positive or negative ramifications on the child's development. Additionally, the quality of the classroom-learning environment and its proximal processes is another contributor to the child's academic development (Allen et al., 2013; Fraser & Fischer, 1982). The recognition and exploration of the intersection between the home and school environments is a crucial phase in expanding understanding of their developmental importance and the complexity of the wider ecology (Crosnoe, 2004).

Therefore, this theory provides the required theoretical framework from which to explore the combined influence of parental involvement, socio-economic status and classroom learning environment on the academic achievement of middle school students. It is essential that the ecological influence of the home and school be the focal point that shape our understanding of academic achievement. The future of these low achieving adolescents is at risk. Therefore, the home/school connection is a viable option to averting their academic failure.

Delimitations

A delimitation of the study is the use of only two of the systems of Bronfenbrenner's Bioecological Model: Microsystem and Mesosystem. The present study delimited the sample to only 8th grade students at the middle school level as the participants. The reason for the use of that one grade was an attempt to maintain focus. It permitted the researcher to be more specific in the investigation. The limited time and the pressing deadline was another factor involved in this decision.

Limitations

One of the major limitations was not obtaining the desired sample size because of the lack of access to the educational institutions in order to collect the data. This small sample size restricted the ability of some of the relationships and effects to emerge as hypothesized. The sample came from one middle school within a school district in the state of Florida and the state of Michigan. Although the small sample size negatively affected generalizability of results, the use of two states served to mitigate against that limitation.

In 2015, Florida replaced the Florida Comprehensive Assessment Test 2.0 (FCAT 2.0) with the Florida Standards Assessment (FSA), which was another limitation. The absence of established performance standards for the FSA resulted in its unavailability for use in the study. The use of classroom grades, which some would argue is a less objective measure of academic achievement, may have influenced the outcomes of the study.

Definition of Terms

Academic Achievement Gap- The members of lower status groups demonstrate lower levels of academic and intellectual achievement in terms of grades, test scores, diploma levels, and the likelihood of school completion than members of high status or dominant social groups (Van Laar & Sidanius, 2001).

Adolescence- A developmental period characterized by physiological, psychological, cognitive and socio-emotional changes (Eccles et al., 1993; Simmons et al, 1987).

Bioecological Model - This model encompasses a revolving body of theory and research concerned with the processes and conditions that govern the life long course of human development in the actual environments in which humans live. (Bronfenbrenner, 2005).

Cultural Capital- It consists of the familiarity with the dominant culture of a society, especially the ability to understand and use ‘educated’ language. (Sullivan, 2002).

Cumulative Advantage Theory - The advantage of one individual over another accumulates over time ... an individual who is behind at one point in time has difficulties in catching up with the rest. (Caro, 2009).

Ecology of human development- is a complex web of personal relationships, social settings, and institutions that influence development independently and interactively (Crosnoe, 2004).

Socio-Economic Status- The indicators of socio-economic status are education, occupation and income. (Sirin, 2005).

Social Capital- It is defined by its function. It comes through changes in the relations among persons that facilitate action. It consists of these dimensions- expectations and obligations, information channels, norms, and sanctions (Coleman, 1988).

Organization of the Study

This first chapter began by presenting the disparities in the academic achievement between groups of students from diverse socio-economic, cultural groups as a source of concern. The academic achievement of all students regardless of their socio-economic status should be the goal of each administrator, educator and policy maker. Narrowing of the academic achievement gap requires a comprehensive understanding of the inter-relationships between the multiple home and school-based factors responsible for

creating and sustaining its existence. Chapter 1 then presents a general description of the study, including the problem statement, the purpose of the study, the research question and hypothesis, the significance of the study, the theoretical framework, delimitations, limitations and definition of terms.

Chapter 2 reviews the previous research in the areas pertinent to the topic of the current study. It provides theoretical and empirical support and it summarizes the findings of prior studies. Chapter 3 presents the general description of the research methodology, the research design, population and sample, hypothesis and research question, definition of the variables, description of the instrumentation and data collection procedures and data analysis. Chapter 4 presents the analysis of the data, reports the descriptive and inferential statistics, presents the findings and its interpretation and summarizes the findings of the analysis. Chapter 5 provides a summary of the study, discusses the findings, the conclusions and recommendations for future research.

CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

This review of the literature focused on the background to the problem of low academic achievement and the accompanying academic achievement gap. It examined the prior research that investigated the predictors parental involvement, socio-economic status and students' perceptions of the classroom environment as influencing academic achievement. Research on the predictor parental involvement, its conceptualization as well as its effects on academic achievement, barriers to it and strategies for promoting it, comprised the first section of the review. Socio-economic status and those risk factors associated with it as well as its negative impact on academic achievement, and other aspects of the student's functioning occupied the next sections. Finally, the focus was the academic achievement gap followed by studies that investigated students' perceptions of the classroom-learning environment and the effects for academic achievement. Moreover, there was an emphasis on the consistencies/inconsistencies among the findings in the body of research.

The search involved the use of databases such as Eric, Psych- Info and Justor. Key words and their synonyms were used in order to find the pertinent studies. For example, socio-economic status inter-changed with poverty and economic disadvantage. Additionally, the word academic achievement was replaced by student outcome and

academic performance; classroom climate was used instead of classroom-learning environment, in order to access the articles.

The criteria for inclusion were those studies with samples of students of color from diverse socio-economic and ethnic backgrounds and their middle class/ white counterparts as well as middle school students. The literature review covered both quantitative and qualitative research, spanning about four decades, including the 1970s, 1980's, 1990's and 2000s. The scarcity of studies employing the mixed method to investigate this phenomenon of academic achievement resulted in those studies receiving less attention.

The purpose of the literature review was to procure an extensive number of prior studies, which investigated the effects of parental involvement, SES and students' perceptions of the classroom learning environment on academic achievement. It provided empirical support regarding the relationship between these predictors and the outcome academic achievement as well as a historical grounding for the establishment of the current study. Researchers have been investigating the problem of under achievement and its relationship with parental involvement, socio-economic status and students' perception of the learning environment for decades (Allen, Gregory, Mikami, Lun, Hamre, & Pianta, 2013; Caro, 2009; DeSimone, 1999; Epstein, 1987; Hoover-Dempsey & Sandler, 1995; Lareau, 1987; Fan & Chen, 2001 Fraser & Fischer, La Rocque, 2008; Waxman & Huang, 1998, Quinn, 2015; Willie, 2001).

This persistent demonstration of low academic achievement among the nation's youth, has led policy makers, educators and administrators to seek effective strategies to combat it. There is support for the educational utility of parental involvement from

previous research (Ream & Palardy, 2008). However, diverse conceptualizations of this construct are evident among educational researchers, resulting in inconsistencies in the findings. Therefore, the first section explores the concept of parental involvement in order to provide an understanding of it. Then the effects of parental involvement on 8th grade academic achievement are discussed in the context of the literature. While empirical support for the correlation between parental involvement and academic achievement exists, there are many barriers impeding it. The next section presents these barriers. The focus of the final section on parental involvement involved exploration of strategies for its effective promotion.

Background to the Problem of Low Academic Achievement

The decline in the academic achievement of students at all levels of the education system has been dominating educational research for decades. Stakeholders in education like the policy makers, administrators, teachers and parents have been relentlessly grappling with the problem of low academic achievement among certain groups of students and the accompanying academic achievement gap for decades. (Caro, 2009; DeSimone, 1999; Evans, 2005; Flowers & Flowers, 2008; Hughes, 2003; Lareau, 1987; Sirin, 2005; Slaby et al., 2005; Van Laar & Sidanius, 2001).

A persistent academic achievement gap exists between students of color from economically disadvantaged backgrounds with those of middle class/ white students throughout the U.S. The provision of equal quality education to every child despite socio-economic background has been viewed as a primary issue over the last century. (Van Laar & Sidanius, 2001).

The academic achievement gap produces an interminable sense of national consternation regarding the disparity between the performance of children from diverse socio-economic/racial ethnic groups with their more affluent and white counter-parts. (Dotterer et al., 2012). While there have been many educational reform strategies over the decades from War on Poverty in the 1960s, the No Child Left Behind (NCLB) in 2001 or Blue Print for Education Reform 2008, the academic achievement gap remains visible throughout the public education system.

This problem of poor academic achievement is one plaguing most countries both developing and developed. According to NAEP (2013) there has been minimal increases in the reading performance of 4th, 8th and 12th grade students over the past four years. The recently released NAEP (2015) performance data for reading assessment at 4th and 8th grades indicated that scores at the 4th grade levels were not different as compared to 2013; however, they were lower at the 8th grade level by two points.

Additionally, the students who were not eligible to receive free and reduced lunch were outperformed by their free and reduced lunch counter-parts by 28 points. The data indicated that there were more than one –third of the students at the 4th and 8th grade level, who performed at or above the proficient level. While, in the area of math the scores were lower for both grades. The decrease was one point for the 4th grade and two points for the 8th grade. The non- free and reduced lunch students outperformed their free and reduced lunch counter-parts by 24 points. The data indicated that forty percent of the 4th grade students were performing at or above the proficient level in math and thirty-three percent of the 8th graders performed at or above the proficiency level.

“The ability of the United States to continue as a powerful nation, in many ways, resonates within its capacity to provide quality education” (Hunter & Bartee, 2003, p.157). Therefore, if this low academic achievement continues to go unabated, there will be immense social and economic ramifications.

Little or no educational training would inevitably lead to lower levels of employment or unemployment. Crime and other societal ills flourish in the face of unemployment. If there are large numbers of students, who are failing academically, it is highly probable that they would join the ranks of the unemployed in the future. A highly innovative, literate and competent work force is required in order to meet the technological challenges/demands of the 21st century.

Many school factors (Bainbridge & Lasley, 2002; Hughes, 2003; La Rocque, 2008; Waxman & Huang 1998) non-school factors (Eamon, 2002; Evans, 2005; Hoover-Dempsey & Sandler, 2005; Lareau, 1987) and social/economic policies (Bower, 2011; Jaynes, 2014) have been identified as being responsible for the academic achievement gap with supporting arguments in favor of each. While there is evidence of the individual effects of these predictors, there is the need to investigate their cumulative effects on middle school students’ academic achievement. The literature is abundant with the studies that demonstrate the negative impact of low SES (Caro, 2009; Fram et al., 2007; Hughes, 2003; Orr, 2003; Van Laar & Sidanius, 2001) and low levels of parental involvement (Catsambis, 2001; Overstreet, Devine, Bevans, & Efreon, 2005; Ream & Palardy, 2008; Williams & Sanchez, 2012). Numerous studies demonstrating the predictive power of the classroom learning environment on academic achievement exist (Fraser & Fischer, 1982; La Rocque, 2008; Saki et al., 2012; Waxman & Huang, 1998).

However, the combined presence of these three variables as predictors of academic achievement and the associated achievement gap has rarely been studied; especially at the middle school level. A clear concept of these predictors is integral to an understanding of their educational value.

Conceptualization of Parental Involvement

There have been many conceptualizations of parental involvement by different researchers. One such definition includes ‘A set of actions, beliefs and attitudes that serve as an operational factor in defining categorical differences among children of different racial/ethnic and socio-economic backgrounds’ (DeSimone, 1999, p.11). Another concept of this construct is parents’ interactions with schools and with their children to promote academic success (Hill & Tyson, 2004; as cited in Hill & Tyson, 2009, p.741). This diverse set of definitions results in multiple ways of measuring the construct by researchers, which contributes to the inconsistencies among the findings. Some studies establish a correlation between parental involvement and academic achievement (Fan & Chen, 2001, Chen & Gregory, 2010; Lareau, 1987; Sook Lee & Bowen, 2006) while other researchers believe that parental involvement is more predictive of the behavioral outcomes rather than academic achievement (Domina, 2005).

Epstein, one of the prominent researchers in the field of parental involvement has identified a six-dimension typology of parental involvement, which includes parenting, learning activities at home, communicating with the school, volunteering at school, decision making and collaborating with the community (Epstein, 1995). These dimensions are categorized into home-based and school-based forms of parental

involvement. Educational researchers employ Epstein's typology in their research. (Catsambis, 2001; Tran, 2014).

While researchers like Hoover-Dempsey et al., (2005) also formulated a model of parental involvement, which examined the factors associated with parental motivation for becoming involved in their child/children's education. According to these theorists, parents' motivation is a reflection of the construction of their parental role in their child/children's education as well as their sense of self-efficacy in assisting their child/children to obtain educational success and their perception of invitations to become involved in their child/children's education. Furthermore, parents' life context such as their skills, knowledge, time and energy will determine their choice of parental involvement activities. (Hoover-Dempsey et al., 2005).

Therefore, it is necessary for teachers and other school personnel to understand the concept of parental involvement and the motivations of parents especially those from diverse racial/ ethnic and socio-economic backgrounds in order to facilitate their involvement. The harsh life context of these parents, which is related to their low socio-economic status is a powerful motivating factor in their parental involvement decisions. They have less time, energy, knowledge, skills, and social /cultural capital for parental involvement (Jaeger, 2011; Lareau, 1987; Ream & Palardy; 2008), thus they require more encouragement to become involved. Adolescence represents challenges for the socio-emotional and cognitive development trajectory that requires more support to facilitate positive outcomes. (Eccles et al., 1993; Simmons et al., 1987).

Parental Involvement in Middle School and Its Effect on Academic Achievement

The research conducted in the area of parental involvement has been mainly at the elementary level (Epstein, Coates, Salinas, Saunders, & Simon, 1997; Lareau, 2003). Therefore, a gap exists in the literature regarding parental involvement at the middle and high school levels with some studies focusing on this level of schooling (Hayes, 2011; Ho Sui Chu & Willms, 1996). Investigation into the impact of parental involvement at the middle school level is required. These students are at the point of transitioning into the higher levels of the educational system and require more attention. The enhancement of the learning outcomes for older students is a primary concern of American education (Fehrmann, Keith, & Reimers, 1987).

This developmental period of adolescence is a crucial one with specific changes of a biological, psychological, emotional and cognitive nature. The socio-emotional needs of these adolescents are enormous and demand a certain direct and focused attention to alleviate the stress associated with this developmental period. "This stress is often focused on issues of control and autonomy within the family, which are renegotiated during this developmental period. By necessity, children's relationships with their parents are asymmetrical in terms of power and authority" (Eccles et al., 1993, p.97). Thus, it is essential for parents, educators and other stakeholders in education to be cognizant of the developmental needs of these students and to provide them with the most developmentally appropriate environments at home and school, which will result in the most positive educational outcomes.

This period represents certain level of academic decline, which has been attributed to the middle school context and other developmental changes. "These declines

are associated with specific types of changes in the nature of the classroom environment experienced by many early adolescents as they make the junior high school transition. The studies also show that a transition into more facilitative classrooms can induce positive changes in early adolescents' motivation and self-perceptions.” (Eccles et al., 1993 p.96)

Therefore, investigation into the academic achievement of students at the middle school is mandatory in order to identify the most effective support system for implementation to increase their opportunities for academic success. (Eccles & Harold, 1993; Hill & Tyson, 2009). Both the home and the school are two contexts that are highly influential in determining the cognitive developmental trajectories of these adolescents. Therefore, they must be collectively involved as academic support systems for these adolescents.

Within the adolescents' home context, the form of parental involvement that produces the most favorable academic outcome is the parents' discussions regarding learning strategies and the selection of college courses. These academic socialization activities afford the child the opportunity to exercise a sense of autonomy and independence while still receiving the support and guidance. Empirical support exists for a strong positive correlation between academic achievement and these specific forms of parental involvement like communicating with the adolescent regarding school related activities and assisting them in planning their academic program as well as communicating educational aspirations for them rather than merely attending parent/teacher conferences and volunteering in the classroom (Chen & Gregory, 2010; Hayes, 2011; Hill & Tyson, 2009; Singh et al., 1995;).

Singh et al. (1995) confirmed the effectiveness of these forms of parental involvement from their Structural Equation Modeling study. Their analysis revealed that parental involvement activities such as discussion of educational aspirations was most predictive of academic achievement as opposed to parental participation in school activities. This finding is consistent with Hayes (2011) who investigated the predictors of home and school based parental involvement among urban African American parents from low and higher socio-economic status backgrounds. According to their findings, the most potent predictor for both home and school based parental involvement across the two classes of parents was parental educational aspirations for adolescents. While the more highly educated parents employ this home-based form of parental involvement, academic socialization, more frequently than the less educated counter-parts, parents from all socio-economic groups can experience its effectiveness as a tool for improved student academic achievement.

Further empirical support for the predictive power of parents' educational expectations comes from Chen and Gregory (2010). These researchers examined the impact of parental involvement on low performing ninth graders; using the data from the National Educational Longitudinal Study, they identified certain parental involvement actions considered more effective than others with adolescents.

They articulated a perspective aligned with that of Eccles et al (1993), in which they view the period of adolescence as one, which involves a growing desire for autonomy, and therefore, the intense supervision of homework appears to be a less effective form with these students. Their findings indicated that the more conventional form of parental involvement did not increase the grade point average of students in the

positive manner that the expectations for course grade and educational attainment did. The implication is that while parental expectations appear to be less proximal to student outcomes than direct participation, it may be considered more influential with adolescents. (Chen & Gregory, 2010).

These forms of parental involvement like educational expectations can be viewed as subtler forms of parental involvement. However, they appear to be a more potent predictor of achievement than the more visible forms of parental involvement like volunteering and attendance at school events. Some related questions surrounding these subtler forms that must be addressed are how to train parents to implement it and the difficulty attached to its use. Additionally, how to implement these strategies into parental involvement programs. (Jeynes, 2011).

While these forms of parental involvement like educational expectations have been highly predictive of academic achievement of particularly early adolescents empirical support also exists for the more overt forms of parental involvement like home work assistance. The findings from the path analysis conducted by Fehrmann et al. (1987) in which they investigated types of parental involvement as predictors of high school students' achievement levels, indicated that parents' monitoring of the time children spent on homework can contribute to increase grades at the middle school level. The path from parental involvement to homework was .158, which suggests that parental involvement has a meaningful direct effect on time spent doing homework (p.333).

Although homework assistance appears to influence students' academic achievement, it is especially effective when it provides a structured environment conducive to the completion of homework. There is a positive outcome attached to this

especially for low-income students (O' Sullivan, Chi Chen, & Fish, 2014). However, the literature appears to be consistent in its empirical support for a positive correlation between parents' expectations for course grade, educational attainment as well as educational aspirations on academic achievement. Parental involvement that express educational expectations as well as engages the adolescents in activities that relate to their futuristic academic goals appear to be more developmentally appropriate for adolescents than other home or school based involvement because it does not compromise their autonomy and independence and confirms confidence in their competence. (Hill & Tyson, 2009).

Various factors like parent, child and school influence the choice of the form of parental involvement. While parent and child factors are strong predictors of parental involvement, schools play a more significant role in promoting parental involvement. In a study conducted by Overstreet, et al. (2005) the predictors of parental involvement for elementary, middle and high school students were investigated. The data collection method used a survey, consisting of items related to the parent context, such as the parents' age, educational attainment, and occupational status, school context and community involvement. However, the most interesting finding that their investigation yielded was the identification of the school practices as the strongest predictor of parental involvement over that of parent and child characteristics. This strategy of teachers/schools extending invitations to parents is evident in the literature. An identification of those factors that can impede parents' involvement in their child's education can lead to a decrease in their use and contribute to an enhancement of more effective parental involvement.

Barriers Impeding Parental Involvement

Lack of Self-Efficacy

Parents who possess low levels of education do not believe that they are competent to academically support their off springs. This lack of self-efficacy, which is the belief in one's ability to perform a task, negatively affects their motivation, thereby limiting the forms of their parental involvement (Hoover-Dempsey et al., 2005; O'Sullivan et al., 2014). These parents have little mastery experiences with educational institutions, which contributes to their reluctance to engage in school based involvement. Teachers need to be aware of parents' feelings of inadequacy and should provide them with the necessary verbal persuasion in order to stimulate their sense of self-efficacy.

These parents believe that they are unable to contribute meaningfully to their child's educational process and they lack the skills and knowledge to directly assist them with their homework. According to O'Sullivan et al. (2014) parents with these educational backgrounds can still assist their child with learning at home by providing a structured environment in which the child performs the academic tasks. This does not require possessing knowledge and expertise in the content area and is able to exert a positive influence on academic achievement similar to that of the direct assistance.

Communication

Another barrier that poses a threat to parental involvement is the linguistic differences between parents and teachers. This may be attributed to parents speaking another language which may limit their proficiency to communicate in English. However, these communicative difficulties can also emerge from the disparities in the educational

level between the teacher and the parent. The teachers' use of complex terms and jargons may act as an impediment to parental involvement. (La Rocque, Kleiman, & Darling, 2011) The inability of parents and teachers to communicate effectively with each other can result in misunderstandings, which have negative repercussions for their interaction. (Johnson, 1994). School personnel and parents have different goals regarding education, which may not be congruent with each other at times and this act as a hindrance in their collaborative efforts. (Hornby & La faele, 2011). Therefore, the emphasis on two-way communication between the school and the home is able to assist in clarifying these roles and expectations, and empowering parents by giving them a voice. (La Rocque et al., 2011).

The Practices of the School/Teacher

The practices of the school and the teacher have a potent influence on parental involvement. Those schools and teachers who do not reach out to parents especially those from low socio-economic backgrounds through personal invitations and by creating a warm and welcoming environment that provides them with a sense of acceptance are responsible for hindering the home/school partnership (Lewis, Kim, & Bey, 2011). Teachers' invitations for involvement is an effective tool for enhancing parental involvement. The results from the study conducted by Overstreet et al. (2005) revealed that it was the practices of the school and the teacher that were the most predictive of parental involvement. This was corroborated by Eccles and Harold (1993) who concluded that the importance of the strategies implemented by the school/teacher to promote parental involvement surpassed that of race, the parents' education, family size, marital status and even grade level.

Parents' Life Context

The challenges of the parents from low socio-economic backgrounds restrict their ability to be involved in their child's education in the same way as their middle class counter-parts. The lack of access to resources of time and capital make it difficult for these parents to actively participate in the forms of home and school based parental involvement. Hoover-Dempsey et al. (2005) identified the following as factors associated with the parents' life context- time, energy, skills and knowledge. They consider them to be responsible for motivating parents' involvement as well as dictating the forms of involvement that they will demonstrate. La Rocque et al. (2011) established a correlation between the parents' economic, physical and psychological resources and their capacity to be involved.

