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A STUDY OF THE RELATIONSHIP OF PARENTAL INVOLVEMENT TO
STUDENT ACHIEVEMENT IN A PENNSYLVANIA
CAREER AND TECHNOLOGY CENTER

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ABSTRACT

This study investigated whether parental involvement was a factor in the performance of career and technical students. The study attempted to determine the types of parent involvement behaviors that were most prevalent in the CTC and if there was a relationship between parent involvement and student achievement when controlling for family structure, IEP, PSSA reading score, and PSSA math score. The participants were 98 senior program completers at a south western Pennsylvania career and technology center. Each participant's parent completed a survey designed to identify parent involvement behaviors. Results were analyzed using descriptive data analysis and logistic regression. Study found that home-based parental involvement was most prevalent in this setting. The regression analysis indicated that parental involvement and PSSA reading score were significant predictors of student achievement.

TABLE OF CONTENTS

LIST OF TABLES	vi
ACKNOWLEDGEMENTS	vii
Chapter I.....	1
INTRODUCTION	1
Historical Perspective	1
Parent Involvement Policies	2
Purpose of the Study	4
Significance of the Study	5
Research Questions	6
Definition of Terms.....	7
Conceptual Framework.....	8
Chapter II	9
REVIEW OF THE RELATED LITERATURE	9
Parent Involvement Research	9
Outcomes of Parent Involvement in Secondary School.....	11
Parent Involvement in Secondary Schools.....	15
Effective Types of Parent Involvement	17
Chapter Summary	20
Chapter III.....	22
METHODOLOGY	22
The Purpose of the Study	22
Research Design.....	23
Participants.....	23
Study Variables	24
Dependent variable	24
Independent variables	25
Parental Involvement Instrument.....	27
Pilot Study.....	28
Survey Administration	28
Data Collection Protocol.....	29
Mode of Analysis.....	30
Assumptions.....	31
Chapter IV.....	32
FINDINGS	32
Profile of Student Participants	32
Types of Parental Involvement	36
Findings for Research Question 1.....	36
Influence of Parental Involvement on Student Achievement	37
Findings for Research Question 2.....	38
Summary of Findings.....	41
Chapter V	42
SUMMARY, DISCUSSION, AND RECOMMENDATIONS	42
Summary	42
Discussion.....	43

Types of Parental Involvement	43
Relationship of Parent Involvement to Student Achievement.....	44
Recommendations for Practice	45
Recommendations for Further Research.....	46
REFERENCES	47
APPENDIX A Survey Instrument	53
APPENDIX B Letter of Introduction from School Director	58
APPENDIX C Letter to Parents.....	59
APPENDIX D Frequency of Responses to Individual Questions	60
APPENDIX F Letter of Permission to Use Survey	61

LIST OF TABLES

Table 1	Variables Used in the Analyses	26
Table 2	Demographic Background of Student Participants	33
Table 3	Educational Experience of Student Participants	34
Table 4	Questionnaire Responses by Categories of Parental Involvement	36
Table 5	List of Variables Used in the Regression Analyses	37
Table 6	Summary of Parental Involvement Score and PSSA Scores by Student Competence on Industry Approved Exams	38
Table 7	Results of Logistic Regression with Achievement Level as Dependent Variable	39

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Chapter I

INTRODUCTION

Historical Perspective

Parent Involvement Research. For the past four decades, numerous studies have examined the impact of parental involvement on student success in school. In a controversial publication for the US Department of Health, Education, and Welfare “Equality of Educational Opportunity,” Coleman (1966) argued that influences of the student’s home had more of an impact on the student’s success than the influences of the school. This report was controversial because it implied that school practices were not important to a child’s schooling. Since the publication of the Coleman report, numerous studies have been conducted to examine effects of home and school variables.

Coleman, a sociologist, examined the equality of school systems by using the outcome achievement (i.e., test scores) as an indicator of equality. He examined the impact of family characteristics—such as income, race, family make-up, parent’s hours worked outside the home—on student performance and concluded that schools did not exert a very powerful influence on achievement. Coleman asserted that giving children equal treatment in the school system did not guarantee equal outcomes, and, therefore, an inequality existed.

In a later work, Coleman (1982) clarified his report stating that he did not mean that “schools don’t make a difference”; instead, he meant that “schools, of whatever quality, are more effective for children from strong family backgrounds than for children from weak ones” (p. 35). He explained that schools are formal institutions of childrearing and, as such, provide inputs into the socialization process—namely,

opportunities, demands, and rewards. Other important inputs must come from families. These inputs—attitudes, effort, and conception of self—are equally important to a child's development and, consequently, to his or her performance.

Coleman (1966, 1982) found that some families concentrate more on careers and income while ignoring their set of inputs and leave the task of socialization to the school. The changing dynamics of American families, with more mothers working outside the home, more single parent households, and less participation in community and religious organizations, was having a negative effect on the attitudes, efforts, and self-concept of some of our nation's children.

These works by Coleman lay the groundwork for numerous studies that examine the effects of home and school variables on student achievement. Studies have examined parent's level of education or occupational standing (DiMaggio, 1982; Teachman, 1987), cultural resources (Laureau, 1987), relevant support systems (Coleman, 1987) and minority status (Laureau, 1987; Madigan, 1994; Anguiano, 2004). Many studies have found that parent involvement can have a positive effect on discipline problems (Comer, 1988; Cotten & Wiklund, 1989), attendance (Bauch, 1989; Comer, 1988), the development of positive attitudes toward learning and homework completion (Chapman, 1991), truancy and dropping out (McNeal, 1999), and achievement increases (Cawelti, 1990; Epstein, 1987; Keith et al., 1993; Hart, 1988).

Parent Involvement Policies. The decades of research on parental involvement has provided evidence that parents can help their children achieve high standards. This empirical evidence is so convincing that federal investment in education has been linked

to its inclusion in school programs, and it has been included in other important reform movements.

Perkins III [Carl D. Perkins Vocational Technical Education Act of 1998] defined a new vision for vocational education that promoted reform and continuous improvement and that supported alignment of vocational and technical education with state reforms. Perkins III created a state accountability system that includes performance indicators in the law: student attainment of vocational and technical skill proficiency, secondary diploma in conjunction with a proficiency credential, and placement in post-secondary education, employment, or military service. This legislation included in its “high-quality indicators” for CTE programs the involvement of parents in students’ education.

The No Child Left Behind Act of 2001 is based on a framework through which “families, educators, and communities can work together to improve teaching and learning” (NCLB, p. 1). As such, parental involvement is included as a target of this legislation. When explaining the provisions of NCLB, Secretary of Education Rod Paige stated that “schools can’t improve without the help of parents” (as quoted in NCLB, p. 1). The parent involvement provisions of the Title I, Part A section of the NCLB Act reflected this principle and even included a formula for calculating the amount of funds schools need to allocate to parent involvement activities.

High Schools That Work (HSTW) is the nation’s first large scale initiative at raising performance levels of career-bound high school students. The goals of HSTW are to increase the math, science, communication, problem-solving, and technical competencies of these students. As part of its key practices for high-achieving schools,

HSTW also included the involvement of parents in guidance and advisement to ensure completion of an accelerated program of study (Southern Regional Educational Board).

These policies reflect the belief that parent involvement is not merely correlated with student performance, but it actually influences that performance (Mattingly et al., 2005). As a result, many school districts are including parent involvement programs as part of their school improvement plans and reporting positive results.

Purpose of the Study

Expectations and requirements for CTE programs have risen in recent decades. Across the United States, CTE programs are being asked to prepare students for either postsecondary education or career employment. CTE students are required to meet both academic and industry performance standards. In addition to technical skill attainment measured by assessments aligned to industry standards, Perkins IV [Carl D. Perkins Career and Technical Education Improvement Act of 2006] now requires that participants meet academic attainment levels as measured by the academic assessments a state has approved under NCLB. This new level of expectation has placed great stress on local schools; consequently, CTE educators are looking for strategies to improve student achievement.

The purpose of this study is to examine whether parental involvement is a factor in the performance of career and technical students. This study attempts to determine the types of parent involvement behaviors that are most prevalent in the CTE, and whether there is a relationship between parent involvement and student achievement when controlling for family structure, IEP, PSSA reading score and PSSA math score. This information will assist CTE professionals in making improvements in their schools.

Significance of the Study

In the study of Career and Technical Education (CTE) in Pennsylvania, the Jobs for the Future (JFF) organization reported that schools need to be more accountable for student achievement in job readiness skills. This finding is mirrored in the state's CTE Performance Measures and Standards for Secondary Education, which calls for increases in passing academic performance and occupational competency scores, in the number of industry certifications awarded, and in higher placement rates.

According to the *JFF* report, "Career and Technical Education in Pennsylvania" much improvement is needed in the state's career and technical education programs if its to play its rightful role as a contributor to the economic strength of its residents (p. 10). *JFF*'s study found that, in addition to low academic skills, attainment of vocational skills and technical credentials is unacceptably low (p. 11). Only 20 percent of eleventh-grade CTE students reached proficiency or advanced levels on the state's math examination, and only 37.7 percent reached proficiency in reading. Just under half achieved competency at or above the norm on National Occupational Competency Testing Institute exams, and only 514 industry certifications were earned. Of those 514 certifications, half were for either cosmetology or using computer applications (Microsoft Office Specialist).

On a positive note, *JFF* found that there are some high-achieving CTE schools in Pennsylvania and that these schools have much for which they can be proud. These schools have raised expectations, set high standards for all students, and increased outcomes for their student populations.

To improve their overall performance and make advances in student achievement, career and technical education schools (CTES) need information and strategies that can

help their institutions operate more effectively. As CTES statewide are becoming increasingly more accountable for their students' achievement, implementing strategies similar to those of high-achieving CTES could be beneficial to all CTES. Adopting strategies used for school improvement by regular education schools, like parent involvement programs, could also be beneficial. Because CTE student populations often vary from the school districts at large, an examination of parental involvement in this setting could provide important information for CTE educators. A review of literature found no parent involvement studies in this educational setting.

Research Questions

This study will seek answers to the following questions:

1. To what extent do parents of CTE seniors report their level of parental involvement in the following types of Epstein's parental involvement typologies:
 - a. Parenting?
 - b. Communicating?
 - c. Volunteering?
 - d. Learning at home?
 - e. Decision making?
 - f. Collaborating with community?
2. What is the relationship between the extent of parental involvement and student achievement when controlling for the following factors:
 - a. Family structure.
 - b. Reading score.

- c. Math score.
- d. Involvement through IEP.

Definition of Terms

Parent involvement refers to school activities that are designed to strengthen family-school relationships and improve student achievement. The widely used categories of this involvement, as defined by Epstein (1995) include parenting, communicating, volunteering, supporting learning at home, participating in decision making and collaborating with the community.