Diverse Socio-Cultural Backgrounds

There is a multiplicity of socio-cultural backgrounds represented across the schools in the nation. However, some school practices are not culturally/ethnically diverse or sensitive to the needs of all parents. Due to this, certain groups within the parent population experience a sense of alienation because they perceive that the school environment as exclusive (Hornby & Lafaele, 2011; McCarthy, 2000; Roksa & Potter, 2011). Therefore, they are reluctant to participate in school activities and to interact with school personnel because of their lack of comfort within this context, which does not make accommodations for their differences.

With a highly diverse student population occupying the classrooms of most US schools today, it is mandatory that teachers receive training through workshops in skills and techniques for interacting with the parents of all their students. The potential for

effective parental involvement is affected adversely by teachers' lack of these important communicative and inter-personal tools and cultural competence.

Additionally, the socio-cultural background of parents from lower status groups debar them from engaging in 'concerted cultivation', which is the investment into their children's education as their middle and upper class counter-parts and some of the parents from these diverse socio-cultural backgrounds leave the education of their child/children to the schools. (Roksa & Potter, 2011). Thus, they are not as visible because they are uncomfortable within the school context because it reflects the socio-cultural values of the dominant class with which they are unfamiliar.

Lack of Cultural Capital as a Barrier to Parental Involvement

The lack of cultural/social capital of economically disadvantaged parents act as an impediment to their parental involvement. Cultural capital is a theoretical perspective postulated by Bourdieu. It involves the participation in cultural experiences, associated with the upper class. According to Sullivan (2002), the conceptualization of cultural capital consists of familiarity with the dominant culture of a society, especially the ability to understand and use 'educated' language. The possession of cultural capital varies with social class yet the education system assumes the possession of cultural capital. This makes it difficult for students from a lower class background to succeed in the education system. (p.145).

Cultural Capital equips the individual with the values, knowledge, habitus, skills and social networks to interact in such a context as the school, which promotes a middle class agenda. Parents from middle and upper class socio-economic backgrounds have a

greater possession of cultural/social capital, leaving parents from the lower socio-economic backgrounds at a disadvantage regarding their involvement in their child's education (Jaeger, 2011; Lareau, 1987). "A major tool identified to reduce inequalities in achievement may have limited ability to do so because of inequalities in the opportunity for and benefits of parental involvement across demographic groups" (Sook Lee & Bowen, 2001, p.194). Thus, the disparity that exists in terms of cultural/social capital contributes to the widening of the achievement gap. It is a valuable tool, utilized adeptly by the middle and upper classes. Possession of it in educational contexts brings rewards. (Jaeger, 2011; Ream & Palardy, 2008).

Lareau (1987) investigated the social differences in family/school relationships and its correlation with parental involvement. She discussed other implications for the relation between the home and the school based on the differences in the possession of cultural capital. Her qualitative study, focused on the interactional differences between parents of middle and lower social classes with school personnel. She employed Bourdieu's Cultural Capital theory in discussing school-based parental involvement in terms of parents' social class. The findings revealed that parents from the lower socio-economic status groups were involved approximately 30% less in the school-based forms of PI, like volunteering and attending parent/ teacher conferences than their middle class counterpart.

The social and cultural dimensions that comprise family life, which enables parents to comply with the school's request for participation has been identified as a form of cultural capital (Lareau,1987). The schools' requirements are for parents to be active, involved, assertive, informed and educated advocates for their off springs. "Class related

cultural factors shape parents' compliance with teachers' request for parental involvement in schooling" (Lareau, 1987, p.74).

Lack of Social Capital as a Barrier to Parental Involvement

Social Capital is a theoretical perspective postulated by James Coleman. Social capital derives its definition from its function. It is productive because it permits the achievement of certain outcomes due to its presence. He identified three components- Expectations and Obligations, Information Channels and Norms and Sanctions. (Coleman, 1988). Social capital is a valuable resource, which makes possession of it vital.

According to Crosnoe (2004), parents can transmit social capital to their offspring through their intimate contact with them during their discussions and activities. The level of intimacy between parents and their children seemed to serve as a vehicle for the transmission of social capital. These bonds act as a mechanism for transmitting specific 'instrumental resources'. This includes parental aspirations, which nurtured the adolescent's human capital.

Integral to the successful home/school partnership is educators' cognizance of the influence of social capital and its relationship to the school's support for parents' participation in school and the learning process. (Christenson, 2003). According to the previous research, the possession of social capital allows the middle and upper class parents to engage with the school personnel in their offspring's academic interest. Through the social connections and networks established and the information derived because of their activation of social capital these parents can advocate for their

child/children in meaningful ways as well as to influence school decisions that will contribute to the academic success of their child/children. (Ream & Palardy, 2008). The results from a study conducted by Ream & Palardy (2008) indicated that a correlation existed between the middle class parents' demonstration of social capital in the form of influencing the school's policies by attending the parent teacher association meetings and their child/children's test scores. Students from lower social class backgrounds will benefit less academically from parental social capital because their parents have accumulated less social capital and are not skilled in its activation as compared with their more economically advantaged counterparts.

Additionally, their findings suggested that the cumulative effect of parent/student talk on topics as: course selection, school activities, topics studied in class and planning a high school program continues to have an educational impact beyond elementary years. However, the students from the lower socio-economic backgrounds do not have access to the same levels of parental social capital in the form of parent help. This results in negative educational outcomes. Thus, a lack of parental social capital can impede the academic success of students as it deprives them of much needed academic support at home.

Therefore, it is apparent that the forms of parental involvement differ based on social class. This finding has empirical support from DeSimone's (1999) study. Using Ordinary Least Squares analysis with a middle school sample to investigate the relationship between parental involvement, race and income, her findings revealed that of the 12 parental forms only five were statistically significant for the lower social status

group. While there were statistically significant results for all 12 parental forms for the middle social status group.

Based on the findings, it is mandatory that schools employ innovative and creative parental involvement strategies in order to accommodate the cultural/racial diversity that exists among the parent population. However, the absence of low SES parents from the school-based involvement does not negate their involvement in their children's education in other ways than those mandated by the school. The school personnel should seek to understand the differences in the cultural background of these parents because many teachers are oblivious, which leads to the adoption of a 'deficit perspective' by these teachers.

This ideation of teachers regarding low SES parents as negligent, places culpability for the poor academic achievement of their off springs at their feet. In this regard, the parent liaison plays a pivotal role by providing teachers with information that will facilitate the most effective teacher/parent communication, thus eradicating those cultural barriers (Saunders, 2008). Therefore, teachers need support and guidance in their parental involvement efforts. Additionally, they should be equipped with the knowledge to become more culturally competent in their interactions with diverse families (Saunders, 2008). Schools should also draw upon the community as a resource for enhancing parental involvement as well as by engaging in techniques that would generate connections. (McCarthy, 2000). The administrators have a responsibility to legitimize the importance of parental involvement to their staff. (Christenson, 2003).

Strategies for Promoting Parental Involvement

Diverse Socio-Cultural Parental Involvement Strategies

The literature is abundant with strategies for promoting home/school connections; however, the one that reverberates throughout is the need for schools to become more culturally sensitive to the diverse parent population by designing parental involvement activities that reflect the cultural backgrounds of these parents (Christenson, 2003; McCarthy, 2000; Roksa & Potter, 2011). McCarthy (2000) advocated for more culturally relevant literacy practices that reflect those of the home as a conduit for involving parents in their children's education. Connecting the home and the school for students from diverse racial/ethnic backgrounds require the tasks to be relevant to their cultural experiences. Additionally, the partnership between parents and teachers must incorporate empowering parents from diverse backgrounds with the materials and the cultural capital in order for them to participate fully in their child/children's education. The teachers must provide parents with the information regarding the school policies and activities in order to facilitate their involvement.

Access to literacy materials and technology is essential for all children as a means to connect home and school. However, it is the quality of the interaction surrounding the literacy events that is influential in students' learning (McCarthy, 2000). A focus on students' socio-cultural backgrounds by the schools can facilitate the home/school connections. It involves the schools actively incorporating those aspects of the students' home experiences through the choice of materials and curriculum that are pertinent to and reflective of the students' cultural backgrounds. (McCarthy, 2000).

Roksa and Potter (2011) like McCarthy (2000) also articulated the need for parental involvement activities to reflect the sociocultural background of the parents, which will attract parents to become involved at the level of the school. Additionally, educators should be sensitive to parents' differential levels of cultural capital because of their social class, which will result in the demonstration of diverse types of parental involvement practices. According to Roksa and Potter (2011), parents from middle and upper class backgrounds will engage in educational expectations for their children and seek to collaborate with the school in their children's education. Whereas the parents from lower socioeconomic groups will be less inclined to practice this 'concerted cultivation' and they will leave the responsibility of their child/children's education essentially in the hands of the schools.

The Parental Involvement Practices of School/Teacher

Another strategy suggested by researchers is for teachers to specifically invite parents to be involved in their children's education and to reach out to parents (La Rocque et al., 2011; Lewis et al., 2011). There is empirical support for the school personnel and teachers' practices in the promotion of parental involvement as revealed in a study conducted by Lewis, et al., (2011). They investigated the effectiveness of some parental involvement strategies implemented by one educational institution, servicing a predominantly economically disadvantaged population. These strategies included reaching out to parents and creating positive child-parent relationship. They also built community/school connections.

Smith (2006) in the case study provided further corroboration for understanding parents' needs as a medium for promoting parental involvement. The parental involvement strategy implemented was for the educational institution to identify and address the families' needs in order to establish the connections with the home. The outcome was an increase in the level of parental involvement. These connections assist in fostering understanding between the home and the school and eradicating the negative perspectives held by teachers of low socio-economic parents.

It is through this positive inter-action that these misconceptions will dissipate and the home/school partnership can flourish.

Enhancing Parents' Feelings of Self-Efficacy

Hoover- Dempsey and Sandler's (1995) identified factors that motivated parental involvement. They identified the parents' sense of self-efficacy as fueling their desire to participate in their children's education. When parents believe that they can positively contribute to their children's educational outcomes they will be more inclined to participate in parental involvement activities. Therefore, their increased sense of self-efficacy can lead to their increased parental involvement. Teachers can stimulate parents' sense of self-efficacy by providing verbal persuasion of the importance of their involvement to their child's education.

Another study conducted by Murray et al. (2014) based on Hoover-Dempsey and Sandler's (1995) theoretical model, investigated barriers to and facilitators of parental involvement among a pre-dominantly African American middle school student population. Their study produced similar findings that parents' motivational beliefs like self-efficacy was one of the factors influencing parental involvement.

Two-Way Communication between Teachers and Parents

Some of the home/school interaction that influences the child's educational outcomes is the pertinent information teachers communicate to parents regarding their child's academic success. This would include the selection of courses that are required for college attendance and other information regarding the schools' programs, which if used can assist in the support of their child/children's educational decisions. Schools should permit parents to participate in decision-making, planning and governance, which would result in parents being more committed to the goals of the school and their desire to maintain strong and positive connections with it (Eccles & Harold, 1993). Parents should be allowed to express their perspectives regarding issues surrounding the child's education, which will provide them with a sense of empowerment (La Rocque et al., 2011).

The need for parents to be actively involved in the educational process of the child is corroborated by Christenson (2003) when she articulated the necessity of teachers informing parents about ways that they can be involved in their child/children's education; parents should be invited to share information about their child/children's learning as well as being included by teachers in the formulation of the various interventions for implementation.

The Importance of Effective Parental Involvement

The importance of parental involvement cannot be underscored enough. Therefore, the school must find ways to stimulate parents from the lower socioeconomic groups to become involved by formulating effective strategies aligned to their unique needs and circumstances. They should not believe that parents from the different

socioeconomic backgrounds would respond similarly to the same strategies. Research continuously supports the parent/home connections and there continues to be an intense focus on parental involvement in their child/children's educational success (Eccles & Harold, 1993; Epstein, 1987, 1995; Hill & Tyson, 2009; Hoover-Dempsey et al., 2005, Lareau, 1987; Murray et al., 2014; Ream & Palardy, 2008; Sook & Bowen, 2006).

The home's pivotal role in ensuring the child's academic success through its collaboration with the school finds support in Bronfenbrenner's Bioecological Model (1999). According to Crosnoe (2004) "The ecology of human development is a complex web of personal relationships, social settings and institutions that influence developmental trajectories independently and interactively" (p.267). Additionally, he expressed the grave importance of this home/school connection by referring to the mesosystem as 'a key part of developmental ecology' (p.269). The home/school connection must receive more emphasis within the schools.

This theoretical framework articulates "Parental educational involvement practices represent two central aspects of the Meso-system in Bronfenbrenner's (1999) Bioecological Model of contextual influences on the child's development. The involvement of parents at school emphasizes connections between adults in two of the child's primary microsystems, the home and the school, while parents' educational involvement at home transmits the message of a level of congruence that exists in the attitudes and behaviors that are central to these two microsystems (Sook Lee & Bowen, 2006).

Epstein (1995) also recognizes the importance of the collaboration between the different contexts in which the child must interact. The perspective of the 'overarching

spheres of influence' between the home and the school focuses on the importance of these institutions in exerting a strong influence on the child's development. Therefore, one of the mediums through which the highest levels of academic achievement can be promoted is that of the home/school connection. Although she identified these environments as pivotal to the individual's development, the quality of the proximal processes within these contexts for optimal developmental outcomes particularly in regards to academic achievement are not discussed. While she postulated the perspective of the collaboration between these contexts and recognizes that, they have unique and collective roles (Epstein, 1995) she does not identify the mechanisms responsible for influencing development.

The implementation of effective parental involvement strategies that can enhance academic achievement requires a perspective of parental involvement that transcends the traditional. According to Christenson (2003), it is not merely the promotion of parental involvement activities, but it is the establishing of a healthy partnership between the home and the school. The latter will produce positive academic outcomes for the student. The essential role that parents play in their children's schooling need to be more explicitly expressed and not simply implied by the school personnel. The view of parents should be that of partner with the partnership translating into more than merely an activity; it should constitute an attitude. The partnership between families and schools requires the perspective of it as the way of creating connections. (Christenson, 2003).

The focus should be on the approach, attitude, atmosphere that will be the conduit for the effective actions. The approach should be a holistic one that recognizes the reciprocal nature of the relationship among the various microsystems within which the

child is functioning. Additionally, it involves a constructive attitude that seeks to respect, collaborate and support the learning of students within an atmosphere of trust and effective communication (Christenson & Sheridan, 2001; as cited in Christenson, 2003).

The parents from economically challenged backgrounds are restricted not only in their possession of social and cultural capital that inhibit their demonstration of school-based parental involvement, but they are also deficient in economic resources to adequately support their child's academic achievement. It is important to recognize the role of socio-economic status in influencing academic achievement through the various risk factors associated with it.

Risk Factors of Low SES

Another variable identified as influencing academic achievement is the students' socio-economic status. There has also been a certain amount of variability regarding the definitions of socio-economic status. Sirin (2005) identified many definitions of socio-economic status utilized by current researchers that differ from those of the past. He described the different indicators like family income, the mother's education as well as the measure of familial structure instead of the sole emphasis on the father's education and occupation.

Several studies employ the student's free and reduced lunch participation as the indicator of their socio-economic status. (Hughes, 2003; Sirin, 2005; Willie, 2001). However, another aspect of socio-economic status is that of wealth, as an additional variable to the traditional forms of socio-economic status. (Orr, 2003). This study will be using free and reduced lunch as the proxy for students' socio-economic status as well as the parents' educational status.

Many disadvantages are associated with a low socio-economic background that affect the optimal development of children as well as limit their life chances, including their ability to access high quality schooling, educational resources and college attendance (Orr, 2003). Low SES can adversely affect the quality of the interactions and proximal processes that transpire within the home environment (Eamon, 2002). As is articulated in the Bioecological Model, the home context is a primary source of influence on the child's development. This institution is identified in the literature as exerting a significant impact on the child's psychological, physical, social, moral, spiritual and intellectual and linguistic development (Duncan, Yeung, Brooks-Gunn & Smith, 1998; Hoff, 2013).

“Within microsystems of the immediate environment of the home, peer group and school, proximal processes operate either to facilitate or hinder development” (Bronfenbrenner, 1995; as cited in Eamon, 2002). Therefore, the experiences within those various settings to which the child is exposed are of paramount importance to her/his developmental trajectory. If these risk factors like inadequate health care, nutrition, housing and pre-school education associated with low SES are present without the mitigation from other sources the results for the developing child can be deleterious.

Impact of Low SES on Children's Health

Students who are living in low socio-economic conditions are at risk for deprivation of nutritious meals such as breakfast. They would be more susceptible to poor health conditions. “Educationally related health disparities exert a powerful, but generally overlooked influence on the achievement gap... Health factors have direct and indirect effects in educational outcomes including standardized test scores” (Basch, 2012, p.593).

There is a multiplicity of deleterious cognitive and developmental consequences associated with insufficient food supply or food insecurity. They include an inadequate intake of iron, which increases susceptibility to the toxic effects of lead. Specific nutrient intake deficits have been linked to physical and mental health problems, emotional and behavioral problems, learning deficiencies, poor access to health care (e.g., no usual source of care, postponed medications and well-care visits, increased emergency department use), lower arithmetic grades and repeating a grade, and worse quality of life (Basch, 2011, p.636).

Students who live in impoverished conditions have a greater probability of having a low birth weight. Research states that this could negatively affect neurological functioning especially in the area of memory. The correlation between low birth weight and IQ is .70 with low birth weight children averaging IQ scores 11 points lower than normal and higher birth weight children (Berliner, 2009, p. 19).

Another negative repercussion of poverty relates to the lack of adequate food supply. The statistics reveal that households below the poverty line have a rate of food insufficiency that was 3.4 times higher than households above the poverty line (Berliner, 2009, p.19).

Impact of Low SES on Academic Achievement

The low scores obtained by these students on standardized tests further corroborate the negative influence of low socio-economic status on academic achievement. The findings from a study conducted by Hughes (2003), using linear regression and descriptive statistics to investigate socio-economic status and ethnicity on third graders' achievement in math, revealed that a student is 71% more likely to have

low math scores if she/he receives reduced lunch and 82% more likely if she/he is receiving free lunch. Therefore, the association between a student's socio-economic status and their academic performance appears to be quite clear.

Sirin's (2005) meta-analytic study produced similar findings regarding a correlation between academic achievement and socio-economic status. A medium correlation was revealed at the student level; however, a stronger correlation existed at the school level. The overall result indicated that the parents' socio-economic status is largely responsible for the students' academic achievement. It appears to be a potent predictor of their success.

The predictive power of socio-economic status on academic achievement emerged in Eamon's (2002) study. Using Structural Equation Modeling, she investigated the effects of poverty on students' Math and Reading achievement. The data indicated that poverty as mediated by a cognitively stimulating environment had a small, negative but significant total effect on mathematics achievement with $B = -.034$ and $B = -.053$ on reading (Eamon, 2002). The results indicated that a cognitively stimulating environment influences reading achievement, but not math.

Deans-Kean (2005) investigated the influence of parents' education and income on academic achievement across racial groups. Her findings revealed that parental education influenced their behaviors and practices. Parents with higher educational status would be more inclined to create a cognitively stimulating environment through engaging in reading with their child. However, she posited that the establishment of an environment that offers stability and stimulation can help to mitigate against the risk factors of poverty.

An additional risk factor of low SES is a high level of mobility, which can be disruptive to the child's academic success. The reports reveal that 6.5% of all children have been in their current homes for six months or less. However, that rate escalates to more than 10% among poor children. Moreover, those who move three or more times between ages 4-7 are 20% less likely than non-movers to graduate high school (Berliner, 2009).

Much consternation over the socio-economic factors involved in low academic achievement and the reasons for the perennial academic achievement gap continue to dominate the thinking of the educators, researchers and policy makers (Caro, 2009; Dotterer et al., 2012; Eamon, 2002; Hughes, 2003; Sirin, 2005). The literature has been quite clear in identifying the differential social, cultural and economic conditions of students as central to an understanding of the variance in students' performance (Caro, 2009; Evans, 2005; Sirin, 2005). The research has explored the intricacies of poverty and its cumulative risk factors and associated negative experiences that infect the most profound aspects of the child's psychological, emotional, cognitive, social, spiritual and physical well-being (Caro, 2009; Eamon, 2002; Hughes, 2003; Sirin, 2005). The pervasive negative effects of low socio-economic status continue to be most evident in the academic achievement primarily of children of color.

The adverse effects of low income on the reading achievement of African American students attending an urban high school were investigated by Flowers and Flowers (2008). These researchers employed three independent variables as predictors of students' reading achievement. They included family, personal and home characteristics, also the time spent by students outside of school and the last variable consisted of

parents' expectations and interactions. They found a significant effect of family's income and students' reading achievement as indicated by the Beta = .714 and $d=.283$.

Other negative ramifications for students' academic achievement is the low maternal educational attainment (Fantuzzo, LeBeouf, Rouse, & Hughes, 2003). Fantuzzo et al. (2002) study employed third graders to examine the effects of cumulative risk factors like, birth risk, teen birth, maternal education, homelessness, maltreatment and exposure to lead on students' reading, math and attendance. The findings indicated that attending a school with 10% higher concentration of students whose mothers did not have a high school degree was associated with worse reading ($SD= -0.07$) and math achievement ($SD= -0.05$). Students experienced a decrease in reading ($SD = -0.06$) in math ($SD = -0.05$) achievement scores on average with every 10% increase in school concentration of students with inadequate pre-natal. (Fantuzzo et al., 2003). School effects of low SES emerged in this study, which further corroborates the extent to which SES plays a significant role in achievement at an individual and school level.

Impact of Low SES on Pre-School Education

The extent to which an impoverished background places a child at academic risk is evident from the early years of development. The correlation between the early literacy skills developed and the level of academic success attained later on in the child's schooling finds support in the literature (Caro, 2009; Hoff, 2013; Slaby et al., 2005). Previous research findings indicate that the lack of quality pre-school education places the child from a low socio-economic status background at a grave disadvantage. They lack those essential foundational skills that are required for performance at the kindergarten and other levels of school (Hoff, 2013).

The exposure to a high quality pre-school is a medium for acquisition of the required foundational skills to ensure students' readiness for entry into the elementary school. The ability to access quality pre-school education contributes to the child's future academic success. There is empirical evidence for the importance of high quality kindergarten as being the best investment in regards to enhancing achievement. (Slaby et al., 2005; Slyva, 2014). There should be equal access to this educational opportunity for all students.

It is mandatory that from infancy, during those 'critical periods' for learning, that children be exposed to educational environments in which they can develop those much needed skills. This is especially required for those from disadvantaged environments. It is imperative that these students acquire educational experiences that nurture their literacy skills. This is especially important during those years in which an extensive amount of neurological maturation is transpiring. (Bainbridge & Lasley, 2002; Hoff, 2013).

When the opportunity to seize the 'critical/sensitive' periods for language acquisition has been lost due to the inability to access quality pre-school, the child inevitably lags behind the performance level of his middle and upper class counter-parts (Caro, 2009). Low socio-economic status and the inadequate income associated with results in negative ramifications for the child's academic trajectory (Duncan et al., 1998). There is the creation of the academic achievement gap and the process known as the "Cumulative Advantage Process" ensues. This theoretical perspective postulates that "the advantage of one individual over another accumulates over time ... an individual who is behind at one point in time has difficulties in catching up with the rest" (Caro, 2009). The

scores on standardized assessments attest to this widening of the achievement gap. Thus, a solution to ensure the attainment of academic success for all students is necessary.

The Salinas City School District attempted to address this problem of underachievement through the utilization of high quality pre-school education. Their interventions of providing children from low socio-economic backgrounds with high quality education produced positive results. They exposed 4-year-old students to a well-structured, high quality pre-school program, which catered to their cognitive, psycho-socio and cultural needs. It involved their parents in their educational process as the pre-school equipped their children with the foundational mathematics and literacy skills for entry into kindergarten.

The study lasted for the period of five years and they compared children from economically challenged backgrounds who attended pre-school and those from the same socio-economic status who did not attend pre-school, as well as non-poor children who did not attend pre-school. The findings indicated that there were remarkable differences between the three groups, based on their attendance and non-attendance at pre-school. However, the performance of the poor students, who attended pre-school had the highest level of academic performance among the three groups. In spite of their low socio-economic status they exceeded the No Child Left Behind benchmarks for the period and continued to outperform their counterparts who had not attended pre-school (Slaby et al., 2005).

A study conducted by Hall et al (2009 & 2013 as cited in Sylva, 2014) in which they employed the data of 3,000 children in the Effective Pre-school, Primary and Secondary Education Study (EPPES) in order to examine how quality pre-school

education can function as a buffer against the risk of educational failure. Their findings indicated that high quality pre-school education partially moderated the impact of risk at school entry. Moreover, the EPPSE study also revealed that not only attendance, but the longer the duration of attendance at pre-school produced positive academic outcomes such as higher marks in General Certificate of Secondary Education (GCSE) and Math and English up to the end of statutory schooling, which is age 16. In addition, the effects of quality pre-school attendance were greater for those students who were economically disadvantaged.

Thus, the importance of high quality pre-school education is evident and the need for its existence especially among children from economically disadvantaged backgrounds continues to be central to the argument of narrowing the academic achievement gap (Slaby et al., 2005; Sylva, 2014). It is mandatory that educators, policy makers and parents embrace its benefits for enhancing students' academic achievement especially those from improvised backgrounds (Evans, 2005).

The Academic Achievement Gap

Academic achievement appears to be eluding certain groups of students within the public education system. The statistics reported by National Assessment of Educational Progress and National Centre of Education Statistics on the low achievement of certain groups of students are staggering. The data indicate that most of the students with poor academic achievement occupy diverse socio-economic and ethnic/racial groups. This is cause for grave concern among parents, educators, researchers, administrators and policymakers.

According to Ladson Billings (2006) this disparity between the academic performance of students from diverse ethnic/racial and low socio-economic backgrounds and their white, middle/upper class counterparts, defined as the academic achievement gap requires a perspective from historical, economic, socio-political and moral contexts. She conceptualized it as an ‘educational debt’ and presented the current academic achievement gap as an extension of the inequities in educational opportunities that dominated US history as well as a reflection of the economic, socio-political and moral disparities, gripping the nation. Social disparities are a major contributor to the academic achievement gap and school reform is incapable of addressing this problem without adjusting the social structure and stratification (Rothstein, 2004; as cited in Condrón, 2009).

Home-Based Factors Associated with the Academic Achievement Gap

Although, the disparity in the academic achievement between the lower and middle/upper class students are reported at the elementary, middle and high school levels, the academic achievement gap emerges during infancy, beginning with the lack of exposure to linguistic and lexical styles and depth within the environment (Hoff, 2013). In addition, this deficit is further exacerbated by their lack of access to high quality pre-school education. These conditions place them in a position of disadvantage academically. Their home environments are not intellectually stimulating in order to contribute to academic success. Their parents are less educated, work in lower paying jobs, and lack the social/cultural and economic capital to provide the experiences and resources that can enhance their children’s academic performance (Duncan et al.1998;

Lareau, 1987; Orr, 2003; Ream & Palardy, 2008; Sirin, 2005; Van Laar & Sidanius, 2001).

This perspective of the need to examine other non-school factors like those associated with the student's socio-economic status continues to have support in the literature. The findings revealed that the conditions of the students' backgrounds are highly predictive of their academic achievement. (Caro, 2009; Catsambis, 2001; Eamon, 2002; Evans, 2005; Sirin, 2005; Van Laar & Sidanius, 2001). Socio-economic status and parental characteristics have been associated with the academic achievement gap. Some researchers place culpability at the feet of policy makers and the social policies that contribute to the economic woes of those from low SES groups (Bower, 2011; Rothstein, 2008).

The environment in which the child is functioning is a source of the gap. Evans (2005) in his analysis of the contextual influences, concluded that the profound impact that the home environment exerts on the child's academic success supersedes that of the school and accounts for a large portion of the variance in students' academic achievement. It is his belief that a 90% probability exists of predicting the disparity in students' math scores as it pertains to certain tests separate from not having any knowledge of the schools.

The socio-economic status of the student as a potent predictor of her/his academic performance is evident in the literature. Socio-economic status has been employed as the barometer to measure the extent of the economically disadvantaged child's low achievement with that of her/his more economically advantaged counterpart with the former performing at a lower level academically (Eamon, 2002; Evans, 2005; Flowers &

Flowers, 2008; Hughes, 2003;). Van Laar & Sidanius (2001) identified three factors that contribute to the perennial academic achievement gap. In their study, they used a Social Dominance theoretical framework to examine the academic achievement gap. They focused on the non-school factors such as the parents' lack of economic, cultural and social capital. However, they also explored those school factors like the direct and indirect discrimination demonstrated towards students from the lower socio-economic groups as contributory factors fueling the difference in performance among students.

School-Based Factors Associated with the Academic Achievement Gap

Despite the large body of empirical support for the correlation between the students' socio-economic status and her/his academic performance, there are other contributory factors associated with the academic achievement gap. These include school factors with a particular focus on the low quality of the schools attended by children from economically disadvantaged backgrounds. This contributes to the disparity in performance among the groups of students.

The study by Quinn (2015) into the role of SES and school quality on the black/white test scores, revealed that the reading and math gap already exist prior to entry into kindergarten as a function of SES and widens because of the quality of the school. Caro's (2009) study, indicated that the disparity continues to widen with time. The findings from this longitudinal study in which he investigated the socio-economic academic achievement gap in the area of math in order to track its cumulative effect further revealed that there is evidence that the SES gap remains the same from 7-11 years i.e. from grade 2-6. The gap increases from grade 7-10 i.e. from age 12-15. The average gap from age 12-15 is twice as large as the gap between ages 7-11. He believes that it is

imperative to understand the source of the gap and how the gap increases with the child's age in order to formulate effective solutions to narrow it. There is a need for more focused investigation into this area.

The quality of the classroom-learning environment as well as the instruction exerts an influence on students' academic achievement (Allen & Fraser, 2007; Fraser & Fischer, 1982; La Rocque, 2008; Quinn, 2015). The substandard quality of the learning environment of diverse students inevitably leads to their poor academic outcomes. Crosnoe (2004) provides corroboration regarding the schools' instruction and the operations as contributors to the increase in the variance in academic achievement. This has a correlation with the social status and the families. His study also highlighted the social and inter-personal factors that can exacerbate those disparities, which have connections with the emotional nature of the family. Thus, the educational system appears to function as a contributor to the process of the cumulative advantage/disadvantage.

According to Caro (2009) the school acts as a mediator for the relationship between SES and academic achievement because of the lack of neutrality that govern their practices as it relates to students from varying SES backgrounds. Another factor postulated in the literature as contributing to the academic achievement gap is the school residential racial segregation. According to Mickelson (2015) the students especially those of color who attended segregated schools, experience negative academic results. The findings indicated that the more time that students spent in the racially imbalanced black elementary schools, the lower their end of grade math (-2.748***) and reading scores (-1.712***). Also, net of other factors, the higher the percentage Black in the

middle school the student attended, the lower students' End of Grade (EOG) score in reading (-0.053*) and mathematics (-0.056*). Finally, within school segregation in the form of racially correlated tracking negatively related to achievement.

Condon (2009) also established the correlation between the racially segregated schools and the racial academic achievement gap. He stated that negative ramifications existed for the student who attended pre-dominantly African American schools in terms of their reading and math achievement in contrast to attending a pre-dominantly white or an integrated school. He equates the school-based factors like the tracking and the racial composition of the school with the racial achievement gap and the non-school factors with the class gap. It is important to comprehend the mechanisms that fuel the academic achievement gap in order to formulate the necessary social policies.

Additionally, more theoretical and empirical evidence produced from systematic investigations regarding the mechanisms that are responsible for the academic achievement gap is imperative in order to ensure the specificity of the foci of the interventions. A more profound understanding of the factors that are involved in the achievement gap beyond that of the descriptive is required to elucidate the role of the socio-economic status in explaining the disparities in academic achievement.

Therefore, the bridging of the non-school and school factors is one of the means for decreasing the academic achievement gap. Bower (2011) articulated that it is imperative that social policies be formulated in order to provide a necessary buffer against the risk factors of poverty. It will assist in the reduction of the academic achievement gap. The correlation between these social conditions and the environmental

factors exert a more negative influence on the students from the lower socio-economic status.

Additionally, the strong correlation between socio-economic factors and academic achievement suggest that emphasizing school reform primarily may not result in the effective narrowing of the academic achievement gap. The reason proposed is that there is a gap that is widening during the school break. Therefore, it is prudent to merge school reform and social reform strategies. They are not mutually exclusive, but complementary to each other. (Bower, 2011).

The need to formulate a two-prong solution in order to address the academic achievement gap is imperative. Thus, it requires an understanding of the inter-related nature of the home and the school as emphasized in the Bioecological Systems Theory (Bronfenbrenner, 1999). “The failure to include routine assessment and intervention practices that focus on family and schools as contexts for children’s development and learning is an example of not thinking systematically about students’ level of educational performance” (Christenson, 2003 p.459). The home/school connection is imperative.

Students’ Perceptions of the Classroom Learning Environment

Differences in the Middle School Classroom Learning Environment on Students’ Perceptions

The classroom-learning environment occupies a prominent position in educational research (Ferguson & Fraser, 1999; Fraser & Fisher, 1982; La Rocque, 2008; Randhawa & Michayluk, 1975; Waxman & Huang, 1998). These studies have established empirical support for the environment-outcome relationship and the predictive power of students’ perceptions of the classroom environment as accounting for a substantial amount of the

variance in learning outcomes, which extends beyond the students' background characteristics (Dorman, 2001). The classroom-learning environment changes at the grade levels. There are distinct differences between the elementary and middle school classroom learning environments with accompanying educational implications.

The difference in the socio-emotional climate of the middle school classroom-learning environment is an important factor that contributes to the observed decline in middle school students' academic achievement. "These declines are associated with specific types of changes in the nature of the classroom environment experienced by many early adolescents as they make the junior high school transition. The studies also show that a transition into more facilitative classrooms can induce positive changes in early adolescents' motivation and self-perceptions." (Eccles et al., 1993, p.96). According to Simmons et al. (1987) adolescence is accompanied by a multiplicity of transitions, which requires adequate support, be provided to the adolescents. This will enable them to cope effectively with the challenges. Some of the areas affected adversely by these transitions are Grade Point Average (GPA), self-esteem and extra-curricular participation. The increased number of transitions exacerbate these effects.

Different classroom learning environments exist for different students. The negative classroom-learning environment experienced by students in the inner city is appalling. Schools in which a high percentage of students from diverse ethnic/racial and socio-economic backgrounds attend are usually located in improvised areas and the classrooms lack adequate physical and human resources. They are unable to experience the much-needed 'arena of comfort' within such a classroom environment. These students' perceptions will be more negative because of the low quality of their

environment. The classroom includes both single and collective variables that encompasses the learning environment (Randhawa & Michayhuk, 1975) and they are influential in students' academic achievement. Also the learning environment that exists in these 'risk schools' is often not conducive to high levels of academic achievement. There is the prevalence of the negative situation of underachievement, student/teacher alienation and high school dropout in urban school district. (Waxman & Huang, 1998).

Teachers create effective or ineffective classroom-learning environments, as perceived by the students. This perception can have either a positive or a negative impact on their academic achievement. La Rocque (2008), believed that an examination of the classroom learning environment through the lens of the student has the potential to contribute to an understanding of the educational process). Additionally, the focus of the educational measurement is shifting from the individual to the measure of the environment such as the classroom because of the amenable nature of the classroom, which is beneficial to the learning process (Randhawa & Michayuk, 1975).

Impact of Students' Perceptions of the Classroom Learning Environment on Students' Academic Achievement

The deleterious impact of students' negative perceptions of their classroom learning environments in urban schools is severe. It necessitates the implementation of changes in the learning environment of these adolescents already at risk for academic failure in order to enhance their educational outcomes (Padron, Waxman, & Hsuan, 2014). These students are often made to feel alienated and ignored by teachers, who have little expectations for their academic success.

The precarious conditions that exist in such learning environments that are riddled with disorder and chaos as well as a lack of teacher support, autonomy and cognitive stimulation place the students at an academic disadvantage. “The economically disadvantage and socially dangerous environment that confront many students in urban schools place them at a great risk for academic underachievement” (Garcia, 1994 as cited in Waxman & Huang, 1998, p.108). Therefore, the pivotal role that the classroom-learning environment plays in academic achievement makes it mandatory that teachers ensure that they create a positive environment for all their students to experience. Such a classroom-learning environment can contribute to the elevation of students’ self-esteem and academic achievement and reducing their alienation and boredom (Waxman & Huang, 1998).

Findings from prior research corroborate this association between students’ perceptions of the classroom learning environment and academic achievement. La Rocque (2008), using the My Classroom Inventory (MCI), investigated 4th, 5th and 6th graders perceptions of the learning environment of their Math and Reading classes and the impact that it produced on their academic achievement in these areas. The dimension of difficulty in the classroom environment as perceived by the students produced statistically significant correlations with reading $r=-0.78$, $p<0.01$, which is interpreted as the more difficult the student perceives the classroom learning environment the lower the level of reading achievement. Also 61% of the variance in reading achievement was attributable to the difficulty of the learning environment. This result was similar for the math achievement which produced $r=-0.53$, $p<0.05$ with 28% of the variance in math

achievement being explained by the students' perception of the classroom learning environment as being difficult.

Another study conducted by Waxman & Huang (1998) in which they investigated the perceptions of urban elementary, middle and high school students' perception of their classroom learning environment revealed that middle school students had the least favorable perceptions of their classroom learning environments. The lowest mean scores occurred for Teacher Support (2.07), Order and Organization (2.22), Involvement (2.33) and Satisfaction (2.38) with $p < 0.01$ for all scales except Order and Organization with $p < 0.05$. Middle school classes scored 18% below elementary classes in terms of their classroom learning environment scores and 12% below high school classes. The classroom-learning environment was measured using the Classroom Environment Scale (CES) and the Instructional Learning Environment Questionnaire (ILEQ).

Ferguson & Fraser (1999) findings were consistent with the previous research that there was a less favorable perception of the classroom-learning environment by the students who had transitioned to high school from middle school in some areas and positive perceptions in others. One of the areas in which there was a negative perception of the classroom environment was helpful/friendly. The size of classroom appears to influence the students' perception of the classroom-learning environment. The less favorable perceptions were observed from middle school students, which could be attributable to the larger environmental context in which they have transitioned to as opposed to that of the former elementary school environment.

The students' perception of the classroom-learning environment has an effect on academic achievement regardless of the subject area. Using the Individualized Classroom

Environment Questionnaire, Fraser and Fisher (1982) investigated the perception of 1,083 junior high school students regarding their science learning environment. The data was analyzed using six different statistical analyses however; the results corroborated the statistically significant relationship between the students' perceptions of the classroom-learning environment and their academic achievement in science and on behavioral outcomes. The Multiple Correlation between comprehension of Science reading and the environment measure was .24, design of experimental procedures .21 and conclusions and generalization .31. The correlation between attitudinal outcomes was higher with social implications for science being .40; enjoyment of science lessons being .40, attitude to normality of scientists being .38, attitude to inquiry was .25.

Wilson, Abbott, Joireman, and Stroh (2002) investigation of the relations among school environment variables and student achievement, established a correlation between the learning environment and academic achievement. They concluded that the learning environment was important particularly dimensions like respectful attitude and expectations of teachers for students' behavior. Additionally, the utilization of constructivist instructional methodologies was observed to influence student academic achievement in the domains of reading, math and writing.

In a study by Waxman et al. (1997) in which the classroom environment and its influence on academic achievement was investigated, their findings revealed that the interaction between teachers and students is a significant factor in the effectiveness of the classroom. In the schools that were described as ineffective and inefficient, there was only 47% of interaction between the teachers and the students. However, in the schools that were considered effective and efficient the teachers interacted with the students 70%

of the time. Also students were observed to be working and listening in class over 52% of the time in the ineffective and inefficient schools in contrast to the students in the effective and efficient schools where they were observed working significantly more often in individualized and small group settings than students from ineffective and inefficient schools.

In addition, the findings from Waxman et al. (1997) revealed that the students from the effective and efficient schools reported a more positive learning environment. They perceived their teachers to be supportive, and felt that there was more order and organization in their classroom as well as they felt a greater sense of affiliation with their classmates. Students in the ineffective/inefficient schools spent less time engaging in discussions, which is considered an important factor in the development of self-directedness, and an important educational goal. The teachers spent more time interacting with students regarding personal issues and encouraging students to succeed, showing personal regard for students and showing interest in students' work. These interactions are deemed pivotal to the establishment of a positive learning environment in which students develop optimally as successful learners.

Allen et al. (2013) provided further support for the positive effect of teacher/student relationship on academic achievement. Their sample employed the middle school level in order to investigate the predictive power of student/teacher relationship as characterized by these three dimensions - emotional support, instructional support and classroom organization. Their results indicated significant predictions of achievement from observed positive climate, teacher sensitivity, and regard for adolescent perspectives in the emotional support domain, instructional learning formats

in the classroom organization domain, and analysis and problem solving in the instructional support domain.

According to these researchers the socio-emotional aspects of the classroom should be emphasized, especially for the early adolescents. The recognition of their autonomy as demonstrated in regard for their perspective appeared to be a significant predictor in the emotional support domain, providing corroboration for the perspectives postulated by Eccles et al (1993) concerning the need to accommodate the socio-emotional needs of these adolescents. They identified those features as pivotal to the effectiveness of the middle school classroom. The focus must be on creating a learning environment that will facilitate the developmental and psychosocial needs of the adolescent.

Moos & Moos (1978) produced findings consistent with those of the other researchers. They depicted the classroom-learning environment as possessing “certain demand characteristics which influence students’ growth and development” (p.262). The results from their study indicated that teacher support, affiliation and involvement (relational dimensions) are significantly positively correlated with mean grades. Additionally, those dimensions like rule clarity and teacher control were found to be significantly negatively correlated with mean grades.

Allen and Fraser (2007) identified the variables student cohesiveness, involvement, task orientation and equity as significantly correlated with the students’ final school grade. In addition, it was revealed that task orientation is a significant predictor of the final work. They did not emphasize teacher/student relationship dimension. However, students’ perceptions of the classroom learning environment have

implications for not only academic achievement but also for motivational, behavioral and emotional outcomes. Saki et al (2012) investigated perceived teacher affective support and its influence on students' emotional, motivational and behavioral outcomes. The findings revealed that more supportive classrooms and more positive student/teacher relationships resulted in more positive educational outcomes. These include enhanced self-efficacy, an increase in self-belonging, decreased sense of hopelessness, greater levels of academic enjoyment as well as increased academic effort.

Padron, Waxman, and Hsuan (2014) investigated the difference in the perceptions of classroom learning environment among resilient average and non-resilient students. Their findings revealed that students with more positive attitudes toward their classroom-learning environment are more likely to demonstrate higher levels of resilience. Therefore, the pervasive influence of the classroom learning environment for students' development makes investigating it mandatory for investigation in educational research.

Research on the effects of the classroom learning environment on students' academic achievement whether it is grades and absences (Allen & Fraser, 2007; La Rocque, 2008; Moos & Moos, 1978; Waxman & Huang, 1998) or the psychosocial well-being like their resilience, self-perceptions (Allen et al., 2013; Padron et al., 2014; Saki et al., 2012; Winheller, Hattie, & Brown, 2013) continues to be investigated because of its ability to address the variance in students' achievement. The classroom-learning environment is an integral factor in the learning process. It is an area that can provide researchers with an enhanced understanding regarding student success and guide teachers' understanding of the dimension of the learning environment that are more effective for positive student outcome.

Summary

The literature attests to the significant impact of the collaborative efforts between the various micro-systems such as the home, school and the community. The inter-related nature of the home, school and community is highlighted in Epstein (1997). “The external model of overlapping spheres of influence recognizes that the three major contexts in which students learn and grow, the family, the school and the community – may be drawn together or pushed apart” (p.3). The positive academic outcomes for students are numerous when the home and school collaborate. These benefits have been described in the following ways as higher student achievement, improved student behavior and attendance and more positive school climate. (Henderson & Mapp, 2002; as cited in Saunders, 2008, p. 287).

Prior research supports the significant predictive power of parental involvement in students’ education (DeSimone, 1999; Eccles & Harold, 1993; Epstein, 1987; Fan & Chen, 2001; Hill & Tyson, 2009; Hoover- Dempsey & Sandler, 1995) and its ability to facilitate the closing of the academic achievement gap (Hoff, 2013; Hughes, 2003; McCarthy, 2000). La Rocque et al., (2011) expressed a similar sentiment regarding the value of parental involvement in reducing the achievement gap. The narrowing of the achievement gap and enhancing students’ outcomes necessitates the collaboration among diverse interest groups with particular focus on the parents. The importance of parental involvement in students’ academic achievement continues to reverberate throughout the literature.