CTE, refers to Career and Technical Education, which is a sequence of courses that provides individuals with the academic and technical skills needed to prepare for further education for careers in current or emerging employment sectors. CTE includes competency-based applied learning that contributes to academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, and occupational-specific skills of an individual.

Conceptual Framework

This study is based on the conceptual model defined by Epstein (1995) who defined six typologies of parent involvement. Epstein's typologies identify a non-hierarchical framework through which schools can implement activities to reach a variety of goals for student achievement and school improvement (Epstein et. al., 2003).

The widely used categories of involvement include (1) *parenting*: improving parents' understanding of adolescent development, parenting skills and the conditions for home learning; (2) *communication*: basic obligations of schools to improve communications from home to school and from school to home about students' progress and about school programs; (3) *volunteering*: involvement in school of parent volunteers and visits to school to support extra-curricular activities; (4) *supporting learning at home*: improving family involvement in learning activities at home; (5) *participating in decision making*: involving parents in advisory, decision-making, or advocacy roles; and (6) *collaborating with the community*: involvement of any community organizations or institutions that share some responsibility for children's development and success. Epstein's topologies have become the organizing construct around a continuous program of research on parent involvement programs (Lunenburg & Irby, 2002).

Chapter II

REVIEW OF THE RELATED LITERATURE

Expectations and requirements for CTE programs have risen in recent decades. Across the United States, CTE programs are being asked to prepare students for either postsecondary education or career employment. CTE students are required to meet both academic and industry performance standards. In addition to technical skill attainment measured by assessments aligned to industry standards, Perkins IV [Carl D. Perkins Career and Technical Education Improvement Act of 2006] now requires that participants meet academic attainment levels as measured by the academic assessments a state has approved under NCLB. This new level of expectation has placed great stress on local schools; consequently, CTE educators are looking for strategies to improve student achievement.

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Parent Involvement Research

The history of interest in parent involvement stems from sociological theories that note the importance of family background factors in predicting student achievement (Grolnick & Slowiaczek, 1994, p. 237). Since Coleman and his colleagues (1966) noted the existence of educational inequality in the United States among children from different

family backgrounds, researchers have been tireless in their search for explanations. Coleman defined “inequality” as unequal outcomes (i.e., achievement) attributed to influences of the family, but not the school system, and concluded that family factors were equally as important to a child’s achievement as school factors.

While family background factors are passive factors that cannot be changed, researchers have been successful in examining the familial characteristics that can be predictors of student success. These active factors are practices that can be duplicated for all students. Sociologists and educators alike have identified parental involvement as a key factor that mediates between family background and student achievement. These researchers (Grolnick & Slowiaczek, 1994; Steinberg, Lamborn, Dornbusch, & Darling, 1992; Trusty & Lampe, 1997; McNeal, 1999; Teachman et al., 1997) have documented the important role both families and schools play in our children’s education.

After the wealth of research documenting the differences in families—differences in their parental practices, in their socioeconomic status and education as well as in their parent’s aspirations for their children and modes of communicating those aspirations—research focus moved toward explaining just *how* parent involvement effects student achievement, *why* involvement decreases as students progresses through school, and *what* kinds of parent involvement are effective for students at various levels. As this study seeks answers to questions concerning secondary students in career and technology centers in Pennsylvania, the focus of this review is on literature related to the possible outcomes for students resulting from parental involvement, the characteristics of parental involvement in secondary schools, and the types of parental involvement that have been found to be effective.

Outcomes of Parent Involvement in Secondary School

The wealth of studies related to parental involvement has shown the value of parental involvement on achievement outcomes for children at the high school level. Parent involvement in schools can have a positive impact on a student's achievement by improving students' motivation to learn (Grolnick & Slowiaczek, 1994), academic engagement (Steinberg, Lamborn, Dornbusch, & Darling, 1992) approach toward learning (Gonzalez, Holbein, and Quilter, 2002), and self-concept (Trusty & Lampe, 1997). Other positive outcomes that have been linked to parental involvement are fewer drop-outs and fewer discipline problems (McNeal, 1999; Teachman et al., 1997).

Steinberg et al. (1992) examined the relations between school performance and parenting practices and found a positive relationship with students' academic engagement. Using a sample of students from nine high schools ($n = 6400$) with diversity in ethnicity, family structures, and socioeconomic status, the researchers collected student perception and academic performance data over two school years. The specific parental involvement activities the researchers observed included parents' helping with homework, attending extracurricular events, assisting with course selection, and monitoring student progress. The study found that when the parents were involved in their children's schooling in these ways, the students reported more effort, concentration, and attention in academic subjects as well as attainment of higher grade-point averages and more engagement in school.

Gonzalez, Holbein, and Quilter (2002) examined relationships between parental involvement and the adoption of either mastery or performance goal orientations by high school students. According to these researchers, adopting mastery goals is when students

are oriented toward “learning new skills and enhancing learning” (p. 453). In contrast, adopting performance goals is when “students are concerned with proving their ability or avoiding negative judgments” (p. 453). Students who use mastery goals are intrinsically motivated to achieve, seek out challenges and persist in the face of difficulty.

Performance goal students are motivated extrinsically and are more concerned with proving themselves to others or with avoiding negative judgments (Gonzalez et al., 2002). The study results showed that parent involvement was positively related to mastery orientation—the more desirable approach to learning. “When parents showed an interest in their child’s education by being actively involved, students were more likely to seek challenging tasks, persist through academic challenges and experience satisfaction in their schoolwork” (Gonzalez et al., 2002, p. 133).