The perspective regarding the potential of parental involvement for reducing the achievement gap accentuates the schools’ responsibility to formulate and implement the

most effective parental involvement practices. There have been several strategies presented in the literature for increasing the level of parental involvement (Lewis et al., 2011; McCarthy, 2000; Saunders, 2008; Smith, 2006). While parents are to assume a high level of responsibility for their students' academic success, educational institutions have the obligation of ensuring that a school climate and culture is created in which parents from the diverse socio-cultural and racial/ethnic groups can experience a sense of acceptance (Saunders, 2008).

While there is relative consistency in the literature regarding the correlation between parental involvement and students' academic success some inconsistency exists. It is regarding its conceptualization as well as the forms that are most predictive. In addition, based on the variability of the definition; there are differences in its measurement. Parental involvement has been prominent in educational research over the decades. However, the scarcity of research regarding parental involvement at the middle and high school levels requires more attention. The need to investigate this crucial period in the child's development as they transition from elementary to middle school is mandatory. It will assist in determining how best to address their psycho-educational and socio- emotional requirements for academic success. (Eccles & Harold, 1993). Therefore, this study seeks to fill that gap in the literature by investigating parental involvement as a predictor of middle school students' academic achievement.

The literature suggests that there are parental involvement strategies considered more effective for students at the middle and high school level as opposed to those at the elementary levels (Chen & Gregory, 2010; Hill & Tyson, 2009; Singh et al., 1995). Therefore, it is mandatory that more research be conducted at the middle school level.

This investigation can help to identify those parental involvement strategies that are deemed to be highly correlated with optimal academic achievement. This is important particularly for those middle school students from diverse socio-economic and racial/ethnic backgrounds.

The promotion of parental involvement strategies is considered to be a tool in narrowing the academic achievement gap (Christenson, 2003; Epstein, 1997; Fan & Chen, 2001; Ream & Palardy, 2008; Sook Lee & Bowen, 2006) which continues to plague the education system of the 21st century (Evans, 2005; Ladson-Billings, 2006; Portes, 2009). Continuous and concerted effort throughout the decades to narrow the achievement gap by focusing on school-based factors have proven futile. According to Jaynes (2014), the academic achievement gap needs to be viewed more comprehensively as a phenomenon of a sociological nature, consisting of many social dimensions and not just an educational problem. Thus, this non-school factor of parental involvement, which emphasizes the home/school connection, must remain at the center of school reform efforts. The schools should create school environments that encourage the participation of all parents in their child's education regardless of socio-economic backgrounds. Schools should provide opportunities for parents to develop social/cultural capital to be able to more effectively contribute to their child's academic achievement (Ream & Palardy, 2008).

Socio-economic status has been demonstrated in the literature to also be a significant predictor of the academic achievement gap, which has serious implications for students' cognitive and psychological development (Caro, 2009; Dotterer et al., 2012; Pungello, Kupersmidt, Burchinal, Patterson, 1996; Sirin, 2005; Van Laar & Sidanius,

2001). The students' family background and the possession of economic, social and cultural capital has been identified as contributing to the students' academic achievement. (DeSimone 1999; Lareau, 1987; Ream & Palardy, 2008). The robust correlation of SES with academic achievement is reflected in the lower tests scores of children from low SES backgrounds. The predictive power of SES on students' academic achievement has been demonstrated to outweigh that of race/ethnicity (Fram et al., 2007). However, the deleterious effects of low SES on the academic achievement is similar across racial/ethnic groups. (Blair, Blair, & Madamba, 1999).

This non-school factor, the home, the resources and proximal processes like the learning at home and academic socialization activities that are exhibited within that context have been attributed to students' academic achievement. The classroom-learning environment is another important context in which the student is exposed. The school factor is also comprised of proximal processes in the form of teacher/student relationship, which influence the child's development. The literature corroborates students' perceptions of the learning environment as highly correlated with their academic achievement (Dorman, 2001; Fraser & Fischer, 1982; La Rocque, 2008).

Thus, the purpose of this literature review was to examine the previous studies regarding parental involvement, socio-economic status and students' perceptions of the learning environment, to establish the nexus between these predictors, and to examine their cumulative impact on academic achievement and their implications for reducing the academic achievement gap. Prior research has provided empirical support for these predictors and their individual effects on achievement (Chen & Gregory, 2010; Fraser & Fischer, 1982; Hughes, 2003; Sirin, 2005; Waxman & Huang, 1998; Williams &

Sanchez, 2012) However, the direct, indirect effects as well as their total effects as predictors of academic achievement are investigated simultaneously in this study.

CHAPTER 3

RESEARCH METHODOLOGY

Introduction

The present study investigated parental involvement, socio-economic status, and students' perceptions of the classroom-learning environment as predictors of 8th grade students' academic achievement. This methodology chapter presents a description of the type of research and the hypothesis explored in the study. Additionally, it describes the population and the sample as well as it provides a definition of the variables. It describes the instrumentation as well as the data collection procedures.

In addition, it explains the data analysis techniques employed.

There has been extensive investigation of parental involvement, socio-economic status and students' perceptions of classroom learning environment in education research. However, this study adds to the literature by investigating these variables simultaneously and not individually as in previous studies. The extensive investigation of the predictive relationship between the predictor parental involvement and academic achievement primarily focuses on the elementary levels, while a dearth of studies at the higher levels of schooling exists in the literature. Investigation into parental involvement at the middle school level is mandatory because it represents a pivotal developmental stage in the adolescent's life.

Therefore, this study seeks to expand on parental involvement research by investigating the phenomenon, academic achievement at the middle school level. Another focus of concern of this study was to elucidate the perennial academic achievement gap, using those three predictors collectively.

Research Design

This research employed a quantitative, cross-sectional, survey, Structural Equation Model design. The study is quantitative because of its objective nature and the use of statistical/ numerical data produced from the analysis. The study was cross-sectional because it utilized a wide section of the middle school population of the Broward County Public School and Eau Claire Public School System in order to investigate the research topic. Questionnaires were the instruments for measuring the predictor variables, parental involvement and students' perceptions of the classroom-learning environment.

The use of Structural Equation Modeling involved the simultaneous analysis of both the measurement and structural. The data analysis was to determine if a match exists between the covariance matrix of the theoretical model with the covariance matrix of the empirical model. This analysis produced fit statistics in order to determine the extent to which the hypothesized structural model represented a fit with the actual/observed data. This design provides greater opportunity for the researcher to make causal inferences and not only predictions regarding the outcome variable academic achievement and the related predictor. Also it was to analyze the inter-relationships between the latent variables with the other latent variables.

Population and Sample

The population is 8th grade students from Broward County Public Schools (BCPS) in Florida and Eau Claire Middle in Michigan. Broward County Public Schools is the second largest public school system in the state of Florida and the 6th largest in the US. According to 2015-2016 district statistics there are approximately 137 elementary schools, 40 middle schools and 33 high schools in BCPS, serving approximately 97,359 elementary students and 47,113 middle school students and 70,468 high school students.

Seven districts comprise the BCPS, with a diverse racial/ethnic and socio-economic student population. 40.6% of the district population comprises of African American/black students, 50.9% are white, 3.7% are Asian, 1.0% are Native American/Native Alaskan, 0.2% are Native Hawaiian or Pacific Islander, 3.5% are multiracial, 31.5% are Ethnically Hispanic and 68.5% are Ethnically Non-Hispanic. BCPS serves over 31.5 million breakfast to students at the elementary, middle and high school levels. The sample came from one middle school among the seven districts. District 6 is a representation of higher levels to middle levels of socio-economic status.

Eau Claire Middle is the sole middle school in Eau Claire Public Schools. The demographic composition of the school's students is as follows: 28% (45) African American, 1.6% (1) Asian American, 47% (75) Hispanic/Latino, 22% (35) students were white while 1.8% (3) were identified as two or more races. Over 90% of the students participate in the free and reduced lunch program, which is similar to that of Eau Claire Public Schools, which was 84.6% as reported in the 2015-2016 district statistics.

The demographics for Eau Claire Public Schools were somewhat similar to that of the middle school with the racial/ethnic groups broken down into the following- African Americans comprised 22.36% (186) of the student population, Hispanic/Latino,

represented 36.54% (304), while the Caucasian students total 36.06% (300) slightly less than the Hispanic/Latino students. There were only 4.57% (38) of students with two or more racial identities.

The sampling procedure was simple random sampling; the middle school came from among those middle schools located in districts five and six, which were authorized for use by the Broward County School Board. The researcher, using either telephone or e-mail, contacted the middle schools. Nova Middle School administrators and teachers agreed to participate in the study. Accessibility to other schools in Broward County was difficult, which necessitated seeking access to additional middle schools in Berrien County, Michigan. As was true in Broward County, the educators at one middle school, Eau Claire Middle, agreed to participate in the study.

Convenience sampling was the sampling procedure for the selection of the grade 8 classrooms from the two middle schools. The reading coach in Nova Middle approached the grade 8 classroom teachers and the principal in Eau Claire Middle asked for their consent to have their classroom included in the sample. The desired sample size was 150 students and their parents.

The study sample size consisted of 77 participants, which can affect the ability to produce the effects and establish the expected correlations. A factor in sample size determination is that of establishing an adequate level of significance, which for this research was .05. The researcher is using this p value to decrease the likelihood of accepting a false null hypothesis and committing a type 11 error, which can have serious ramifications for academic achievement.

Research Hypothesis

It was hypothesized that the theoretical covariance matrix and the empirical covariance matrix would match. Furthermore, the structural model would achieve a good fit with the observed/actual data, therefore justifying its explication of the phenomenon academic achievement through the predicted relationships of its latent variables. Using the conceptualized model depicted in Figure 2, this study hypothesized these relationships and inter-relationships between these variables with the outcome variable academic achievement.

Based on the figure, a direct relationship between parental educational status and free and reduced lunch exists. Free and reduced lunch was hypothesized to indirectly affect academic achievement through parental involvement. In addition, parental educational status was hypothesized to indirectly affect academic achievement through parental involvement. Free and reduced lunch also was hypothesized to have a direct effect on academic achievement. Parental educational status was hypothesized to have a direct relationship on parental involvement. Parental involvement was hypothesized to have a direct relationship with academic achievement. Another hypothesized direct relationship was between classroom learning environment and academic achievement.

Definitions of the Variables

The following variables in the study were- parenting, learning at home, communication, volunteering, decision making, collaborating with the community, academic socialization activities, parental educational status, free and reduced lunch, participation, academic achievement, personalization, participation, independence,

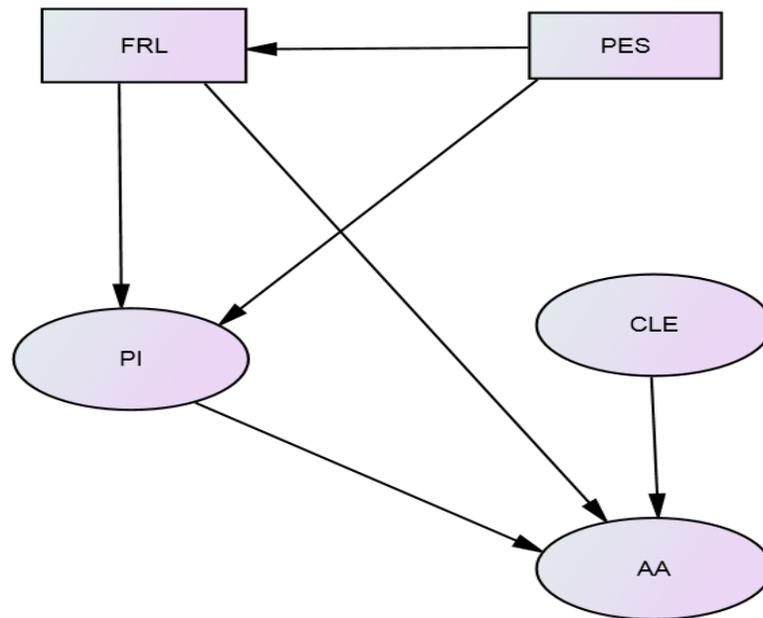


Figure 2. Conceptualized model of the predictive relationships of academic achievement

investigation and differentiation. The outcome variable was academic achievement, which included classroom grades. Gender and race/ethnicity were demographic variables used to describe the participants, but were not used in the Structural Equation Analysis. The variables are defined using these constitutive, instrumental and operational definitions: (See Appendix A)

Parental involvement –It is multi-faceted, consisting of the parental beliefs, attitudes, behaviors and practices that influence the child’s academic achievement. An ordinal scale is utilized to measure this independent variable. The predictor parental involvement will be measured using the researcher developed Parental Involvement Questionnaire with a Likert response format, ranging from 1-4, with 1- strongly disagree, 2 – disagree,3- agree, 4- strongly agree. It consisted of 31 items on the following seven sub-scales parenting,

learning at home, communication, volunteering, decision making, collaborating with the community and academic socialization activities.

Learning at Home – Collaborates with my offspring on school related activities such as homework and provides other educationally stimulating tasks for my offspring. Items 8-11 measure the sub-scale learning at home with 4 being the lowest and 16 the highest. Example-I read books with my child.

Communication - Engages in verbal exchanges with the teacher regarding child's academic progress and other related educational issues of interest. Gathers information regarding offspring's academic activities. Items 12-15 measure the sub-scale communication with 4 being the lowest score and 16 the highest. Example- I go to Parent/Teacher conferences.

Volunteering - Provides assistance to teachers during the school hours by performing tasks within the classroom as well as contributing to and attending school organized events. Items 16-19 measure the sub-scale volunteering with 4 being the lowest score and 16 the highest. Example-I help in my child's classroom.

Decision-making - Contributes to the decision making process at school. Items 20 -24 measure the sub-scale decision making with 4 being the lowest score and 25 the highest. Example-I am present at board meetings.

Collaborating with the community - Networking with members of the school and wider community to enhance the quality of the school. Items 25-26 measure the sub-scale collaborating with the community with 4 being the lowest score and 12 the highest. Example –I meet with other parents and community members to improve the school's performance.

Academic Socialization Activities - The academic activities that the parent engages in with the child that socializes her/him academically. Items 27-31 measure the sub-scale academic socialization activities with the lowest score being 5 and the highest score 25.

Example -I encourage my child to perform well academically.

Educational Status-This independent variable was constitutively defined as the position in the educational structure to which a parent has attained. The scale of measurement is ordinal. This involved the ranking of the parental educational status based on the level of schooling attained by the parent. Higher levels of educational status were measured by the higher numeric values 1-Elementary School, 2-High School, 3- 2. yr. College, 4- 4 yr. Graduate, 5- Graduate 6- Post- Graduate. The lowest score is 1 and the highest score is 6. The data regarding the parental educational status will be obtained from the demographic section C of the Parental Involvement Questionnaire.

Free and Reduced Lunch Participation- This independent variable was constitutively defined as the eligibility for free or reduced lunch based on the Federal Poverty Guidelines. The eligibility for free lunch is the parent's income being at or below 130% of the Federal Poverty Guidelines. The eligibility for reduced lunch is being between 130 and at or below 185% of the Federal Poverty Guidelines. The eligibility for free lunch is being above 185% of the Federal Poverty Guidelines. The scale of measurement for this variable is nominal because the student's participation in free and reduced lunch was measured using 1 and the student's non- participation in free and reduced lunch was measured using 2. The data regarding the student's free and reduced lunch status was obtained from the authorized school personnel.

Race/Ethnicity- The conceptual definition was the racial composition or the racial identity of the individual. This demographic variable was measured for both parents and students, using 1- African American, 2-Asian American, 3-European American, 4-Native American, 5-Pacific Islander, 6. Hispanic /Latino and 7. Other. The data regarding the parents' race/ethnicity was obtained from demographic section A on the parental involvement questionnaire. The data regarding the student's race/ethnicity was obtained from section A of the Individualized Classroom Environment Survey.

Gender- This was a demographic variable to be used for students and parents. It is constitutively defined as the biological composition of the individual whether female or male. The scale of measurement for this variable was nominal. According to the description of nominal scale, each category is mutually exclusive and there was no ordering of the variables. Female gender was measured using 1 and male gender was measured using 2. The students' gender was obtained from section B of the Individualized Classroom Environment Survey. The demographic section B of the Parental Involvement Questionnaire was used to obtain the parent's race/ethnicity.

Academic Achievement - Teacher classroom assessments was the instrument employed for measuring the student's 2015-2016 1st and 2nd quarter academic achievement in Language Arts and Math. The tests assessed the student's content knowledge in those two subject areas. The topics that assessed in language arts were vocabulary, grammar and sentence structure, reading comprehension and constructed response. Poetry was also assessed, reading, writing and recitation. Some examples of the items include: The word --- means too much (vocabulary). What is the subject of the sentence? (Grammar) What is the real reason that Arturo buys a cactus? (Reading Comprehension) Write a response

to a passage. The topics assessed for math included Geometry. Also the topic of Functions was also assessed. Some items include: Name three points that are collinear. Find the distance between the points (1, 4) and (-2, -1). Which angle measures approximately 72 degrees?

The scores comprised of percentages with the lowest score being 0% to the highest score being 100%. The data regarding the students' 2015-2016 1st and 2nd quarter Language Arts and Math achievement was accessed from the authorized school personnel.

Classroom Learning Environment – It was used to describe institutionalized and naturally occurring group settings that stimulate learning in students (Ludtke et al, 2009). The Individualized Classroom Environment Questionnaire (ICEQ) was administered to the grade 8 students to measure the students' perception of their classroom-learning environment.

Personalization- There is emphasis on opportunities for individual students to interact with the teacher and concern for the personal welfare and social growth of the individual student. The items that comprised this sub-scale were 1-5 with the lowest score being 5 and the highest 25.

Example- Teacher talks with each student.

Participation- Students are encouraged to participate rather than to be passive listeners. The items that comprise this sub-scale were 6-10 with the lowest score being 5 and the highest 25.

Example-There is class discussion.

Independence- Students are allowed to make decisions and have control over their own learning and behavior. The items comprising this sub-scale were 11-15. The lowest score is 5, highest 25.

Example-Students choose their partners for group work.

Investigation- There is an emphasis on the skills and processes of inquiry and their use in problem solving and investigation. The items comprising this sub-scale were 16-20 with the lowest score being 5 and the highest 25.

Example- Students carry out investigation to test ideas.

Differentiation- There is an emphasis on the selective treatment of students on the basis of ability, interest and rate of learning. The items on this sub-scale were 21-25 with the lowest being 5 and the highest 25. Example –Different students use different books, equipment and materials.

Instrumentation

The instrument that was employed to measure the independent variable, parental involvement, was the Parental Involvement Questionnaire (PIQ), which was researcher developed. The 31 items were constructed, using the six dimensions from Epstein's (1987, 1997) typology of parental involvement and Hill and Tyson's (2009) academic socialization theoretical conceptualization. A Likert response format, ranging from 1- strongly disagree, 2- disagree, 3- agree, 4- strongly agree were employed by the participants. The seven subscales on the PIQ involved- parenting, learning at home, communication, volunteering, decision making, collaborating with the community and academic socialization activities.

The researcher conducted a content validity study, using seven content experts in order to establish the content validity of the items. Content validity concerns item-sampling adequacy-the extent to which a specific set of items reflects a content domain. Content validity is linked to the definition of the construct being examined. (DeVellis, 2012). Most of the items on the scale were rated as high in relevance, clarity and conciseness as well as low in reading difficulty and ambiguity by approximately 75% of the raters.

A reliability analysis was performed after the data collection process had been completed to establish reliability. The internal consistency was established, by computing the Cronbach Alpha coefficient. A value of .70 is considered a lower bound level of acceptability (Nunnally, 1978). The reliability statistics were relatively acceptable, indicating internal consistency among the items. The parenting scale was = .602, Learning at Home=.775, Communication =.839, Volunteering=.673, Decision Making=.820, Collaborating with the Community=.939 and Academic Socialization=.762. Parenting and volunteering were somewhat low.

Teacher classroom assessments was the instrument employed for measuring the student's 1st and 2nd quarter 2015-2016 academic achievement in Language Arts and Math. The tests assessed the student's content knowledge in those two subject areas. The scores comprised percentages with the lowest score being 0% to the highest score being 100%. The data regarding the students' 1st and 2nd quarter 2015-2016 Language Arts and Math achievement was accessed from the authorized school personnel.

The purpose of the ICEQ was to measure perceptions of the classroom environment along dimensions, which differentiate conventional classrooms from ones,

referred to as open or individualized (Fraser 1980b; Rentoul & Fraser, 1979). Both the actual and the preferred environments are measured. However, in the context of this study only the perceptions of the actual environment were employed.

The students' perceptions of the classroom-learning environment in the Language Arts and Math grade 8 classes were assessed, using the ICEQ. The scale was originally comprised of 50 items; however, it was shortened to 25 items in order to reduce the time for administration and scoring. The existing instrument consisted of five sub-scales, personalization, participation, independence, investigation and differentiation.

A 5-point Likert response format was employed ranging from 1-Almost Never, 2-Seldom, 3-Sometimes, 4-Often and 5-Very Often. The items that were not underlined were scored 1, 2,3,4,5 respectively. Underlined items were scored in the reversed manner. Omitted or invalid responses are scored 3. The internal consistency of the instrument is considered high to moderate for the following scales: Personalization-.83; Participation-.73; Independence-.70; Investigation-.69 and Difficulty-.85.

Data Collection Procedures

Data collection commenced after Institutional Review Board (IRB) approval as well as the approval from the Broward County School Board and the permission from the individual school administration were procured. The data from the parents was collected, using the PIQ. The parent questionnaires were distributed to the students to take home for their parents to complete. The parents were provided with informed consent forms for themselves for the completion of the PIQ and on behalf of their child, who completed the ICEQ. The students returned the completed survey to the teacher, who submitted it to the

researcher. Only one parent was required to complete the questionnaire for one child. The students were required to complete an assent form, agreeing to participate in the study.

The data was collected from the students' regarding their perceptions of the Language Arts and Math classroom-learning environment, using the ICEQ. This questionnaire was administered during either their language arts, math or enrichment period by the researcher, who was assisted by the teachers. The duration of the questionnaire was approximately 30 minutes. The demographic data regarding the parents' race/ethnicity, gender and educational status were obtained from the PIQ, sections A, B and C respectively.