Grolnick & Slowiaczek (1994) were interested in finding out “how” parental involvement affected students’ school performance (p. 283). They examined the “inner motivational resources” that may associate parental involvement with student achievement. Parental involvement in this research included three categories of involvement: 1). Behavioral involvement that includes parents going to school and participating in activities in which they receive information that helps their child manage schooling; 2). Personal involvement of the parent in which the parent cares for the child and enjoys interactions with the child at events related to school. This involvement conveys a positive feeling toward the school and the child; and 3). Cognitive/intellectual involvement that exposes the child to stimulating activities and materials (p. 239). This study found that mother’s behavioral and cognitive factors predicted “perceived and control understanding” which predicted school performance (p. 249).

Trusty & Lampe (1997) examined data from the National Education Longitudinal Study of 1988 to determine the effects of parental involvement on student's *locus of control*. Locus of control assesses what students perceive as the cause of events in their lives (p. 377). For example, they can attribute events to luck or chance on the one end of the spectrum, or to their own planning or efforts on the other end (p. 377). Trusty and Lampe cite research that finds students who feel more control over their own lives—those with internal locus of control—achieve higher grades, feel less alienated in school and society, tend to be leaders, and are more advanced in their career planning (p. 375). In general, these students accept responsibility for their own lives and work to overcome barriers because they see themselves as being in control. Parental involvement observed in this study included parent discussions with their child about school, jobs, events and issues and parent participation in activities with their child. According to this research, parental involvement had a strong positive effect on locus of control.

Keith et al. (1993) also analyzed data from a nationally representative sample of 21,814 students and their parents participating in the National Education Longitudinal Study to determine the extent of influence on academic achievement of eighth grade students. The parental involvement activities included parent-child communication, educational aspirations, participation in school activities, and home structure. The researchers concluded that "parental involvement has a powerful effect on eighth graders' achievement" and that although its effect was slightly stronger in math and social studies, it was a powerful influence on student success in all subject areas. This study suggests that parents should have high expectations for their children, communicate those expectations, and reinforce those expectations by monitoring their children's education

and providing a home environment that values and is conducive to learning” (Keith et al., 1993).

Other studies involving the National Educational Longitudinal Study data found positive results for parent involvement. McNeal (1999) found that parental involvement can have effective behavioral outcomes (truancy and dropping out), although he found different effects for some students. (p. 130). He looked at the parental involvement activities of discussion, PTO involvement, and monitoring child’s progress. Teachman et al. (1997) found that parents who interact with their children and their children’s schools have children who stay in school (p. 1356). These researchers noted that this finding is related to parents’ monitoring of their child’s progress. It is important to note that both of these researchers found varying results for different student groups.

Fehrmann, Keith, & Reiners (1987) examined the effects of parental influence on time spent by high school students doing homework and time spent watching television. The sample consisted of 28,051 high school seniors from the High School and Beyond (HSB) longitudinal study. Data from the HSB questionnaire were analyzed. Increased parent involvement was positively related to students' time spent on homework and on their grades.

The outcomes described by these researchers are all outcomes that benefit students, and consequently, improve achievement. If these outcomes are helpful for students in regular education programs, then it seems reasonable that the effect for CTE students would be the same. With higher levels of motivation and academic engagement and the appropriate approach to learning, career aspirations, and the concept of self, CTE students could possibly be passing industry exams at higher rates and achieving state

academic standards. However, career and technical schools are like other secondary schools in that parent involvement could be minimal.

Parent Involvement in Secondary Schools

It is widely held that parental involvement drops off when children reach high school age (Stevenson & Baker, 1987). Cotton & Wikelund's (1989) review of research overwhelmingly demonstrates that parent involvement in children's learning is positively related to achievement. They found a much higher incidence of parent involvement at the preschool level and in the primary grades than at the middle school or secondary level. Although the majority of research on parent involvement in the education of older students is limited when compared to that of younger students, more research has been conducted in recent years with middle school and secondary students and their families. This research shows that parent involvement remains very beneficial in promoting positive achievement and affective outcomes with these older students.

Hollifield (1994) finds that reasons for the drastic drop off include (1) the need for adolescents to be more autonomous and have more responsibility, (2) more parents working outside the home when the children reach high school, and (3) high schools are more complex systems with greater numbers of students and teachers. Muller (1998) attributes this phenomenon to the parent's feeling less knowledgeable about their child's course material, and that parents are worried that they will be "an embarrassment" to their child.

Crosnoe (2001) studied parental involvement related to academic orientation--college-, general-, or remedial-tracks. Crosnoe was attempting to explain why the downward trend in parental involvement persists in high school even though the

beneficial outcomes still exist at this level. The researcher found that the downward trend in parental involvement is attributed mostly to college-track parents who feel that their children are on the right track and need less "involvement" from them. He states, "students in the higher curricula begin high school with the highest levels of academic orientation and the most involved parents" (p. 225). Parent involvement may improve performance, but improved performance may obviate the need for parental involvement (p. 227). Crosnoe concludes that the involvement of parents is "crucial to steering [students] onto the right path," but as the years pass, the students will have less need for their involvement.

Interestingly, the researcher noted the lowest levels of parental involvement in the general track. This track is where most of the CTE students in Pennsylvania find themselves. Jobs for the Future reported that Pennsylvania CTE students take less rigorous academic programs. This seems to suggest that the current study expects to find low levels of parent involvement.