The data regarding the students' race/ethnicity, gender were obtained from sections A and B respectively from the ICEQ and the data regarding free and reduced lunch participation was obtained from authorized school personnel. The students' language arts and math grades for 1st quarter 2015-2016 were obtained from authorized school personnel. In order to encourage student participation in the research project, the researcher provided candy as an incentive.

Data Analysis

The data analysis technique employed in the study is Structural Equation Modeling. The structural model is specified and the estimates are calculated, using the Full Maximum Likelihood Estimation. The fit between the structural model and the observed data is determined by Chi Square and the other fit indexes like the Goodness of Fit (GFI), Normed Fit Index (NFI), Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA). The values of these indexes are GFI and NFI are $\geq .95$ although values $\geq .90$ are considered acceptable. The value of the RMSEA is $\leq .05$

although values between $\leq .80$ are considered acceptable (Meyers, Gamst & Guarino, 2013). The analysis of the hypothesized relationships and inter-relationships between the latent variables with each other is conducted in order to determine their intensity, direction and statistical significance from the correlation coefficients generated in the regression weights and estimates tables.

CHAPTER 4

RESULTS OF THE STUDY

Introduction

This chapter presents the data analysis. The research hypothesis stated that the predictors parental involvement, socio-economic status and students' perceptions of the classroom-learning environment collectively influence 8th grade students' academic achievement. The hypothesis testing employed the model fitting technique Structural Equation Modeling (SEM). This approach involved the use of maximum likelihood to calculate the path coefficients simultaneously, which is referred to as a full-information model technique. (Meyers et al.,2013).

Firstly, there is the presentation of the student and parent descriptive statistics as reported in Table 1 and Table 2, followed by a description of the observed variables as reported in Table 3. Then the correlation of the variables, as reported in Table 4 is the focus in the remaining section with the presentation of the means and standard deviations of the parental involvement variables across the levels of parental educational status as the final descriptive statistics as reported in Table 5.

Finally, the hypothesis testing section, which presents the results of the analysis of the original structural model, and then its re-specification. In addition, the inferential statistics include an evaluation of the model fit, using the fit statistics, Chi Square, CFI, NFI, and RMSEA to determine the goodness of fit between the covariance matrix of the

theoretical model with that of the empirical model. Additionally, there is an analysis of the model estimates in order to determine if the hypothesized relationships between the variables emerged as expected. The six hypothesized relationships included – PES with FRL, PES with PI, FRL with PI, FRL and AA, PI with AA and CLE and AA. The two sub-models (1) A direct path from PES to FRL and a direct path from FRL to PI, with PI mediating FRL influence on AA. (2) PES directly influencing PI and indirectly influencing AA through mediation from PI.

Descriptive Statistics of Participants' Demographic Variables

An examination of Table 1 revealed that the sample consisted of 39 African Americans (50.6%) which represents a little over half of the participants in the study. There were thirteen Hispanic/Latino Americans (16.9%), which represents the second largest racial/ethnic group in the sample. European Americans represented 14.3% (11) while 11.7% (9) participants described their racial/ethnic identity as other. Only two participants were Asian American (2.6%). There were thirteen Hispanic/Latino Americans (16.9%), which represents the second largest racial/ethnic group in the sample. European Americans represented 14.3% (11) while 11.7% (9) participants described their racial/ethnic identity as other. Only two participants were Asian American (2.6%).

The sample was not evenly broken down into females and males. There were more females. There were 58.4% (45) females and 41.6% (32) males. Regarding FRL participation among the 77 participants, 54 (70.1%) of the participants received FRL, which represents almost three quarter of the sample. Only 23 (29.9%) of the participants were not receiving free and reduced lunch.

Table 1

Descriptive Statistics of Student Participants' Demographic Variables

Variables	%	Min	Max	Skewness
Race/Ethnicity		1	7	.670
African American	50.6 (39)			
Asian American	2.6 (2)			
European American	14.3 (11)			
Native American	3.9 (3)			
Pacific Islander	0			
Hispanic/ Latino	16.9 (13)			
Other	11.7 (9)			
Sex		1	2	.349
Female	58.4 (45)			
Male	41.6 (32)			
Free/Reduced Lunch		1	2	.897
FRL	70.1 (54)			
Non- FRL	29.9 (23)			

An examination of the descriptive statistics in Table 2 revealed that among the 77 parent participants 35 (45.5%) were African Americans, which represented less than half of the parent sample. The number of Hispanic / Latino parents represented were 14 (18.2%). There were an equal number of European Americans and Other which comprised of 12 (15.6%) of the parents. Only two (2.6%) Asian Americans participated while there was only one (1.3) Native American. The majority of the parents were females 84.4% (65)

Table 2

Descriptive Statistics of Parent Participants' Demographic Variables

Variables	%	Min	Max	Skewness
Race/Ethnicity		1	7	.670
African American	45.5 (35)			
Asian American	2.6 (2)			
European American	15.6 (12)			
Native American	1.3 (1)			
Hispanic/ Latino	18.2 (14)			
Other	15.6 (12)			
Sex		1	2	.193
Female	84.4 (65)			
Male	15.6 (12)			
Parental Educational Status		1	6	.227
Elementary School	9.1 (7)			
High School	24.7 (19)			
2-year College	24.6 (16)			
4-year College	22.1 (17)			
Graduate	13 (10)			
Post Graduate	6.5 (5)			

with the males comprising only 15.6% (12). Regarding PES, the majority of the parents 24.7% (19) parents had attained high school level education while only 6.5% (5) possessed postgraduate level qualifications. There were 20.8% (16) participants who

attained 2 yr. college degree and 22.1% (17) with a 4 yr. college degree. Additionally, 13% (10) attained graduate level education. However, four parents (9.1%) had an elementary level educational status.

Description of the Variables

The description of the CLE variables- personalization, participation, independence, investigation and differentiation for both the language arts and math classrooms are reported in Table 3. The descriptive statistics include the mean, standard deviation, range and skewness of the following observed variables - Personalization ($M= 18.15$, $SD= 3.78$), with scores ranging from 8.00 to 25.00. The skewness was between -1 to +1= -.510. Participation ($M= 13.64$, $SD= 3.03$), with the scores ranging from 6.00 to 20.00. The skewness was -.338. Independence ($M= 10.99$, $SD= 3.46$), the scores ranged from 5.00 to 20.00. The skewness was .035. Investigation ($M=14.81$, $SD= 3.17$), the scores ranged from 6.00 to 21.00. The skewness was -.419. The observed variable Differentiation ($M= 9.17$, $SD= 3.09$), with the scores ranging from 4.00 with a maximum of 20.00. The skewness was .591.

The data for the variables in the math classroom-learning environment included- Personalization ($M= 19.45$, $SD= 4.05$) had scores that ranged from 9.00 to 25.00. The skewness was -.440. Participation, ($M= 15.21$, $SD= 2.65$) had scores that ranged from 9.00 to 20.00. The skewness was -.113. Independence ($M= 13.90$, $SD= 3.66$) had scores that ranged from 5.00 to 21.00.

Table 3

Descriptive Statistics of the Observed Variables

VARIABLES	MEAN	SD	MIN	MAX	SKEWNESS
PARE	25.10	2.24	18.00	28.00	-.584
LH	12.19	2.19	7.00	16.00	.038
COM	13.31	2.07	8.00	16.00	-.494
VOL	10.00	2.37	4.00	16.00	.202
DM	11.42	3.26	5.00	20.00	.335
CC	4.60	1.37	2.00	8.00	.327
AS	18.32	1.72	13.00	20.00	-.888
LPER	18.15	3.78	8.00	25.00	-.510
LPAR	13.64	3.03	6.00	20.00	-.338
LIND	10.99	3.46	5.00	20.00	.035
LINVES	14.81	3.17	6.00	21.00	-.419
LDIFF	9.17	3.09	4.00	20.00	.591
MPER	19.45	4.05	9.00	25.00	-.440
MPAR	15.21	2.65	9.00	20.00	-.113
MIND	13.90	3.66	5.00	21.00	-.143
MINVES	16.75	3.33	8.00	23.00	-.364
MDIFF	9.70	2.89	4.00	19.00	.683
LArts	83.13	11.11	52	100	-.695
Math	78.05	11.52	44	100	-.451

Note. PARE-Parenting, LAH-Learning at Home; Com-Communication; Vol-Volunteering; DM- Decision Making; CC- Collaborating with the Community; LPARE-Language Arts Personalization; LPAR- Language Arts Participation; LIND- Language Arts Independence; LINVES- Language Arts Investigation; LDiff-Language Arts Differentiation; MPER- Math Personalization; MPAR-Math Participation; MIND- Math Independence; MINVES-Math Investigation; MDiff- Math Differentiation

The skewness was -.143. Investigation ($M= 16.75$, $SD= 3.33$) had scores that ranged from 8.00 to 23.00. The skewness was -.364. The last variable Differentiation, ($M= 9.70$, $SD= 2.89$) had a minimum score of 4.00 and a maximum of 19.00 with skewness of .683. A

description of the parental involvement variables included- Parenting ($M=25.10$, $SD=2.24$) scores ranging from 18.00 to 28.00 with skewness of $-.584$. The variable Learning at Home ($M= 12.19$, $SD= 2.19$) had scores that ranged from 7.00 to 16.00 with skewness $.038$. Communication ($M= 13.31$, $SD= 2.07$) had scores that ranged from 8.00 to 16.00 with the skewness $-.494$. Volunteering ($M= 10.00$, $SD= 2.37$), scores ranged from 4.00 to 16.00. The skewness was $.202$. Decision-making ($M= 11.42$, $SD= 3.26$), had scores that ranged from 5.00 to 20.00 with skewness $.335$. Collaborating with the Community ($M=.460$, $SD= 1.37$) had a minimum score of 2.00 and maximum score of 8.00 with the skewness being $.327$. Academic Socialization ($M=18.32$, $SD= 1.72$) had a minimum score of 13.00 and the maximum score of 20.00. The skewness was $-.888$. It was a normally distributed sample as evidenced by the skewness statistic being between -1 and $+1$ for all the observed variables. Therefore, there was no violation of the assumption of normality of distribution.

Correlations between the Variables

Observation of the correlation matrix in Table 4 indicated correlations among some of the latent variables with each other and with the outcome variable achievement. PES and FRL were moderately and positively correlated with each other. The correlation coefficient was ($r=.295^*$), statistically significant at $.05$. These two variables, considered indicators of socio-economic status make significant contributions to the understanding of the phenomenon academic achievement through its inter-relationship as predicted. It was observed that a positive and relatively moderate statistically significant correlation existed between FRL and both language arts and math academic achievement outcomes.

Table 4

Correlation Matrix of the Variables in the Study

Variable	1	2	3	4	5	6	7
FRL	1						
PES	.30*	1					
PARE	.26*	.19	1				
LH	.05	.29*	.54**	1			
COM	.05	.18	.62**	.65**	1		
VOL	.00	.14	.27*	.47**	.49**	1	
DM	-.09	.09	.28*	.44**	.45**	.69**	1
CC	.03	.18	.17	.41**	.41**	.57**	.80**
AS	.14	.40**	.65**	.61**	.62**	.28*	.15
LPER	.13	-.08	-.10	-.09	-.12	-.07	-.13
LPAR	.03	-.06	-.13	-.20	-.20	-.19	-.16
LIND	.13	.11	.01	.13	-.06	-.12	-.09
LINVE	.12	.00	-.25*	-.13	-.29*	-.10	-.26*
LDIFF	.09	.19	-.07	.06	.11	.14	.16
MPER	.16	.02	.31**	.09	.19	.08	.01
MPAR	.23*	.15	.25*	.09	.13	-.05	.01
MIND	.24	.21	.12	-.03	.01	-.07	-.03
MINV	.07	.13	-.07	-.11	-.17	-.15	-.21
MDIFF	-.04	.13	-.04	.04	.02	.14	.26*
Lart	.27*	.16	.22	.17	.21	.08	.03
Math	.32**	.30**	.27*	.13	.14	.05	.01
Mean	1.30	3.26	25.10	12.19	13.31	10.00	11.42
SD	.461	1.40	2.24	2.19	2.07	2.37	3.26

Table 4—Continued

Variable	8	9	10	11	12	13	14
CC	1						
AS	.16	1					
LPER	-.12	.00	1				
LPAR	-.21	-.09	.56**	1			
LIND	-.04	.09	-.28*	-.13	1		
LINVE	-.25*	-.07	.38**	.35**	-.04	1	
LDIFF	.20	.03	.10	.01	-.04	.10	1
MPER	.04	.17	.27*	.08	-.36**	.14	.14
MPAR	.03	.17	.01	.17	-.14	.15	.03
MIND	.03	.06	-.21	-.05	.19	-.21	-.26*
MINV	-.14	-.02	.03	-.01	-.13	.30**	.09
MDIFF	.21	-.01	.08	.05	-.14	.06	.71**
Lart	-.00	.15	-.04	.03	.18	-.08	-.24*
Math	.04	.12	.08	.06	.01	-.07	-.10
Mean	4.60	18.32	18.16	13.65	10.98	14.81	9.17
SD	1.37	1.72	3.78	3.03	3.46	3.17	3.09

Table 4—Continued

Variable	15	16	17	18	19	20	21
MPER	1						
MPAR	.52**	1					
MIND	-.01	.11	1				
MINV	.32**	.35**	.07	1			
MDIFF	.21	-.08	-.20	.11	1		
Lart	.04	.09	.22	-.01	-.36**	1	.55
Math	.20	.09	.22*	.07	-.10	.55	1
Mean	19.45	15.21	13.90	16.75	9.70	83.13	78.05
SD	4.05	2.65	3.66	3.33	2.89	11.11	11.52

Note. $p=.05^*$; $p=.01^{**}$; $p=.001^{***}$ FRL-Free and Reduced Lunches; PES- Parental Educational Status; PARE-Parenting, LAH-Learning at Home; Com-Communication; Vol-Volunteering; DM- Decision Making; CC- Collaborating with the Community; LPARE-Language Arts Personalization; LPAR- Language Arts Participation; LIND- Language Arts Independence; LINVES- Language Arts Investigation; LDiff-Language Arts Differentiation; MPER- Math Personalization; MPAR-Math Participation; MIND- Math Independence; MINVES-Math Investigation; MDiff- Math Differentiation

This provides confirmation for the hypothesized relationship between socio-economic status and academic achievement. This finding is consistent with prior research. The strength of the correlations was ($r = .275^*$) and ($r = .327^{**}$) for language arts and math respectively. A possible interpretation of this finding is that a stronger correlation exists between socio-economic status and math academic achievement than with language arts. However, only math academic achievement was found to be statistically significant with PES, the coefficient was positive and moderate ($r = .304^*$).

Descriptive Statistics of Parental Involvement Variables Across Parental Educational Status

Observation of the descriptive statistics for the parental involvement variables as a function of parental educational status as reported in Table 5 revealed that the parents, who had an elementary and high school level education had the least mean scores on the parental involvement variables among the six educational levels. While the parents with a two yr. college degree to post- graduate level had similar high scores with the highest, mean scores being among the graduate and postgraduate educated parents. In the area of learning at home, the disparity was the largest between the elementary and high school educated parents with their more educated counterparts. The elementary and high school parents $M = 10.71$ and $M = 12.00$ respectively and the graduate and postgraduate educated parents $M = 14.10$ and $M = 12.60$ respectively.

This finding corroborates that of prior studies that have identified more highly educated parents as contributing to their off springs' educational success through their beliefs and attitudes that convey the importance of education. The high school educated

parents interestingly scored 18.05, which was similar to that of their more educated counterparts.

The form of PI in which the mean score was almost the same across the levels of the parental educational status was collaborating with the community. The lowest score being that of the elementary educated parents with 4.2 to 5.00 for postgraduate parents.

Table 5

Means and Standard Deviations of the PI Variables across PES

PES	PARE	LAH	COM	VOL	DM	CC	AS
Elementary	24.42 (3.35)	10.71 (1.11)	12.85 (1.46)	9.42 (1.90)	11.85 (3.53)	4.28 (.75)	16.42 (2.14)
High School	24.63 (2.06)	12.00 (2.30)	12.63 (1.94)	9.36 (2.75)	10.78 (3.29)	4.10 (1.19)	18.05 (1.77)
2 yr. College	24.94 (2.04)	11.94 (2.27)	13.52 (2.14)	10.26 (2.32)	11.42 (2.96)	4.89 (1.41)	18.26 (1.62)
4 yr. College	25.41 (2.29)	12.05 (2.07)	13.52 (2.40)	10.41 (1.90)	11.11 (3.31)	4.70 (1.72)	18.47 (1.41)
Graduate	26.40 (1.83)	14.10 (1.91)	14.20 (1.98)	10.40 (2.36)	12.60 (3.37)	4.80 (1.39)	19.70 (.67)
Post Graduate	24.80 (2.38)	12.60 (1.67)	13.20 (1.92)	10.00 (3.39)	11.80 (4.32)	5.00 (1.00)	19.00 (1.41)

Note. PES- Parental Educational Status; PARE-Parenting; LAH- Learning at Home; Com-Communication; Vol-Volunteering; DM-Decision Making; CC- Collaborating with the Community; AS- Academic Socialization

The form of PI in which the mean score was almost the same across the levels of the parental educational status was collaborating with the community. The lowest score being that of the elementary educated parents with 4.2 to 5.00 for postgraduate parents.

Volunteering had scores that were relatively similar between the groups ranging from 9.4 the lowest to 10.00 the highest. An interesting finding was the mean score for decision-making in which the elementary educated parents obtained a mean score similar to that of their more educated counter-parts, which is inconsistent with previous research.

Those findings reveal that more highly educated parents are more involved at the school level. The mean scores among the variables communication and parenting revealed slight differences among the six educational levels, although both elementary and high school levels had the lowest mean scores. The graduate educated parent obtained the highest mean scores on six of the parental involvement variables. The only form of PI in which postgraduate parents scored higher than their graduate counterparts was in the area of collaborating with the community.

Hypothesis Testing

Hypothesis Testing of the Structural Model

The conceptualized model as depicted in Figure 1 was comprised of the predictors, parental educational status, free and reduced lunch, parental involvement and the classroom learning environment as well as the outcome variable academic achievement. There was a direct path from the exogenous variable PES to the endogenous variable FRL. Additionally, there was a direct path from PES to PI as well as the indirect path from PES to AA through PI and the indirect path from FRL to AA through PI. There was direct path from FRL to PI. In addition, there was a direct path from FRL to AA and PI to AA along with the direct path from CLE to AA. These were the hypothesized relationships.

The data analysis involved the use of (SEM) for the estimation of the parameters. This model fitting technique permits the simultaneous analysis of both the measurement and the structural model. The covariance matrix of the measurement model has to fit the covariance matrix of the structural model as evidenced by the fit statistics.

The fit statistics, revealed a statistically significant Chi Square, which is one of the indices employed to evaluate the fit of the model to the data. An interpretation of this result is that the model lacks goodness of fit with the data. However, it is not the only index used to determine the adequacy of the model. Subsequent examination of the other fit statistics like the CFI, NFI and the RMSEA revealed that a good fit between the model and the data did not exist. The values were .547, .424 and .130 respectively.

These values are below the acceptable levels. The RMSEA was .130; it should be $\leq .05$ while the CFI and the NFI should have values $\geq .90$. The Chi Square was 421.373 ($df=185, p=.000$) with the (CMIN/DF=2.28). (see Appendix D for fit statistics) Despite the poor model fit, these predictors explained 22% of variance in academic achievement. Therefore, based on these results the original model required re-specification.

Hypothesis Testing of Re-Specified Model

The unacceptable values of the structural model did not justify it as a valid explanation of the phenomenon academic achievement. The poor fit of the model to the data as evidenced by the fit statistics required the model to be re-specified. Correlations were added between the error terms e1 and e7 representing academic socialization and parenting. In addition, a correlation between e2 and e3, which represents collaborating with the community and decision making, e3 to e4, which represents decision making and volunteering were correlated as well as error terms e2 and e4 which represents

collaborating with the community and volunteering. This decision occurred due to their large modification indices, which suggest that their correlation would contribute to an improved fit with the data. Furthermore, theoretical support exists for their correlation.

The model was further re-specified by removing the paths CLE to AA as well as the path FRL to PI because they were not practically or statistically significantly correlated. However, the path PI to CLE was added based on the theory and the modification indices. Additionally, the variables LIND, MIND were negatively correlated with the latent construct CLE and they were removed from the model as well as LDIFF, MDIFF, and MPAR and MINVES because they were weakly correlated with the latent construct CLE and non-statistically significant. In addition, MPER was removed because it was the only sub-scale. The re-specified model resulted in a significantly improved fit with the observed data as evidenced by the fit statistics. While the Chi Square was still statistically significant, it had decreased from 421.373 ($df = 185$; $p = .000$) to 78.272 ($df = 70$; $p = .233$). The CMIN/DF decreased to 1.118. The difference between the Chi Square in the first model and the one in this model was 343.101; the difference between the df was 115. Additionally, the CFI had increased to .978 and the NFI to .833 as well as the RMSEA decreased to .039. These values are acceptable and indicate a very good fit of the model with the data expect for NFI, which is within the acceptable range. The non-significant Chi Square indicates that there are no differences between the model and the data. (see Appendix D for fit statistics)

Analysis of the Model

Analysis of the Hypothesized Relationships

The model is analyzed for confirmation of (1) the six hypothesized relationships - PES with FRL, PES with PI, FRL with PI, FRL with AA, PI with AA and CLE with AA. There appeared to be only partial confirmation in regards to some of the hypothesized relationships because some of the correlations did not emerge as hypothesized, CLE with AA were not statistically and practically significantly correlated with each other. Therefore, the path was removed from the model. Additionally, FRL and PI were eliminated from the model because they lacked practical and statistical significance. These findings were unexpected and inconsistent with previous research, which requires further investigation.

There were relatively moderate correlations between most latent variables with each other. The results indicated path coefficients between PES and FRL ($r=.297$), PES and PI ($r=.319$). Additionally, the hypothesized relationship between the predictor FRL with the outcome variable AA was rather moderate as indicated by ($r=.382$). Furthermore, PI and AA achieved a slightly small correlation ($r=.244$). The path added between PI and CLE achieved a correlation of relative moderate intensity ($r = -.267$), but in a negative direction. The negative relationship between PI and CLE will be addressed in the next chapter. Moreover, only some of the latent variables achieved statistically significant correlations with each other as well as with the outcome variable academic achievement.

Using an alpha level of .05 to determine statistical significance, the following correlations achieved statistical significance. FRL with AA ($p=.005$), PES with FRL (p

=.007) and PES with PI ($p = .010$). In addition, PI and AA achieved marginal significance ($p = .084$) as well as PI and CLE with ($r = .072$) (see Appendix D for the estimates and regression weights table) Three of the six hypothesized relationships achieved statistical significance with one achieving marginal significance. This model represents a better fit with the data and explains 22% of the variance in academic achievement.

Analysis of the Sub-Models

Regarding the sub-models, the direct influence of FRL on PI failed to achieve both practical and statistical significance. The presence of PES was likely a factor responsible for this reduced effect of FRL on PI. PES had a moderate and statistically significant influence on PI with a coefficient ($r = .319$) and ($p = .010$). The lack of correlation between FRL and PI, resulted in that sub-model not being confirmed in which it was hypothesized that FRL would indirectly influence AA through the mediation of PI. However, the direct path coefficient from FRL to AA was a rather moderate, positive and statistically significant one with a coefficient of ($r = .382$) and ($p = .005$).

The interpretation is the exogenous variable FRL directly influenced the outcome AA without the mediation of PI. Therefore, the sub-model of PI as mediating the effect of FRL on AA was not confirmed by the analysis. Moreover, the sub-model of PI as mediating the effect of PES on AA was not fully confirmed by the analysis. PI achieved only a marginally statistically significant relationship with AA, therefore, its mediating effect is not substantial.

Summary of the Findings

The study hypothesized that a match would exist between the covariance matrix of the measurement model with that of the covariance matrix of the structural model. The fit statistics provided partial confirmation of the hypothesis that the model would fit the observed data and demonstrate the collective influence of the predictors. Most of the path coefficients were positive and relatively moderate. Only some of the correlations achieved statistical significance. The absence of some statistically significant correlations could be partially attributed to the small sample size as well as to the instrument used to measure CLE. However, the re-specified model of the predictive relationships of academic achievement as depicted in Figure 3 below, explained 22% of the variance in 8th grade academic achievement. A detailed discussion of other factors that may have contributed to some of these unexpected findings as well as the findings consistent with the previous research occurs in the subsequent chapter.

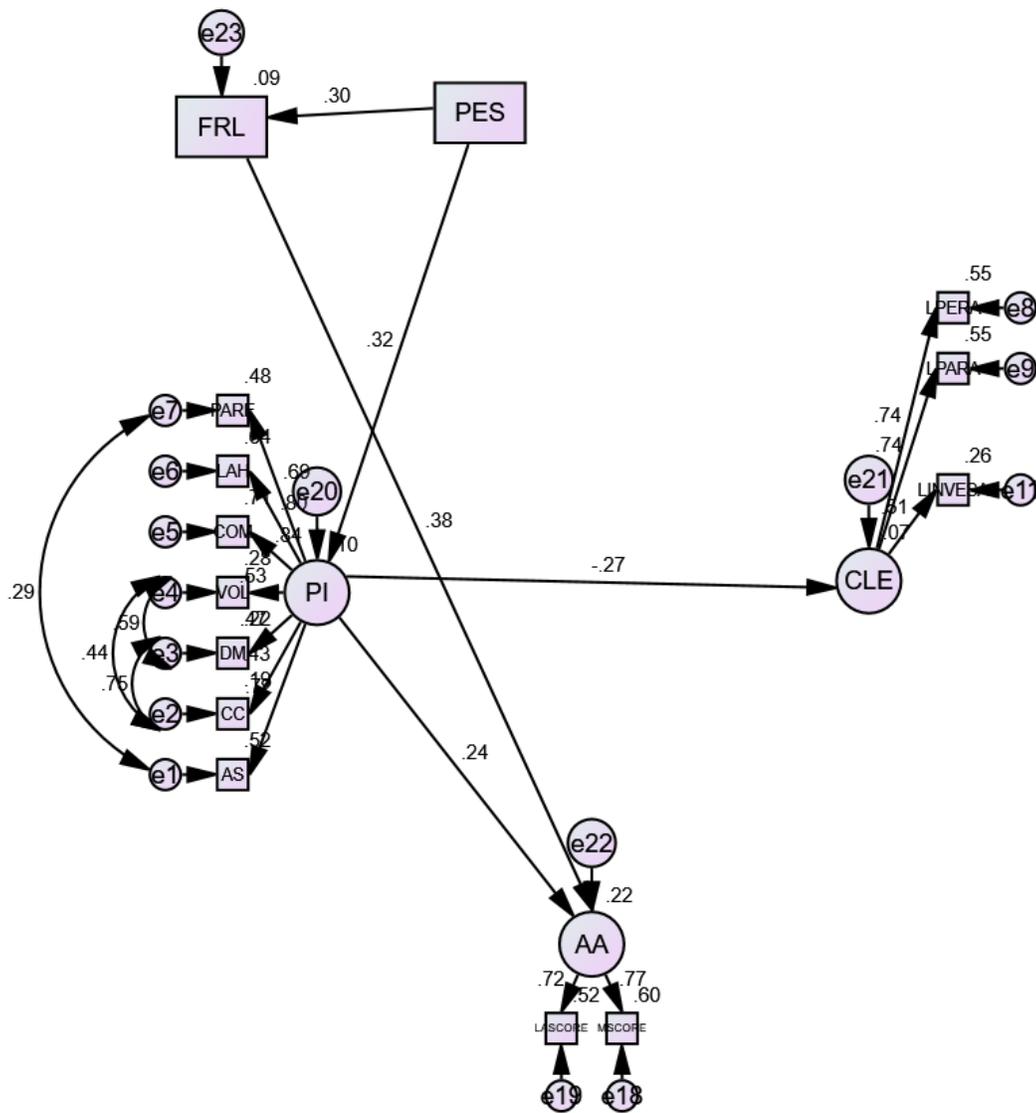


Figure 3. Re-specified model of predictive relationships of academic achievement

CHAPTER 5
SUMMARY, FINDINGS, DISCUSSION, CONCLUSIONS
RECOMMENDATIONS AND IMPLICATIONS

Introduction

This chapter provides a summary of the research problem, hypothesis, purpose, review of the literature, research method and significance of the study. In addition, this chapter presents the key findings from the study and discusses them in the context of the literature. The chapter ends with conclusions, recommendations for future research and implications for educational/social policy and practice.

Research Problem

The investigation of the phenomenon academic achievement appears to have been dominating educational research for several decades (Allen et al., 2012; Caro, 2009; Chen & Gregory, 2010; DeSimone, 1999; Eamon, 2002; Epstein, 1987; Fan & Chen, 2000; Fram et al., 2007; Fraser & Fischer, 1982; Hayes, 2011; Hill & Tyson, 2009; La Rocque, 2008; Sirin, 2005; Sook Lee & Bowen, 2006; Quinn, 2015; Waxman & Huang, 1989). The existence of the perennial academic achievement gap makes continuous investigation into the intricacies of the phenomenon of academic achievement imperative. However, most of these studies have only examined the individual influences of these predictors like socio-economic status, parental involvement and the students' perceptions of the classroom-learning environment on academic achievement.

The literature suffers from a dearth of research on the collective influence of these predictors on academic achievement.

Research Hypothesis

This study hypothesized that there would be a fit between the structural model and the observed data and that the covariance matrix of the structural model would be similar to that of the empirical model. The structural model would explicate the phenomenon academic achievement through the hypothesized relationships and inter-relationships of its predictors.

Purpose of the Study

The purpose of this study was to expand understanding of academic achievement at the middle school level by providing empirical support for the collective influence of three predictors of academic achievement: parental involvement, socio-economic status and students' perceptions of the classroom-learning environment. This more profound awareness could assist in guiding educational policy and practice, thus resulting in higher levels of academic achievement. Moreover, the data procured could contribute to the formulation of strategies directed towards the narrowing of the academic achievement gap.

Overview of the Literature

The Home/School Connection and Its Implications for Academic Achievement

The collaboration between home and school referred to as the mesosystem in Bronfenbrenner's Bioecological Model (1999) is an important ingredient in student academic achievement. Communication as a form of parental involvement encapsulates

the meso-system. The merging of these two microsystems- home and school with the associated proximal processes that exist within these two environments correlates with positive results for students' academic achievement.

This school-based form of parental involvement-communication exerts an influence on the dimension of the classroom-learning environment- personalization, indicating an interconnectedness between these variables. Effective communication between parent and school can positively influence interactions between the teachers and students (McCoach et al., 2010; Tran, 2014). The emotionally supportive environment of the classroom is essential to the adolescent, who requires guidance from adults outside of their parents. (Allen et al., 2013). Teachers' positive inter-actions with their students provide a source of social capital that can substitute for the absence within the home environment (Crosnoe, 2003). The creation of a positive socio-emotional classroom environment contributes to their enhanced positive perceptions of their classroom learning environment. This translates into higher levels of academic achievement. (Allen et al., 2013; Gilbert et al 2014 Saki et al., 2012).

The recognition of the importance of these inter-locking, nested systems as pivotal to developmental ecology is imperative (Crosnoe, 2003). Therefore, it should receive more promotion by stakeholders in education. Parents and teachers represent two important adults in the students' life whose influence shape their developmental trajectory through the interactions or proximal processes that transpire in those contexts (Epstein, 1987; Sook Lee & Bowen,2006). Warm and emotionally supportive relationships facilitate student academic achievement in both environments.

Parents' positive inter-actions with their off springs through the encouragement provided, contributes positively to students' relationship with their teachers (Chen & Gregory, 2010).

Another form of parent involvement – learning at home, which involves the parent assisting their offspring with the academic tasks, is another demonstration of the mesosystem. The parent solidifies what the child learnt at school through assistance with academic tasks, which creates a sense of consistency between these two micro-systems, the school and the home (Christenson, 2003; Epstein, 1997). An understanding of the extent to which these two environments represent learning contexts, comprised of complementary and not mere symmetrical roles, will contribute to the novel perspective that promotes academic results (Christenson, 2003). The other forms of parental involvement like volunteering, decision making, collaborating with the community involve the direct inter-action between the home and the school/community.

Teachers should provide parents through the two-way communication with the materials, resources and information in order to effectively support their child/children's learning at home. This will produce positive educational outcomes (Christenson, 2003; McCarthy, 2000; Sheldon & Epstein, 2005). The effective promotion of the partnership between the home and the school requires an understanding of the factors involved in hindering it.

Obstacles to the Home/School Connections

There are many obstacles to the home/school connections. The linguistic, educational and socio-cultural divide that exist between the home and school poses a challenge for parental involvement at the school level. The 'deficit perspective' of

parents from low SES groups often held by teachers impede healthy and positive communication. Some teachers characterize parents as negligent when they do not conform to the standards of involvement as identified by the school (Lareau, 1987; Sook Lee & Bowen, 2006). Furthermore, the lack of sensitivity to the diverse socio-cultural needs of these parents, result in homogeneous parental involvement programs that alienate parents from these sub-groups. Schools need to consider the life contexts of the parents from the economically disadvantage backgrounds in order to ensure their participation in their children's education. (Hoover-Dempsey et al., 2005; McCarthy, 2000; Roksa & Potter, 2011).

The real threat to the home/school partnership is the lack of understanding regarding the importance of this essential relationship on the part of school personnel. There is the need for more awareness as to the value of parental involvement in the educational process of their child. Cognizance of the tremendous contributions that the home/school partnership make to students' academic achievement is imperative to the effective establishment of the home/school partnership. The futility of simply engaging parents in activities rather than establishing dynamic and ongoing partnerships is evident and requires alteration through the adoption of a more nuanced perspective of parental involvement (Christenson. 2003).

Strategies for Creating Effective Home/School Connections

It is imperative for schools to formulate the most effective strategies for the creation of meaningful home/school partnerships. The practices and policies of the school are the most important contributing factors to the promotion of parental involvement

(Overstreet et al., 2005). Some of the strategies that schools can implement to enhance the level of parental involvement include the teachers' personal invitations to parents for involvement as well as the creation of a caring and accepting environment, that makes all parents, irrespective of their socio-cultural and socio-economic backgrounds feel welcomed and accepted (La Rocque et al., 2011; Lewis et al., 2011).

The home/school connection requires an approach, attitude, atmosphere and action that can create this meaningful partnership. The approach should be one that explicitly acknowledges parents as key stakeholders in the educational process of their child/children. Schools need to find ways to communicate this veracity to parents. Teachers need to exhibit caring and respectful attitudes towards parents, which will facilitate the collaboration between both parties in the interest of the student. The atmosphere must promote trust, effective communication and a mutual problem solving orientation. Actions of the school must contribute to the learning outcomes of students through the shared responsibility (Christenson, 2003).

Research Method

The study employed a quantitative, survey and cross sectional research design. The data was analyzed using the statistical technique Structural Equation Modeling in order to calculate the estimates of the parameters and determine the model fit.

Significance of the Study

The study is significant because of the data that will be disseminated to the key stakeholders in education. They can utilize it to formulate educational policies and practices that will enhance student academic achievement. It can assist in the narrowing

of the achievement gap among the student groups, therefore, contributing to the provision of equality of educational opportunity for all students.

Discussion of the Findings

The findings produced from the Structural Equation Modeling analysis are discussed. The research hypothesis was the collective influence of the predictors parental involvement, socio-economic status and students' perceptions of the classroom learning on the academic achievement of 8th grade students. The study hypothesized six positive correlations among the identified predictors with each other and their direct and indirect influence on the outcome academic achievement. Two sub-models were identified, which will also be the focus of discussion.

Predictive Relationship between PES and FRL

Regarding the hypothesized relationship between PES and FRL, the findings from the current study, revealed a relatively moderate correlation between these two variables ($r=.297$) with statistical significance ($p=.007$). This study employed these two variables as indicators of socio-economic status, which is consistent with prior studies on academic achievement (Hughes, 2003; Sirin, 2005). This moderate coefficient confirms their relationship. It is evident that parents' educational status influences their income earning capacity.

There is a need to understand the unique ways that these two variables interact with each other. Additionally, the importance of their relationship in the discussion of academic achievement must not be under-estimated as they determine the individual's socio-economic status, which has implications for their social and cultural capital

(Lareau, 1987; Ream & Palardy, 2008). The cognizance of their nexus is central to the capacity of grasping the core elements embedded within the socio-economic academic achievement gap. Parents with higher levels of educational status are more inclined to engage in school-based forms of PI such as communication, decision making and volunteering, which require a certain level of social and cultural capital. Additionally, their higher income level, which is associated with their educational status allows them to provide a cognitively stimulating environment for their offspring.

Predictive Relationship between PES and PI

The hypothesized relationship between PES and PI was confirmed by a positive and moderate coefficient ($r = .319$) with statistical significance of ($p = .010$). This finding of a relationship between these two variables is consistent with previous research (O'Sullivan et al., 2014; Ream & Palardy, 2008). The influence of PES is evident in the forms of parental involvement exhibited by parents at the different educational levels. The findings of this current study revealed that parents who were more highly educated at 2 yr. college to post graduate level demonstrated more parental involvement, as evidenced by their higher scores on the different parental involvement scales. The two forms of PI in which the greatest disparity between the educational groups occurred was that of learning at home and academic socialization, both of which require higher levels of education.

Therefore, it appears that PI is a function of PES as evidenced by the lack of motivation of parents with lower levels of education to assist their off spring with learning activities. Their reluctance can be attributed to their lack of self-efficacy. They do not believe they possess the capacity to adequately support their off spring's learning

at home. This is due in part to their lower levels of education, which limits their academic skills, thereby impeding their ability to engage in this form of home-based parental involvement. (Hoover-Dempsey et al., 2005; O' Sullivan et al., 2014; Ream & Palardy, 2008).

Parents with lower levels of educational status are less inclined to express their beliefs and educational aspirations for their off springs' educational attainment. Their own educational attainment levels influence their educational aspirations for their child/children. There is an association between their educational status and their educational expectations (Davis-Keans, 2005). The inability of parents to engage in this form of parental involvement acts as an impediment to their offspring's academic achievement because it has potent predictive power (Chen & Gregory, 2010; Hayes, 2011; Hill & Tyson, 2009; Singh et al., 1995)

The parents with lower levels of education demonstrate less school-based parental involvement than the more educated parents (Lareau, 1987; Ream & Palardy, 2008; Sook Lee & Bowen, 2006). They engage in less communication with the school personnel, which is fueled by their unfamiliarity with the language of the school. Feelings of inadequacy and discomfort within the school context results in their reluctance to actively participate at school. They are not as visible as their more educated counter-parts, which results in them being perceived as negligent. Although, they are interested in their off springs' academic success; their lower educational levels restrict their capacity to be as engaged (Ream & Palardy, 2008; Sook Lee & Bowen, 2006).

The correlation between PES and PI is a more robust one than that of PES and FRL. The educational status of the parent directly influences their practices, beliefs and

behaviors, which have implications for their involvement with their child/children's academic achievement (Davis-Keans, 2005; Hoover-Dempsey et al., 2005; Ream & Palardy, 2008; Sook Lee & Bowen, 2006). It is imperative for this correlation to be duly emphasized in the context of academic achievement. Schools need to be more cognizant of the influence of educational status on parents' involvement at the school level and to design parental involvement strategies that are sensitive to the needs of those parents. The schools should empower parents from the lower socio-economic status groups with information (McCarthy, 2000) and provide opportunities for the development of social capital in order to facilitate their involvement in their child's education (Ream & Palardy 2008).

Predictive Relationship between FRL and PI

The relationship between FRL and PI did not emerge as hypothesized. The influence of FRL on PI was not practically significant as well as statistical significant ($r=.004$) and ($p=.976$). This finding appears to be inconsistent with the prior studies that indicate a relationship between FRL and PI (Lareau, 1987; Flowers & Flowers, 2008; Orr, 2003; Ream & Palardy, 2008, Sirin, 2005; Sook Lee & Bowen, 2006). However, a possible contributory factor to this outcome may be partially due to the presence of PES, which may have absorbed some of the influence of FRL on parental involvement.

The influence of FRL, which is the proxy for income, is associated with parenting, one of the forms of PI (Epstein, 1987). This involves parents providing economically for the physical, socio- emotional and cognitive well-being of their offspring. This includes the purchasing of food, clothing, housing, educational materials, as well as exposing the child to those experiences and environment facilitative of optimal

development. Therefore, this form of PI is less connected with the educational levels of the parent, unlike the other forms of PI such as, learning at home, communication, volunteering, decision making and academic socialization. There appeared to be no direct influence of FRL on PI in contrast with the direct influence that was observed between PES and PI.

Predictive Relationship between FRL and AA

The positive and rather moderate direct correlation ($r = .382$) and statistical significance ($p = .005$) that emerged between FRL and the outcome variable academic achievement was consistent with previous research (DeSimone, 1999; Eamon, 2002; Flowers & Flowers, 2008; Fram et al., 2007; Hughes, 2003; Reardon, 2011; Sirin, 2005; Van Laar & Sidanius, 2001). The relatively strong relationship that SES shares with academic achievement is indisputable. The current study, using FRL as the indicator of SES, revealed a strong correlation between these two variables as evidenced by the path coefficient. It appeared that its effects are more potent for math achievement ($r = .327^{**}$) as opposed to that of Language Arts ($r = .275^*$).

Although, this result seems to be inconsistent with those revealed by Eamon (2002) in which math was less significantly correlated with poverty as compared with reading. A contributory factor for this inconsistency could be the instrument employed to measure academic achievement. The present study used teacher assigned grades whereas a standardized achievement test Peabody Individual Achievement Test (PIAT) was the measure of academic achievement in the Eamon study.

Another possible explanation for the more robust influence of FRL on math achievement as compared with language arts is the differing nature of the two content

areas, with the complexity of math requiring more support as the student advances. It requires the use of more literacy skills at the higher levels and the lack of literacy rich environments within the economically disadvantage homes may contribute to the lower performance of those students in that content area (Caro, 2009). Their home environments are riddled with risk factors. These include less balanced meals, food insufficiency, mobility, inaccessibility to adequate health care due to the lack of economic capital available to the family. These risks occur from inception, in utero, whereby the unborn child from the economically disadvantaged home may lack the required nutrition as well as be exposed to such toxins like alcohol and other drugs which produces certain negative effects for their physiological and neurological functioning.

The children from impoverished backgrounds are usually born with low birth weight, which places them 11 IQ points behind their more economically advantaged counter-parts. (Berliner, 2009). Therefore, the deleterious effects of low SES reveal itself in the form of less efficient cognitive functioning. It is in this manner that SES directly influences the academic achievement of students from this group. Furthermore, these economically disadvantaged children experience less cognitively stimulating environments than their more affluent counter-parts. The low SES parents are incapable of providing their off springs with the required materials and resources that can positively enhance their intellectual growth (Eamon, 2002; Orr, 2003).

Additionally, the lack of economic resources impedes their access to quality pre-school education which is essential to establishing a strong foundation for entry into elementary school (Slaby et al., 2005; Slyva, 2014). The results from Slaby et al. (2005), revealed the disparity in academic performance of children who attended pre-school and

those who did not. The inability of children from the low SES groups to acquire the foundational skills necessary for optimal performance at the other levels of schooling contributes to their lower academic performance as compared with that of their more affluent counter-parts, thus accounting for the academic achievement gap. Therefore, they enter the elementary school already behind their more economically advantaged counter-parts and this gap widens with the advancement in school and is twice as wide by 7th grade (Caro, 2009).

In a study conducted by Flowers & Flowers (2008), further empirical support resulted for the correlation between SES and academic achievement. Their findings indicated that parents' income contributed significantly to students' reading achievement in African American students as evident by $\text{Beta}=.714$ and $d=.283$. Sirin (2005) meta analytic study demonstrated the potency of the predictive power of parents' socio-economic status and academic achievement. He observed a medium correlation at the student level, but an even stronger correlation existed at the school level.

Thus, the influence of SES has implications for education transcending the individual level. The deleterious effect of low levels of maternal education on the math and reading achievement of the students emerged in Fantuzzo et al. (2002) study. Their findings revealed that as there was a 10% increase of students with mothers without a high school diploma, the students' standardized scores in reading and math declined ($SD = -0.07$) and ($SD = -0.05$) respectively. It is apparent that SES influences academic achievement on multiple levels.