Deslandes & Bertrand (2005) explored the reasons why parents decide to, or decide not to, become involved in their adolescents' schooling. The researchers identified family and child characteristics that influence levels of parent involvement (cf. Jordan, Orozco, Averett, 2001). These characteristics included the following:

1. Parents' understanding of their role. Parents who understand their role believe the activities are necessary and part of their responsibility (p. 165).
2. Parents' self-efficacy for helping children in school. Parents are more likely to be involved if they believe they have the skills and knowledge to help their child (p. 165).

3. Parents' perceptions of teacher invitations. Parents are more likely to be involved if they believe that teachers want and expect their involvement (p. 165).
4. Parents' perceptions of student invitations. Parents will become involved if they believe that their children want them to be involved (p. 165).

These researchers surveyed 770 parents of high school students to determine which, if any, of these characteristics motivated their involvement in their adolescents' schooling. They found that two categories emerged as predictors—parent's perceptions of student invitations were significant motivators for home participation and parents' perceptions of teacher invitations were significant motivators for school participation.

This research suggests that even though parental involvement can be beneficial for students at the secondary level, parents are reluctant to get involved. Parents of higher-achieving "college-bound" students tend to be more likely to get involved; thus parents of CTE students are probably less likely. Parents can be motivated to participate in some ways.

Effective Types of Parent Involvement

Joyce Epstein of Johns Hopkins University has developed a framework for defining six different types of parent involvement (Epstein, 1995). This framework assists educators in developing school and family partnership programs. "There are many reasons for developing school, family, and community partnerships," she writes. "The main reason to create such partnerships is to help all youngsters succeed in school and in later life" (p. 114).

Epstein's framework defines the six types of involvement and lists *sample practices* or activities to describe the involvement more fully. Her work also describes the *challenges* inherent in fostering each type of parent involvement as well as the expected *results* of implementing them for students, parents, and teachers. The six types include the following:

1. **PARENTING:** Parents are obligated to send their children to school ready to learn. Although this might not seem to be a school concern, Epstein believes that schools can help families fulfill their obligations by providing assistance in their children's health and safety, discipline, supervision, and guidance.
2. **COMMUNICATING:** Schools are obligated to keep parents informed about what is going on at the school. The information can be general or particular to the child's progress. Any communication between the home and school is included in this category—phone calls, web sites, notes, newsletters, and the like.
3. **VOLUNTEERING:** Parents can help out at the school, attend extracurricular activities, and attend meetings and open houses.
4. **LEARNING AT HOME:** These activities can be coordinated by the child's teacher or can be initiated by the parent and student. Discussions of current events at home, family outings at cultural events, or students asking for help with homework are all examples of learning at home.
5. **DECISION MAKING:** Parent involvement with governance and advocacy falls in this category. Parents serving on an advisory board or helping to make decisions about issues at the school are examples. Other examples of this category include

informal suggestions to administrators and approaches to school staff with concerns.

6. **COLLABORATING WITH COMMUNITY:** Identifying and integrating resources and services from the community to strengthen school programs, family practices, and student learning and development fit into this category. For example, organizing presentations on how math and science skills are used in business, government, or industry.

Epstein developed these categories to help schools improve parental involvement practices, and in turn, improving student achievement. Epstein (1995) points out that the involvement of families, schools, and community improves the school climate and makes parents more likely to become involved.

Epstein has worked with colleagues to study the effects of using the six types of involvement on absenteeism and student achievement. Epstein and Sheldon (2002) found that attendance improves when schools implement positive activities that support good attendance and effective home-school connections (p. 317). This study surveyed school officials about their practices “designed to reach out to parents or community groups to improve or maintain student attendance” (p. 310). Respondents were also asked to evaluate the effectiveness of these practices. The study showed that some family activities were consistently associated with higher attendance rates including having workshops for parents, communicating with parents, and providing parents with school contacts (p. 315).

Another work by Epstein & Sheldon (2005) examined the relationship between parent involvement activities and mathematics achievement. This study involved

participants in a “Focus on Results in Math” project in elementary, middle, and high schools. The survey given to team members included questions related to parent involvement activities and their perceptions of the effectiveness of these activities. The specific types of activities were Type 4, or learning at home, activities. They also collected student achievement test scores. The results indicate that home activities for targeted curriculum areas can have positive outcomes. The researchers recommend strategic planning of activities that encourage and enable interactions between students and family members (p. 204).

Chapter Summary

In summary, as expectations and requirements for CTE programs have risen in recent decades, the end goal for CTE participants has changed significantly. Across the United States, CTE programs are being asked to prepare students for postsecondary education or career employment. This new bar for quality has placed great stress on local schools. The research reviewed here suggests that parental involvement can have positive outcomes in motivation to learn, academic engagement, approach toward learning, and self concept. Parent involvement has also been found to improve behavioral outcomes, such as drop-out rate and attendance. These same outcomes would be effective for students in career and technology centers and help them to meet the demands new expectations placed on them. Although studies show less parent involvement in secondary schools and with general track students, encouraging parent involvement at these levels has been found to be effective. A school that is effectively using parental involvement as an achievement strategy would be using some of the

categories of Epstein's involvement typologies. This study will examine parental involvement and its effect on student achievement in CTCs in Pennsylvania.

Chapter III

METHODOLOGY

This chapter summarizes the methods and procedures used to investigate the relationships between parental involvement with student academic achievement. Included in this chapter are descriptions of the variables examined, the study participants, the instruments used, data collection procedures and the data analysis procedures.