Other ways that FRL affects the academic achievement of students is through the parents' possession of social/cultural capital. Cultural capital encompasses behaviors,

beliefs, values and attitudes reflective of the dominant class (Jageer, 2015) while one of the aspects of Social Capital involves the ability to establish social networks to activate channels of information. (Ream & Palardy, 2008). In addition to this dimension, is the expectations and obligations as well as the norms and sanctions (Coleman, 1988). They are essential to the conceptualization of the construct.

Parents who lack these resources, which is a factor associated with their socio-economic status, are less inclined to participate at the school level, which requires the demonstration of social/cultural capital. Their lower levels of social/cultural capital, impede their ability to obtain required information through social networks with school personnel and other parents, which translates into decreased academic success for their off springs (Ream & Palardy, 2008).

The low SES parents' lack of familiarity with the dominant culture inhibits their opportunity to be advocates for their children's academic advancement. Their reluctance to attend Parent Teacher Association (PTA), visit the school and participate in the decision-making process of the school acts as a hindrance to their ability to effectively support their off spring academically (Ream & Palardy, 2008; Sook Lee & Bowen, 2006). Social capital is a resource that parents transmit to their off springs. Students who are able to demonstrate higher levels of it are viewed more favorably by the educators and are considered more intellectually adept, which gives them an advantage over their less affluent counter-parts (Jageer, 2015).

Predictive Relationship between PI and AA

The results from the analysis revealed a coefficient between these two variables of ($r = .244$), however, it achieved only marginal statistical significance ($p = .084$). This

finding appears to be inconsistent with previous research which established a relatively strong correlation between these two variables (Chen & Gregory, 2010; DeSimone, 1999; Epstein, 1987; Fan & Chen, 2001; Lareau, 1987; Williams & Sanchez, 2012).

Prior studies indicate that the involvement of parents in the child's education positively influences their academic achievement. DeSimone (1999) investigation into the racial /ethnic and socio-economic differences in parental involvement, revealed that parental involvement affected students' grades more than the test scores. Parental involvement model was a better predictor for White, Asian students and middle class students than for Hispanic, African and lower income students. She recommended that schools should employ a more nuanced perspective of achievement when evaluating the effectiveness of the parental involvement strategies. Therefore, the measures of achievement should extend beyond that of the academic.

The findings from Lareau (1987) indicated that the level of schooling and material resources, determined the parents' involvement at the school level. Parents from the lower socio-economic status groups relinquished their responsibility for their child/children's education into the hands of the schools. They were not as involved in the activities at the school as their middle/upper class counter-parts. The results revealed a stronger correlation between the school-based form of parental involvement with academic achievement.

Chen and Gregory's (2010) results were inconsistent with that of Lareau (1987). They observed that the correlation between the home based forms of parental involvement were stronger predictors of academic achievement especially the discussion of school activities and helping children plan their programs as well as expression of their

expectations for their educational attainment. They concluded that this form of parental involvement appears to be more effective for adolescents, although it seems to be more distal than the direct participation. While its correlation in the current study was positive in its direction, it was not as intense as compared with FRL and AA. It appears that the direct effect of parental involvement on academic achievement may have been absorbed by the presence of FRL on AA as well as the direct influence of PES on PI.

Predictive Relationship between CLE and AA

Another hypothesized relationship that did not emerge as expected was that of CLE and AA. The results indicated that a non-statistically significant correlation existed between these two variables. This finding was unexpected and inconsistent with previous research that has provided empirical support for the correlation between these two variables. The relationship between the classroom learning environment and students' perceptions of it has achieved a positive correlation in the literature (Allen et al., 2013; Fraser & Fischer, 1982; La Rocque, 2008; Moos & Moos, 1978; Waxman & Huang, 1999). Therefore, there is need for further investigation in order to understand this unexpected finding.

Re-Specified Model of Predictive Relationships

The re-specified model of the predictive relationship of academic achievement, resulted in the correlation of some of the error terms with large modification indices. Additionally, there was the removal of the path between CLE and AA and FRL and PI because they failed to emerge as expected with practical and statistical significance. The addition of the path PI to CLE resulted, based on theoretical support for their relationship

and the modification indices. Additionally, there was the removal of some of the observed variables from Language Arts CLE and all the observed variables from Math CLE due to weak or negative correlations with the latent construct and non-statistical significant correlation. The re-specified model included the correlations between PES to FRL, PES to PI, FRL to AA, PI to AA and PI to CLE.

Predictive Relationship between PI and CLE

A negative, but relatively moderate correlation emerged between parental involvement and CLE in the present study ($r = -.267$). This unexpected finding, indicating a negative direction of the relationship between these two variables, requires further investigation because it is inconsistent with previous research. Perhaps this result is an artifact of the small sample size or the instrument employed to measure the construct. Another explanation for students' less favorable perceptions of the classroom learning environment with more parental involvement may be attributed to the difference between the parenting style and the teaching style. This may result in the student perceiving a less supportive classroom environment with less personalization. The less warmth and support provided from the parents at home adversely influence the child's perceptions, resulting in a negative response to the warmth and support from the teacher within the classroom. (Crosnoe, 2004). However, despite the negative direction of this relationship, the correlation achieved marginal statistical significance ($p = .072$).

Interactions between the home and the school in the form of communication between teachers and parents can influence the teacher/student relationship. Parents should be invited to provide teachers with information regarding the students' background which can increase teachers' understanding of their students and assist in the

implementation of appropriate interventions and instructional strategies (Crosnoe, 2004; McCarthy, 2000) This could produce more positive teacher/student interactions. This enhanced socio-emotional classroom learning environment will elevate students' positive perceptions. The partnership between the school and the home can function as a bridge for the parents to traverse in order to contribute to the students' classroom learning experience.

The Sub-Models

The first hypothesized sub-model was that there would be an indirect influence of PES on AA through the mediation of PI. However, the analysis did not provide confirmation of the mediating influence of PI on PES. This was as a result of the marginally statistically significant correlation between PI and AA. The correlation coefficient was ($r = .244$) and its statistical significance was ($p = .084$).

Regarding the second sub-model, which hypothesized that PI would mediate the influence of FRL on AA also did not emerge as expected. This was as a result of FRL not having achieved statistical significance with PI. However, the rather moderate, positive statistically significant correlation between FRL and AA ($r = .382$), confirmed its predictive power. Therefore, it eliminated the need for mediation from PI.

The Importance of the Findings to the Academic Achievement Gap

There is the need to promote a strong home/school partnership as a reform strategy as well as a solution to the academic achievement gap that threatens the academic success of some groups of students. The empirical evidence supports the correlation between the SES as indicated by the occupation, income and educational

levels of the parent with academic achievement levels (Caro, 2009; DeSimone, 1999; Eamon, 2002; Hughes, 2003; Jageer, 2011; Ream & Palardy, 2008; Sirin, 2005). Children from economically disadvantaged backgrounds perform at lower academic levels in comparison to their more affluent counter-parts, creating a situation for grave concern.

There has been extensive focus on both school and home based factors involved in academic achievement. The current study hypothesized that the inter-relationships between the predictors PI, SES and CLE, collectively influence academic achievement and inevitably the academic achievement gap. The findings from this study provides an understanding of the pervasive influence of SES in contributing to the academic achievement gap. The low levels of parental educational status restrict the forms of parental involvement, which negatively affect academic achievement (Ream & Palardy, 2008; Sook Lee & Bowen, 2006). Therefore, PES and its accompanying association with PI and FRL, and FRL with its moderate correlations with AA, have grave implications for the academic achievement gap.

Parents from lower SES backgrounds with lower levels of educational status are more inclined to engage in the home-based forms of PI rather than the school-based forms. However, their reluctance to participate at the school level due to their low levels of social capital, which is associated with their socio-economic status restricts their ability to acquire the necessary tools that can better facilitate their support of their off spring's learning at home. Their involvement at mainly the home level is not as adequate as their involvement at both the home and the school levels. Therefore, the effectiveness of PI as a tool for the enhancement of academic achievement and combating the

academic achievement gap appears diluted across the levels of SES. (Ream & Palardy, 2008; Sook Lee & Bowen, 2006).

Therefore, it is mandatory that parents from these economically challenged backgrounds be provided with opportunities to develop social capital in order to participate in all the forms of parental involvement (Ream & Palardy, 2008). Parents with less economic resources are not as capable as their more affluent counter-parts in providing a cognitively stimulating environment as well as all the required physical and educational resources at the levels necessary for their child/children's academic achievement.

There are more negative classroom learning environments that students from lower socio-economic status backgrounds are exposed to with the accompanying negative perceptions, which adversely affect their academic achievement. This represents a correlation between the lack of quality educational opportunities and the inadequate funding allocated to the schools in these economically challenged districts. This suggests a need for the provision of more economic resources to equalize the educational opportunities of the low SES students as a possible solution to the academic achievement gap (Jeynes, 2014). "Educational quality reflects the range of a subtler process of experience and opportunities at the nexus of the school and the classroom" (Fram et al., 2007, p. 310).

Another contributory factor to the academic achievement gap is school residential segregation. The populating of schools by students from similar socio-economic status, with the accompanying individual and familial risk factors places students in an environment deleterious to optimal academic development (Condrón, 2009). The potency

of the effects of these classroom learning environment factors for narrowing the academic achievement gap appear to dissipate in the presence of the direct influence of SES. There was a relatively intense correlation between SES and academic achievement that emerged from this current study and it reverberates throughout education research literature (Caro, 2003; DeSimone, 1999; Fram et al., 2007; Hughes, 2003; Sirin, 2005). However, it is imperative not only to recognize the existence of the gap, but to identify the source from which it emerges and the mechanisms responsible for its maintenance in the various contextual realities of the developing individual (Fram et al., 2007).

Conclusions of the Study

The conclusions that can be drawn from the study are in regards to the interrelationship between the predictors parental involvement and socio-economic status in influencing academic achievement. An understanding of the interactional nature of these diverse contexts on the developing individual as postulated in the Bioecological Model by Bronfenbrenner (2005) is necessary. Therefore, it can be concluded from the analysis that the home environment with its accompanying proximal processes as demonstrated through the home-based forms of PI like parenting, learning at home and academic socialization and the SES variables like economic resources as well as parental educational status, which facilitates the involvement at the school-based level collaborate directly to influence student academic achievement. Additionally, the predictive power of SES on achievement was evident, therefore, corroborating it as a primary predictor of academic achievement and the gap.

Although the correlation between the classroom learning environment and academic achievement did not emerge as expected, the contributory factor to this may be

due in part to the small sample size, it can still be concluded that there are certain dimensions of the classroom like personalization, participation and investigation that contribute to a positive learning environment.

The integral role of the home/school connection – the mesosystem in academic achievement is abundantly evident. The “overarching spheres of influence” of these important institutions collaborate for students’ academic success (Epstein, 1995). It is imperative that schools empower all parents regardless of their socio-economic status for active involvement in their offspring’s academic achievement. Furthermore, endemic to the home/school connection is the recognition of a shared responsibility among the stakeholders (Christenson, 2003). Thus, both parents and teachers must ensure that they fully embrace their collective roles and commit themselves to achieving the most effective outcomes in the child’s educational interest.

While only some of the hypothesized relationships in this study achieved statistical significance, it still contributes to the literature by filling a gap related to the scarcity of studies on the collective influence of these predictors. The current research contributed by expanding understanding of academic achievement at the middle school level. The inclusion of both content areas language arts and math in the investigation of the perceptions of the classroom-learning environment, advances knowledge in this area regarding the comparison of students’ perceptions based on these content areas. It appeared that students had more positive perceptions of their math classroom-learning environment.

The study suffered from some limitations one of which was the small sample size, which partially restricted the ability to establish all the hypothesized correlations and

effects. The use of classroom tests, which appear to be less objective as compared with standardized assessments, represented another challenge. However, a strength of the study is the diversity of the sample. The participants came from across two states, which increased generalizability of the findings.

Recommendations

Some proposed recommendations for consideration in future research include:

1. Employing a mixed methods research design with a larger sample. The qualitative design will assist in expanding on and clarify responses, as well as to obtain a more profound insight into the phenomenon of academic achievement.
2. Additionally, the study should be longitudinal in order to investigate the changes in perceptions of the classroom-learning environment in these two core domains across time. This will facilitate comparison that can provide insight into the dimensions of the classroom-learning environment that are more effective for the different content areas.
3. The formulation and implementation of an observation system to monitor the effective use of the ‘Mesosystemic’ practices and its educational implications, which will provide opportunities for revision and expansion of these strategies. Furthermore, the data will assist in the development of a deeper understanding in the area of the home/school partnership.
4. Implementation of a system for students to report on their classroom-learning environment based on their perceptions and to suggest ways in which the environment can be improved, based on knowledge of their own socio-emotional needs. It can serve as a medium for them to participate in the shaping of their educational process. The data can

be employed in pre-service teacher education courses and in-service professional development workshops.

5. The study should be conducted cross-culturally, in order to compare the factors that contribute to student academic achievement within different geographical contexts that employ different education systems. In addition, educational interventions from the different systems can be adopted for implementation, based on its effectiveness.

6. The use of standardized assessments to measure achievement as well as the use of two measures of the classroom learning environment.

Implications

This study has serious implications for educational practice and policy.

1. It is imperative that administrators and educators become more cognizant of the importance of promoting effective partnerships between home and school as a vehicle for academic achievement for all its students. Therefore, the implementation of professional development workshops can assist in this process by equipping teachers with knowledge and skills to effectively promote parental involvement.

2. The need for more participation in parental involvement research from school personnel is critical for the advancement of knowledge in this field. The adjustment in the attitude and perspective of educators and administrators regarding parental involvement can facilitate this process. Collaboration between the home and the school as an integral part of the policy of the school should be embraced by all stakeholders. School administrators must play a leading role in the promotion of parental involvement by ensuring that it remains central to the school's vision.

3. Empowering parents to become active participants in their child's education by engendering within them a sense of leadership through which they can become integrated into the school. Administrators should provide parents with the opportunities to be involved in the decision making process of the school. Parents especially those from the lower socio-economic status backgrounds need to be supported in order to efficiently assume their responsibilities.

There are implications of this study for social policy.

1. The deleterious effects of social inequity threaten the capacity of sub-groups of students to access quality education. It is imperative that the policy makers truly realize that their refusal to implement legislation for the creation of a more equitable society helps to sustain the achievement gap. It relegates certain groups of students to perpetuate the conditions of socio-economic deprivation into which they were born by denying them the opportunity to access quality education as the vehicle to social and economic mobility.

2. The formulation of social policies that would contribute to the amelioration of the social conditions for certain groups in the society is necessary. The provision of more opportunities for those who have been marginalized would lead to a more enhanced existence for them. The removal of barriers that serve to limit the potential of some would result in the realization of more equity for all. The narrowing of the academic achievement gap is not an impossible dream nor is quality education for all children a worn out cliché.

APPENDIX A

TABLE OF DEFINITIONS OF VARIABLES

Latent Variable	Observable Variable	Constitutive Definition	Instrumental Definition	Operational Definition
Parental Involvement	<p data-bbox="423 999 540 1024">Parenting</p> <p data-bbox="423 1793 638 1818">Learning at Home</p>	<p data-bbox="662 457 1000 632">It is multi-faceted and consists of parent' beliefs, attitudes, behaviors and practices at home and at school that influences their child's academic achievement.</p> <p data-bbox="662 1003 987 1150">The performance of tasks that contributes to the offspring's social, mental, emotional, physical, spiritual and psychological well -being.</p> <p data-bbox="662 1793 980 1877">Collaborates with my student on school related activities such as homework and</p>	<p data-bbox="1023 457 1243 905">The Parental Involvement Questionnaire, consisting of 31 questions were employed. A Likert scale was used ranging from 1 strongly disagree, 2- disagree, 3- agree and 4- strongly agree. The parents completed the questionnaire at home.</p> <p data-bbox="1023 974 1247 1730">1. I do things to help me become a better parent like reading books and going to meetings. 2. I provide a loving environment for my child. 3. I provide my child with learning tools like books and puzzles. 4. I my child with enough food, books and shelter. 5. I take my child to places where they can learn like the library, museum and church. 6. I supervise my child's television viewing. 7. I set rules for my child to follow.</p> <p data-bbox="1023 1766 1243 1877">8. I help my child with her/his homework. 9. I play educational</p>	<p data-bbox="1273 457 1511 905">There were seven subscales with seven parenting items, four learning at home items, four communication items, four volunteering items, five decision making items, two collaborating with the community items and five academic socialization activities items were reflected.</p> <p data-bbox="1273 974 1511 1121">Items 1-7 measured the subscale parenting with the lowest score being 7 and the highest score being 28.</p> <p data-bbox="1273 1745 1500 1856">Items 8-11 measured the subscale learning at home with the lowest score being 4</p>

		provides other educationally stimulating tasks for my student.	games with my child. 10. I read books with my child. 11. I go over the work that my child did at school with her/him.	and the highest score being 16.
	Communication	Engages in verbal exchanges with offspring as well as with the teacher regarding offspring's academic progress and other related issues of interest. Gathers information regarding offspring's academic activities.	12. I ask about my child's progress from her/his teacher. 13. I discuss any problems that my child is experiencing with her/his teacher. 14. I go to Parent/Teacher conferences. 15. I/we ask my child's teacher about the school's programs.	Items 12-15 measured the sub-scale communication The lowest score is 4 and the highest score is 16.
	Volunteering	Provides assistance to teachers during the school hours by performing tasks within the classroom as well as contributing to school organized events.	16. I help in my child's classroom. 17. I offer to go with my child on field trips to help her/his teacher. 18. I offer my skills to my child's teacher. 19. I attend school activities like sports and concerts.	Items 16-19 measured the sub-scale with the lowest score being 4 and the highest score is 16.
	Decision Making	Contributes to the decision making process at school.	20. I help make decisions that contribute to the running of the school. 21. I go to school board meetings. 22. I vote at school board meetings. 23. I go to PTO/PTA meetings. 24. I give ideas to help solve some of the school's	The items 20 -24 measured the sub-scale with the lowest score being 5 and the highest score being 25.

			problems like discipline.	
	Collaborating with the community	Networking with members of the community to enhance the quality of the school.	25. I meet with others like parents and community members to improve the school's performance. 26. I work with others like parents and community members to support the school's mission.	The items 25-26 measured the subscale collaborating with the community with the lowest score being 4 and the highest score being 12.
	Academic Socialization Activities	The academic activities that the parent engages in with the child to guide her/him academically.	27. I encourage my child to do well in school academically. 28. I tell my child my hopes for her/his success. 29. I help my child to choose courses that are related to her/his career goals. 30. I discuss with my child ways to remember what she /he has learned at school. 31. I tell my child about how important education is.	The items 27-31 will be used to measure the sub-scale academic socialization activities with the lowest score being 4 and the highest being 25.
	Parent Educational Status	The position in the educational structure to which the parent has attained.	The demographic section C in the Parental Involvement Questionnaire will provide the data regarding the parent's educational status.	Higher scores will be indicative of higher levels of educational status. 1-Elementary 2-High School 3-College 4-Graduate 5-Post Graduate
	Parent Race/Ethnicity	The racial composition and racial identity of the individual.	The data on the parent's race/ethnicity will be obtained from the demographic section A of the Parental	The race/ethnicity will be measured 1. African American 2. Asian 3 European American

Academic Achievement	Student Race/Ethnicity	The racial composition and racial identity of the individual.	Involvement Questionnaire. The data regarding race/ethnicity will be obtained from the demographics section A from the Individualized Classroom Environment Questionnaire.	4. Native American 5. Pacific Islander 6. Hispanic/Latino 7. Other. The race/ethnicity will be measured 1. African American 2. Asian 3. European American 4. Native American 5. Pacific Islander 6. Hispanic/Latino 7. Other
	Free and Reduced Lunch Status	Students eligible for the free lunch are at or below 130% of the Federal poverty guidelines the reduced priced lunch are between 130 and at or below 185% of the Federal poverty guidelines.	The student's free and reduced lunch status will be obtained from the school's computer software program pinnacle by the subject teacher and provided to the researcher.	The students on free and reduced lunch will be measured with 0 and the students not on the free and reduced lunch will be measured with 1.
	Math Achievement	The students' scores in classroom tests in the subject areas of Language Arts and Math The student's scores on the 2015-2016 1 st and 2 nd quarter Math classroom test.	The data regarding the student's scores in the 2015-2016 1 st and 2 nd quarter math and Language Arts class room tests will be obtained from the school personnel. The data regarding the student's scores in the 2015-2016 1 st and 2 nd quarter math class room test will be obtained from the school personnel.	The student's academic achievement will be measured, using a percentage from 0%-100%. The student's academic achievement will be measured, using a percentage from 0%-100%.
	Language Arts Achievement	The student's scores on the 2015-2016 1 st and 2 nd quarter Language Arts classroom test.	The data regarding the student's scores in the 2015-2016 1 st and 2 nd quarter language arts will be obtained from the school personnel.	The student's academic achievement will be measured, using a percentage from 0%-100%.