The Purpose of the Study

Expectations and requirements for CTE programs have risen in recent decades. Across the United States, CTE programs are being asked to prepare students for either postsecondary education or career employment. CTE students are required to meet both academic and industry performance standards. In addition to technical skills attainment measured by assessments aligned to industry standards, Perkins IV [Carl D. Perkins Career and Technical Education Improvement Act of 2006] now requires that participants meet academic attainment levels as measured by the academic assessments a state has approved under NCLB. This new level of expectation has placed great stress on local schools; consequently, CTE educators are looking for strategies to improve student achievement.

The purpose of this study was to examine whether parental involvement was a factor in the performance of career and technical students. This study attempted to determine the types of parent involvement behaviors that are most prevalent in the CTE, and whether there was a relationship between parent involvement and student achievement when controlling for family structure, IEP, PSSA reading score and PSSA

math score. To accomplish that purpose, the following research questions were formulated:

1. To what extent do parents of CTE seniors report their level of parental involvement in the following types of Epstein's parental involvement typologies:
 - a. Parenting?
 - b. Communicating?
 - c. Volunteering?
 - d. Learning at home?
 - e. Decision making?
 - f. Collaborating with community?
2. What is the relationship between the extent of parental involvement and student achievement when controlling for the family structure, reading score, math score, and involvement through IEP?

Research Design

This study represents descriptive correlation research (Gay, Mills and Airasiam, 2006). In descriptive correlational research, the investigator is interested in examining the relationships between variables. In essence descriptive correlational research examines how changes in one variable influences changes in another variable. In this study the multivariate logistic techniques enables the researcher to examine the influence of parental involvement on student achievement while simultaneously accounting for variations in other intervening variables.

Participants

The population of this study was the 2007 academic year graduating seniors who were considered program completers in their vocational program (N=98) at the Mon Valley Career and Technology Center located in Charleroi, Pennsylvania. While 119 students graduated, 21 were not considered program completers and were not included in the analysis. Program completers were operationally defined as students who had either completed three years in the same vocational program or completed all required competencies for the vocational program. The 98 completers were enrolled in one the center's 13 CTE programs and met the previous criterion.

Study Variables

Dependent variable. The dependent variable for this study was each student's earned level of achievement as measured by the National Occupational Competency Testing Institute (NOCTI) exam or some other PDE-approved industry exam. These exams, given to all program completers in February of their senior year, include both a written and a performance evaluation for which a student earns one of four performance levels. These four levels of achievement—below basic, basic, competent, or advanced—have been established in order to maintain consistency with the Pennsylvania System of School Assessment (PSSA), the academic exams given to Pennsylvania students.

According to the *Pennsylvania Guide for Occupational Testing 2006-07*, Pennsylvania has established a criterion that has been identified as the 'productive entry-level employability' requirement of business and industry (p. 13). This criterion identifies students who possess the (productive) employability competencies from those who are minimally qualified for employment. According to the guide, students who reach this level are those who perform "at or above the Competent Level" (p. 13). Other

students are considered as performing below competency. Similarly, Perkins IV Performance Indicators consider a student as having met PA-recognized career and technical standards if he or she earns a competent-level or higher (Bureau of Career & Technical Education, 2007).

Limitations of using these evaluations were two-fold. As the students were enrolled in 13 different CTE programs, they were given different versions of the NOCTI exam or an industry exam; moreover, each exam has its own criteria for competency. Each student took an exam that was aligned to his or her occupational program. For example, carpentry students took the NOCTI Carpentry exam; Health Occupations students took the PA Nurse Aide exam; and Precision Machine students took the National Institute for Metalworking Skills (Nims) – Level 1 exams. As the tests vary by occupational program, competency levels are established through varying means.

To address these limitations, the achievement level earned was dummy coded as “1” if the student was competent (Advanced or Competent) and “0” if the student was below competency. Therefore, the achievement level dependent variable represented dichotomous, nominal data.

Independent variables. The independent variable *levels of parent involvement and categories of involvement* were determined by parent responses to a questionnaire regarding parent involvement. An overall level of parent involvement was determined by adding all responses for a total involvement score that theoretically ranged from 0 to 108. A similar score was determined for each of the six *types of parent involvement*. Table 1 summarizes the variables used for each of the research questions.

Educational background and *family characteristics* were also included as independent variables in the study. Because this study was examining student achievement levels, *PSSA reading scores* and *PSSA math scores* and whether or not a *student possessed an Individualized Education Plan (IEP)* were examined, as was a *family structure* indicator. This student information was collected from the students' school records.

Table 1

Variables used in the analysis

Research Question	Survey Questions	Data Type	Variable	Method of Analysis
3. To what extent do parents of CTE seniors report their level of parental involvement in the following types of Epstein's parental involvement typologies:		Interval	Parent involvement practices reported on Likert-type response scale	Mean SD
a. Parenting?	Q2a,e,f,g,h,k Q4a			
b. Communicating?	Q3c,d,g,h Q4f, Q5a-d			
c. Volunteering?	Q3b,e,i Q4c,d,e			
d. Learning at home?	Q2b,c,d,i, j Q4b,g			
e. Decision making?	Q3a, f			
f. Collaborating with community?	Q2l			

2. What is the relationship between the extent of parental involvement and student achievement when controlling for the family structure, reading score, math score, and IEP?	Q2 - Q5	Interval	Parent involvement practices reported on Likert-type response scale	Binary Logistic Regression
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Parental Involvement Instrument

The survey used for this study was developed by Joyce Epstein from the Johns Hopkins University. Dr. Epstein's High School and Family Partnership Survey (1993) is distributed by the Center for School, Family, and Community Partnerships for use by both researchers and practitioners. Permission to use the survey was granted by the Center staff.