Classroom Learning Environment	Student Gender	The biological composition of the student whether male or female.	The data regarding the student's gender will be obtained from will be obtained from the Demographics section B of the Individualized Classroom Environment Questionnaire.	Female students were measured using 1, and the male students were measured, using 2.
	Parent Gender	The biological composition of the parent whether male or female.	The data regarding the parent's gender will be obtained from the demographics section B in the Parental Involvement Questionnaire.	Female parents were measured using 1, and the male parents were measured, using 2.
	Personalization	Learning environment is used to describe institutionalized and naturally occurring group settings that stimulate learning in students. (Ludtke et al, 2009) There is emphasis on opportunities for individual students to interact with the teacher and concern for the personal welfare and social growth of the individual student.	Student's perceptions of classroom learning environment will be measured from the students' Individualized Classroom Questionnaire. It consists of 25 items on 5 scales: personalization, Participation, Independence, Investigation and Differentiation. A 5 point Likert scale, Almost Never, Seldom, Some times, Often, Very Often. 1. The teacher talks with each student. 2. The teacher takes a personal interest in each student.	Items not underlined are scored 1, 2,3,4,5, respectively for almost never, seldom, sometimes, often and very often. Underlined are reversed scored. The responses that are omitted or invalid are scored 3. Scores from the 5 items in sub-scale personalization, and scores from the 4 items in the sub-scale participation, scores from the 5 items in the sub-scale independence, scores from the 5 items in the sub-scale investigation and 4 items in sub-scale differentiation will be reflected. The items 1-5 will measure the sub-scale personalization with

	<p>Participation</p>	<p>Students are encouraged to participate rather than to be passive listeners.</p>	<p>3. <u>The teacher is unfriendly to students.</u> 4. The teacher helps each student who is having trouble with the work. 5. The teacher considers students' feelings.</p> <p>6. Students give their opinions during classroom discussions. 7. <u>The teacher lectures without students asking or answering questions.</u> 8. Students' ideas and suggestions are used during classroom discussion. 9. Students ask the teacher questions.</p>	<p>the lowest score being 5 and the highest score 25.</p> <p>The items 6-9 will measure the subscale participation with the lowest score being 5 and the highest score 20.</p>
	<p>Independence</p>	<p>Students are allowed to make decisions and have control over their own learning and behavior.</p>	<p>10. <u>The teacher decides where students sit.</u> 11. Students choose their partners for group work. 12. <u>Students are told how to behave in the classroom.</u> 13. <u>The teacher decides which students should work together.</u> 14. <u>The teacher decides how much movement and talk there should be in the classroom.</u></p>	<p>The items 10-14 will measure the sub-scale independence with the lowest score being 5 and the highest score 25.</p>
	<p>Investigation</p>	<p>There is an emphasis on the skills and processes of inquiry and their use in problem-solving and investigation.</p>	<p>15. <u>Students find out the answers to questions from textbooks rather</u></p>	<p>The items 15-19 will measure the sub-scale investigation with the lowest score being 5 and the highest 25.</p>

	<p>Differentiation</p>	<p>There is emphasis on the selective treatment of students on the basis of ability, interests and rate of learning.</p>	<p><u>than from investigations.</u> 16. Students carry out investigations to test ideas. 17. Students carry out investigations to answer questions coming from classroom discussions. 18. Students explain the meanings of statements, diagrams and graphs. 19. Students carry out investigations to answer questions which puzzle them.</p> <p>20. Different students do different work. 21. <u>All students in the class do the same work at the same time.</u> 22. Different students use different books equipment, and materials. 23. Students who work fast move on to the next topic.</p>	<p>The items 20-23 will measure the sub-scale differentiation with the lowest score being 5 and the highest 20.</p>
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APPENDIX B

IRB AND SCHOOL BOARD APPROVAL LETTERS

March 30, 2015

Allyson Blandin
Tel: (269) 697-3373
Email: blandin@andrews.edu

RE: APPLICATION FOR APPROVAL OF RESEARCH INVOLVING HUMAN SUBJECTS
IRB Protocol #: 15-047 Application Type: Original Dept.: Graduate Psychology & Counseling
Review Category: Full Action Taken: Approved Advisor: Larry Burton
Title: Parental involvement, socio-economic status and students' perceptions of the classroom learning environment as predictors of 8th grade students' academic achievement.

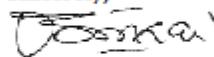
This letter is to advise you that the Institutional Review Board (IRB) has reviewed and **approved** your IRB application for research involving human subjects entitled: *Parental involvement, socio-economic status and students' perceptions of the classroom learning environment as predictors of 8th grade students' academic achievement* IRB protocol number 15-047 under Full category. This approval is valid until **February 24, 2016**, and limited to the following middle schools: **Dandy, William; Falcon Cove; Indian Ridge; Lauderdale Lakes, Lauderhill; Nova; Parkway; Pioneer; Plantation; Seminole; Tequesta, and West Pine**. If your research is not completed by the end of this period you must apply for an extension at least four weeks prior to the expiration date. We ask that you inform IRB Office whenever you complete your research. Please reference the protocol number in future correspondence regarding this study.

Any future changes (see IRB Handbook pages 10-11) made to the study design and/or consent form require prior approval from the IRB before such changes can be implemented. To request for extension, modification and completion of your study please use the attached form.

While there appears to be no more than minimum risk with your study, should an incidence occur that results in a research-related adverse reaction and/or physical injury, (see IRB Handbook page 11) this must be reported immediately in writing to the IRB. Any project-related physical injury must also be reported immediately to the University physician, Dr. Reichert, by calling (269) 473-2222.

We wish you success in your research project. Please feel free to contact our office if you have questions.

Sincerely,



Mordekai Ongo
Research Integrity & Compliance Officer

Institutional Review Board - 4150 Administration Dr Room 322 - Berrien Springs, MI 49104-0355
Tel: (269) 471-6361 Fax: (269) 471-6543 E-mail: irb@andrews.edu

February 3, 2016

Allyson Blandin
Tel: (269) 697-3373
Email: blandin@andrews.edu

RE: APPLICATION FOR APPROVAL OF RESEARCH INVOLVING HUMAN SUBJECTS
IRB Protocol #: 15-047 Application Type: Original Dept.: Graduate Psychology & Counseling
Review Category: Full Action Taken: Approved Advisor: Larry Burton
Title: Parental involvement, socio-economic status and students' perceptions of the classroom learning environment as predictors of 8th grade students' academic achievement.

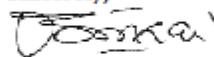
This letter is to advise you that the Institutional Review Board (IRB) has reviewed and approved your IRB renewal application for research involving human subjects entitled: *"Parental involvement, socio-economic status and students' perceptions of the classroom learning environment as predictors of 8th grade students' academic achievement"* IRB protocol number 15-047 under Full category. This approval is valid until **February 3, 2017**, and limited to the following middle schools: Dandy, William; Falcon Cove; Indian Ridge; Lauderdale Lakes, Lauderhill; Nova; Parkway; Pioneer; Plantation; Seminole; Tequesta, and West Pine. If your research is not completed by the end of this period you must apply for an extension at least four weeks prior to the expiration date. We ask that you inform IRB Office whenever you complete your research. Please reference the protocol number in future correspondence regarding this study.

Any future changes (see IRB Handbook pages 10-11) made to the study design and/or consent form require prior approval from the IRB before such changes can be implemented. To request for extension, modification and completion of your study please use the attached form.

While there appears to be no more than minimum risk with your study, should an incidence occur that results in a research-related adverse reaction and/or physical injury, (see IRB Handbook page 11) this must be reported immediately in writing to the IRB. Any project-related physical injury must also be reported immediately to the University physician, Dr. Reichert, by calling (269) 473-2222.

We wish you success in your research project. Please feel free to contact our office if you have questions.

Sincerely,



Mordekai Ongo
Research Integrity & Compliance Officer

Institutional Review Board - 4150 Administration Dr Room 322 - Berrien Springs, MI 49104-0355
Tel: (269) 471-6361 Fax: (269) 471-6543 E-mail: irb@andrews.edu

THE SCHOOL BOARD OF BROWARD COUNTY, FLORIDA
STUDENT ASSESSMENT & RESEARCH

DEAN W. VAUGHAN
INSTITUTIONAL REVIEW BOARD (IRB) CHAIR

Telephone: 754-321-2500

Facsimile: 754-321-2722

SECURITY APPROVAL EXPIRES FRIDAY, SEPTEMBER 30, 2016.

September 30, 2015

TO: Principals at the following middle schools:

Daudy, William	Falcon Cove	Indian Ridge	Lauderdale Lakes
Lauderhill	Nova	Parkway	Pioneer
Plantation	Seminole	Torquesta Trace	West Pine

FROM: Mr. Dean W. Vaughan, Institutional Review Board (IRB) Chair

VIA: Valerie S. Wanza, Designee, School Performance and Accountability

SUBJECT: **PRINCIPAL SECURITY APPROVAL MEMORANDUM FOR RESEARCH PROPOSAL — #860 — PARENTAL INVOLVEMENT, SOCIO-ECONOMIC STATUS AND STUDENTS' PERCEPTIONS OF THE CLASSROOM LEARNING ENVIRONMENT AS PREDICTORS OF 8TH GRADE STUDENTS' ACADEMIC ACHIEVEMENT**

Staff has reviewed the research #860 — *Parental Involvement, Socio-Economic Status and Students' Perceptions of the Classroom Learning Environment as Predictors of 8th Grade Students' Academic Achievement* submitted by Ms. Allyson Blandin, doctoral student at Andrews University and approval has been granted for this researcher and/or members of the research team to *contact you and request your participation*.

The recently completed review of the proposed research included school- and/or district-based staff and Institutional Review Board (IRB) approvals, and a review of the proposed research methods, benefits of the research to the District, and impact of the project on staff time and resources.

Your participation in this research project is **strictly voluntary**. To aid in your decision, Ms. Blandin and/or members of the research team have been instructed to share, with each selected school-based staff, a complete description of research activities, as well as provide the **District Security Approval Letter** and this **Principal Security Approval Memorandum** for your review.

PLEASE NOTE: All researchers and members of their team must complete the District's security clearance procedure to receive a **Security Identification Badge** before entering a Broward County Public School campus or sponsored school event, or having contact with students or staff under any circumstances.

VSW/DWV/RWC:br



**THE SCHOOL BOARD OF BROWARD COUNTY, FLORIDA
INSTITUTIONAL REVIEW BOARD**

600 SOUTHEAST THIRD AVENUE • FORT LAUDERDALE, FLORIDA 33301-3125 • TEL 754-321-2500 • FAX 754-321-2520

DEAN W. VAUGHAN

Institutional Review Board (IRB) Chair
dean.vaughan@browardschools.com

SCHOOL BOARD

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Vice Chair DR. ROSALIND OSGOOD

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HEATHER P. BRINKWORTH
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LAURIE RICH LEVINSON
ANN MURRAY
NORA RUPERT

ROBERT W. RUNCIE
Superintendent of Schools

September 30, 2015

Ms. Allyson Blandin
4415 International Court, Beechwood, Apt. #42
Berrien Springs, MI 49104

Dear Ms. Blandin:

Thank you for submitting your research proposal #860 — *Parental Involvement, Socio-Economic Status and Students' Perceptions of the Classroom Learning Environment as Predictors of 8th Grade Students' Academic Achievement* — for consideration by Broward County Public Schools (BCPS). Staff has reviewed your research proposal and approval has been granted for you and/or members of the research team to *contact the principals at the following middle schools*:

Dandy, William	Falcon Cove	Indian Ridge	Lauderdale Lakes	Lauderhill	Nova
Parkway	Pioneer	Plantation	Seminole	Tequesta Trace	West Pine

This approval means that we have found your proposed research methods to be compatible with a public school setting and your research questions of interest to the school district. The expiration date of your proposal is *Friday, September 30, 2016*. The anticipated date for submitting an electronic copy of your research findings is *Monday, January 30, 2017*. If you are unable to complete your research by the expiration date, you must submit a *Request for Renewal*, (<http://www.broward.k12.fl.us/sar/docs/IRB.pdf>), to the Student Assessment & Research Department *four weeks* prior to the expiration date.

Implementing your research, however, is a decision to be reached by the affected school-based staff on a **strictly voluntary** basis. To assist the school-based staff in their decision to participate, please outline the operational steps to be performed at their school. Based upon this information, each school-based staff would then make a decision to participate or not. School-based staff have been instructed not to cooperate unless you provide this **District Security Approval Letter** and the **Principal Security Approval Memorandum**.

PLEASE NOTE: All researchers and team members must complete the District's security clearance procedures to receive a Security Identification Badge before entering a BCPS campus or sponsored school event or having contact with students or staff under any circumstances. Researchers who do not complete these procedures before visiting a school site will have their IRB approval suspended.

District security clearance procedures require each researcher to complete and sign the attached Security Clearance Form and Security Background Check Form. The Security Clearance Form must be faxed/mailed to Ms. Beth Tillman (beth.tillman@browardschools.com) to obtain the IRB Chair's signature prior to being processed by the Security Clearance Office. After receiving the signature of the IRB Chair, each researcher must go to the Security Clearance Office with the following documents:

APPENDIX C
CONSENT FORMS AND RESEARCH INSTRUMENTS

STUDENT ASSENT FORM

My name is Allyson Blandin and I am doing a reseach study to complete my PhD at Andrews University. The research is to try and find ways to help you to do better in school. I am asking you to be a part of this research by filling out a survey. The items will be about your Language Arts and Mathematics classes and the activites that you do with your teacher and classmates. It will take 30 minutes for you to complete.

You are free to stop taking part at any time. You will not be punished or face any consequences from your teacher. You will not be at risk or face any harm while doing it. Your identity and responses will be kept secure and private. This should be an enjoyable experience for you.

I _____ agree voluntarily to take part in the research study.

Date: _____

Parental Involvement Survey

Child's Full Name: _____

A. Race Ethnicity: Please shade the oval(s) that describe your race and ethnicity. Please select all that apply to you.

	African American	Asian American	European American	Native American	Pacific Islander	Hispanic/ Latino	Other
A. Parent's Race/Ethnicity	<input type="radio"/>						

If "Other" please describe here:

B. Parent's Gender: Please shade the oval that describes your gender/sex.

	Female	Male
Parent's Gender/Sex	<input type="radio"/>	<input type="radio"/>

C. Parent's Educational Level: Please shade the oval that describes the highest level of education you have completed.

	Elementary Level	High School Level	2-year College Level	4-year College Level	Graduate Level	Post- graduate Level
A. Parent's Educational Level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following survey consists of 31 items about your involvement in your child's education at school and at home. Please circle the choice that best describes your situation.

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. I do things to help me become a better parent, like reading books and going to meetings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I provide a loving environment for my child.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I provide my child with learning tools like books and puzzles.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I provide my child's basic needs, like enough food, clothes and shelter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I take my child to places where they can learn outside of school like the library, museum and church.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I supervise my child's television viewing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I set rules for my child to follow.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I help my child with her/his homework.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I play educational games with my child.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I read books with my child.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. I go over the work my child did at school with her/him at home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I ask about my child's progress from her/his teacher.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. I discuss any problems that my child is having with her/his teacher.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Agree	Strongly Agree
14. I go to parent/teacher conferences.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. I ask my child's teacher about the school's programs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I help in my child's classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. I offer to go with my child's on field trips to help her/his teacher.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. I offer my skills to my child's teacher.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. I attend school activities, like sports and concerts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. I help make decisions that contribute to the running of the school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. I go to school board meetings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. I vote at the school board meetings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. I go to Parent Teacher Association/ Parent Teacher Organization (PTA/PTO) meetings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. I give ideas to help solve some of the school's problems, like discipline.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. I meet with others, like parents and community members, to improve the school's performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. I work with others, like parents and community members, to support the school's mission.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. I encourage my child to do well in school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. I tell my child my hopes for her/his success at school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Agree	Strongly Agree
29. I help my child to choose courses that are related to her/his career goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. I discuss with my child ways to remember what she/he has learned at school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. I tell my child about how important education is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Thank you for completing this survey!

Individualized Classroom Environment Survey

Student's Full Name: _____

A. Race & Ethnicity: Please shade the oval(s) that describe your race and ethnicity. Please select all that apply to you.

African American	Asian American	European American	Native American	Pacific Islander	Hispanic/ Latino	Other
<input type="radio"/>						

If "Other" please describe here:

B. Student's Gender: Please shade the oval that describes your gender/sex.

Female	Male
<input type="radio"/>	<input type="radio"/>

The following survey consists of 25 items about your ideas about your language arts and math classes. Please shade the best answer to the following questions, using the following:

In Your Language Arts Class

In Your Math Class

Almost Never Seldom Sometimes Often Very Often

Almost Never Seldom Sometimes Often Very Often

Personalization

153

<input type="radio"/>	1. The teacher talks with each student.	<input type="radio"/>								
<input type="radio"/>	2. The teacher takes a personal interest in each student.	<input type="radio"/>								
<input type="radio"/>	3. The teacher is unfriendly to students	<input type="radio"/>								

In Your Language Arts Class

In Your Math Class

**Almost
Never** **Seldom** **Sometimes** **Often** **Very
Often**

**Almost
Never** **Seldom** **Sometimes** **Often** **Very
Often**

154

<input type="radio"/>	4. The teacher helps each student who is having trouble with the work.	<input type="radio"/>								
<input type="radio"/>	5. The teacher considers students' feelings.	<input type="radio"/>								
Participation										
<input type="radio"/>	6. Students give their opinions during discussions	<input type="radio"/>								
<input type="radio"/>	7. The teacher lectures without students asking or answering questions	<input type="radio"/>								
<input type="radio"/>	8. Students' ideas and suggestions are used during classroom discussion.	<input type="radio"/>								
<input type="radio"/>	9. Students ask the teacher questions.	<input type="radio"/>								
<input type="radio"/>	10. I read books with my child.	<input type="radio"/>								
Independence										
<input type="radio"/>	11. The teacher decides where students sit.	<input type="radio"/>								

In Your Language Arts Class

In Your Math Class

**Almost
Never** **Seldom** **Sometimes** **Often** **Very
Often**

**Almost
Never** **Seldom** **Sometimes** **Often** **Very
Often**

155

<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				

12. Students choose their partners for group work.

13. Students are told how to behave in the classroom

14. The teacher decides which students should work together.

15. The teacher decides how much movement there should be in the class.

<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				

In Your Language Arts Class

In Your Math Class

**Almost
Never** **Seldom** **Sometimes** **Often** **Very
Often**

**Almost
Never** **Seldom** **Sometimes** **Often** **Very
Often**

Investigation

In Your Language Arts Class

In Your Math Class

**Almost
Never** **Seldom** **Sometimes** **Often** **Very
Often**

**Almost
Never** **Seldom** **Sometimes** **Often** **Very
Often**

156

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	16. Students find out the answers to questions from text books rather than through investigation.	<input type="radio"/>				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	17. Students carry out investigations to test ideas	<input type="radio"/>				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	18. Students carry out investigations to answer questions coming from classroom discussions.	<input type="radio"/>				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	19. Students explain the meanings of statements, diagrams, and graphs.	<input type="radio"/>				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	20. Students carry out investigations to answer questions that puzzle them.	<input type="radio"/>				
Differentiation										
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	21. Different students do different work.	<input type="radio"/>				

In Your Language Arts Class

In Your Math Class

**Almost
Never** **Seldom** **Sometimes** **Often** **Very
Often**

**Almost
Never** **Seldom** **Sometimes** **Often** **Very
Often**

157

<input type="radio"/>	22. All students do the same work at the same time.	<input type="radio"/>								
<input type="radio"/>	23. Different students use different books, equipment and materials.	<input type="radio"/>								
<input type="radio"/>	24. Students who work fast move on to the next topic	<input type="radio"/>								
<input type="radio"/>	25. I meet with others, like parents and community members, to improve the school's performance.	<input type="radio"/>								

APPENDIX D
STATISTICAL OUTPUTS

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	35	78.272	70	.233	1.118
Saturated model	105	.000	0		
Independence model	14	468.043	91	.000	5.143

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	1.013	.883	.825	.589
Saturated model	.000	1.000		
Independence model	7.155	.470	.389	.408

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.833	.783	.979	.971	.978
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.769	.641	.752
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	8.272	.000	34.136
Saturated model	.000	.000	.000
Independence model	377.043	313.138	448.468

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	1.030	.109	.000	.449
Saturated model	.000	.000	.000	.000
Independence model	6.158	4.961	4.120	5.901

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.039	.000	.080	.623
Independence model	.233	.213	.255	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	148.272	165.485	230.305	265.305
Saturated model	210.000	261.639	456.100	561.100
Independence model	496.043	502.928	528.856	542.856

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	1.951	1.842	2.291	2.177
Saturated model	2.763	2.763	2.763	3.443
Independence model	6.527	5.686	7.467	6.617

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	88	98
Independence model	19	21

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
FRL	<---	PES	.099	.037	2.711	.007	
PI	<---	PES	.288	.111	2.590	.010	
AA	<---	PI	1.741	1.008	1.727	.084	
AA	<---	FRL	7.357	2.603	2.826	.005	
CLE	<---	PI	-.599	.334	-1.797	.072	
AS	<---	PI	1.000				
CC	<---	PI	.474	.136	3.472	***	
DM	<---	PI	1.238	.325	3.813	***	
VOL	<---	PI	1.003	.236	4.251	***	
COM	<---	PI	1.405	.216	6.513	***	
LAH	<---	PI	1.404	.223	6.299	***	
PARE	<---	PI	1.243	.187	6.652	***	
LPERA	<---	CLE	1.000				
LPARA	<---	CLE	.808	.220	3.671	***	
LINVESA	<---	CLE	.574	.168	3.418	***	
MSCORE	<---	AA	1.000				
LASCORE	<---	AA	.899	.283	3.181	.001	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
FRL	<---	PES	.297
PI	<---	PES	.319
AA	<---	PI	.244
AA	<---	FRL	.382
CLE	<---	PI	-.267
AS	<---	PI	.724
CC	<---	PI	.431
DM	<---	PI	.473

			Estimate
VOL	<---	PI	.528
COM	<---	PI	.844
LAH	<---	PI	.799
PARE	<---	PI	.689
LPERA	<---	CLE	.739
LPARA	<---	CLE	.743
LINVESA	<---	CLE	.506
MSCORE	<---	AA	.771
LASCORE	<---	AA	.719

Covariances: (Group number 1 - Default model)

		Estimate	S.E.	C.R.	P	Label
e2	<--> e3	2.634	.527	4.998	***	
e3	<--> e4	3.347	.809	4.137	***	
e1	<--> e7	.557	.290	1.920	.055	
e2	<--> e4	1.091	.327	3.336	***	

Correlations: (Group number 1 - Default model)

		Estimate
e2	<--> e3	.752
e3	<--> e4	.587
e1	<--> e7	.293
e2	<--> e4	.445

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
PES	1.874	.304	6.164	***	
e20	1.374	.405	3.391	***	
e23	.191	.031	6.164	***	
e21	7.149	2.625	2.724	.006	
e22	60.481	24.762	2.442	.015	
e1	1.390	.280	4.967	***	
e2	1.508	.254	5.937	***	

	Estimate	S.E.	C.R.	P	Label
e3	8.132	1.383	5.879	***	
e4	3.993	.690	5.787	***	
e5	1.219	.336	3.633	***	
e6	1.712	.394	4.345	***	
e7	2.611	.507	5.153	***	
e8	6.407	2.172	2.950	.003	
e9	4.064	1.407	2.887	.004	
e11	7.360	1.368	5.381	***	
e18	52.975	24.384	2.172	.030	
e19	58.777	20.779	2.829	.005	

Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
FRL	.088
PI	.102
AA	.223
CLE	.071
LASCORE	.517
MSCORE	.595
LINVESA	.256
LPARA	.553
LPERA	.546
PARE	.475
LAH	.638
COM	.712
VOL	.278
DM	.224
CC	.185
AS	.524

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