The survey summated Likert scores were tested for internal consistency with a research sample of 420 parents from six high schools—two urban, two suburban, and two rural high schools (Connors and Epstein, 1994). The researchers used Cronbach's alpha (α) formula because the survey includes many Likert-type items, and this alpha formula reflects the intercorrelation of a set of items, accounting for variations in responses to the items. For the analysis the researchers combined survey items that measured similar concepts. The reliabilities ranged from $\alpha = .59$ to $\alpha = .77$. More specifically, the reliability coefficients by type of involvement were Type 1 ($\alpha = .63$), Type 2 ($\alpha = .59$), Type 3 ($\alpha = .67$), Type 4 ($\alpha = .77$), and Type 5 ($\alpha = .66$). Type 6 has only one survey item.

Some questions in the original Epstein survey that asked for information not relevant to the research were not included for this study. Epstein's survey included questions on family attitudes about parental involvement. As this study was not seeking information about attitudes, those questions were not included.

For this study the same alpha formula and procedure were used to test for internal consistency. The reliability coefficients ranged from a modest ($\alpha = .58$) to a high ($\alpha = .83$). The type specific reliability coefficients were Type 1 ($\alpha = .63$), Type 2 ($\alpha = .83$), Type 3 ($\alpha = .74$), Type 4 ($\alpha = .58$), and Type 5 ($\alpha = .69$). Kline (1999) indicated an alpha of .7 is an acceptable level of internal consistency when we deal with psychological constructs, and some values slightly lower may be acceptable, especially for first generation instruments.

Pilot Study

The survey was administered to six parents of students who were not participating in the study. These parents were asked to make note of questions they did not understand. In two questions, these parents were unsure if the question related to their child's sending school or the career and technology center. Modifications to the questions were made to clarify the questions.

Survey Administration

Using survey methodology recommended by Dillman (2007), a letter of introduction was mailed to parents one week before the survey instrument was distributed. The letter was written by the school administrator (See Appendix B) and explained the importance of the study. The survey instrument, letter to parents (See

Appendix C), and the human subjects release form were sent home with the students to give to their parents.

As an incentive for students to encourage their parents' participation, all students who returned a parent-completed survey were eligible to win an iPod® Nano. Students were given instruction that only a parent was to complete the survey and that random verifications would be made. As an incentive for parents to participate, all who returned a survey were entered into a raffle for a \$100.00 gift card for a local department store. The human subject form was signed by the parent and used for both raffles.

After one week of survey collection, 48 surveys were returned. During the second week, 14 additional surveys were returned. A phone call was made to the 36 parents who did not return surveys asking for their participation. After the phone calls, 13 additional surveys were returned. Seventy-five of the 98 surveys distributed were returned for a 76.5% response rate.

Data Collection Protocol

Completed questionnaires were returned to the researcher at the Mon Valley Career & Technology Center by the students. The questionnaires were identified with the students' PA Secure IDs in order to match the survey responses with the students' performance data. No other mark was used to identify the respondents.

The surveys were examined by an expert panel of instructors to verify their validity and level of completeness. These instructors were four CTE instructors with five or more years' experience in the school. They examined questionnaires to determine if parent filled out the instrument. After this review, five surveys were eliminated leaving 70 surveys to be used in the data analysis.

Mode of Analysis

The data analysis was conducted using the Statistical Package for the Social Sciences (SPSS), Version 15. In all statistical analyses, the .05 alpha level was utilized to determine statistical significance. The statistical procedures used included descriptive analysis (mean, standard deviation and frequency) to determine the most prevalent types of parental involvement. Logistic regression analysis was used to determine the relationship of parent involvement practices on the students' achievement level.

Although the population of subjects in this study may not be representative of the larger population of CTE students and parents in Pennsylvania, Huck (2004) suggests that the use of inferential statistics, such as logistic regression, can be appropriate if an accessible "tangible population" exists and if the population of interest "extends into the future" (p. 100). Huck explains that an assumption can be made that students from one school year, as in this study, will not be dissimilar from the next year's students. He suggests that a group of students can be thought of as being "representative" of a larger abstract population.

The classification of cases to the two categories (competent or not competent) of the dependent variable was done through binary logistic regression. This statistical technique allows the assignment of an individual case to a dichotomous dependent (criterion) variable based on the independent (predictor) variables, which may be nominal, continuous, discrete, dichotomous, or a mix (Tabachnick & Fidell, 2001) as in this study. The goal of the analysis is to correctly predict or explain the category of the outcome for cases (Pampel, 2000). Logistic regression was selected in an attempt to

identify which factors (predictors) influence whether or not a student achieved competence or not.

Assumptions

The following assumptions were made in this study:

1. The parent or guardian of the senior student will complete the questionnaire in accordance with directions on the form.
2. The answers on the questionnaire will reflect honest, accurate responses to the questions presented.
3. The summated Likert scores for the six types of parental involvement on Epstein's 1993 instrument approximate interval type data.

Chapter IV

FINDINGS

The purpose of this study was to examine whether parental involvement was a factor in the performance of career and technical education (CTE) students' performance on state-approved industry exams. This research examined the parental involvement of graduating seniors at the Mon Valley Career and Technology Center who took their industry competency exams in the Spring semester of the 2006-07 school year. The research questions specifically asked what types of parental involvement activities were prevalent among the participants in the study and whether a relationship exists between parental involvement and student achievement when controlling for other factors, such as IEP, family structure, reading score, and math score.

This chapter presents the results of the investigation through descriptive statistics and logistic regression analyses. Descriptive statistics are used to both establish the distribution of the participants for the research variables as well as to answer the first research question concerning types of parental involvement. Logistic regression analysis was used to examine relationships among variables for research question two.

Profile of Student Participants

Demographic and educational background characteristic information was collected for all participants in the study. While some of this information was considered in the analyses, other information was collected to create a profile of the subjects for informational purposes.

The demographic data summarized in Table 2 indicate that the students were primarily Caucasian (98.6%) from two-parent households (81.4%). The distribution of

gender was fairly equal (male, 58.6%; female, 41.4%). The majority (65.7%) of students were 18 years of age.

Table 2

Demographic Background of Student Participants (N= 70)

Variable		N	%
Gender	Male	41	58.6
	Female	29	41.4
Ethnicity	African American	1	1.4
	Caucasian	69	98.6
Age	17	20	28.6
	18	46	65.7
	19	4	5.7
Family Structure	Single Parent	13	18.6
	Two-parent	57	81.4

The student educational background data in Table 3 indicate a fairly equal distribution of achievement between those students achieving competency (45.7%) on industry exams and those students who did not (54.3%). Reading levels were similarly distributed between those achieving proficiency (45.8%) and those who did not (54.2%). Two-thirds (77.2%) of the students did not achieve proficiency in math. Nearly one-third (31.45%) of students have an individualized education plan.

Table 3*Educational Experience of Student Participants (N= 70)*

Variable	N	%
Achievement Level		
Competent or above	32	45.7
Basic or below	38	54.3
Individualized Education Plan (IEP)		
Yes	22	31.4
No	48	68.6
Reading Level		
Below Basic	26	37.1
Basic	12	17.1
Proficient	23	32.9
Advanced	9	12.9
Math Level		
Below Basic	38	54.3
Basic	16	22.9
Proficient	14	20.0
Advanced	2	2.9
Program Area		
Auto Collision	9	12.9
Auto Mechanics	5	7.1

	Carpentry	3	4.3
	Computer Programming	1	1.4
	Cosmetology	4	5.7
	Culinary Arts	10	14.3
	Electrical	4	5.7
	Health Occupations	3	4.3
	Masonry	6	8.6
	Multimedia Design	8	11.4
	Precision Machine	4	5.7
	Protective Services	9	12.9
Sending School			
	Ringgold	11	15.5
	Charleroi	20	28.6
	Bentworth	9	12.9
	Beth-Center	12	17.1
	Monessen	8	11.4
	California	10	14.3

Types of Parental Involvement

Findings for Research Question 1. *To what extent do parents of CTE seniors report their level of parental involvement in the following types of Epstein’s parental involvement typologies: Parenting, Communicating, Volunteering, Learning at Home, Decision Making, Collaborating with Community?*

As shown in Table 4, the types of parental involvement most prevalent among respondents were Type 1—Parenting (M=18.38, SD = 4.12) and Type 4—Learning at Home (M=14.29, SD=3.12). It should be noted that the Decision Making parent type is severely positively skewed (skewness value = 2.86). The other parent type distributions represent fairly normal distributions (Tabachnick and Fidell, 2008).

Table 4

Questionnaire Responses by Categories of Parental Involvement

Parental Typology and Possible Scores	N	Mean	S.D./ Skew Value	Range	
				Low	High
1 <i>Parenting (0 - 27)</i>	69	18.38	4.12/-.67	6	24
2 <i>Communicating (0 - 27)</i>	70	4.03	3.15/.66	0	12
3 <i>Volunteering (0 - 18)</i>	69	1.97	1.69/1.11	0	7
4 <i>Learning at Home (0 - 26)</i>	69	14.29	3.12/-.32	7	20
5 <i>Decision Making (0 -6)</i>	69	1.35	1.65/2.86	0	6
6 <i>Collaborating with Community (0 - 4)</i>	70	1.61	.89/.85	0	4

A summary of responses for each question in the survey are included in Appendix D.

Influence of Parental Involvement on Student Achievement

Logistic regression models were used to examine the relationship of parent involvement and student achievement level. Binary logistic regression was applied because the technique allows the assignment of cases to dichotomous outcomes. In this study these outcomes are represented by the dependent variable (Achievement Level) as membership in either the “competent” or “not competent” group. Table 5 shows the independent variables that were used for the analyses.

Table 5

List of Variables Used in the Regression Analyses

Parent Involvement	Equals the sum of the values of all parent involvement activities. Question 2 activity values were Never = 0, One to two times = 1, Monthly = 2, Weekly = 3, Everyday = 4. Question 3, 4, and 5 activity values were Never = 0, One to two times = 1, A few times = 2, Many times = 3.
Type 1	Equals the sum of the values of <i>Parenting-type</i> activities rated on a Likert-type scale.
Type 2	Equals the sum of values of <i>Collaborating-type</i> activities rated on a Likert-type scale.
Type 3	Equals the sum of values of <i>Volunteering-type</i> activities rated on a Likert-type scale.
Type 4	Equals the sum of values of <i>Learning at Home-type</i> activities rated on a Likert-type scale.
Type 5	Equals the sum of values of <i>Decision Making-type</i> activities rated on a Likert-type scale.

Type 6	Equals the sum of values of <i>Collaborating with Community-type</i> activities rated on a Likert-type scale.
Family Structure	Equals 1 if respondent was a single parent, 0 otherwise.
IEP	Equals 1 if the respondent's child had an Individualized Education Plan, 0 otherwise.
Reading Score	Equals the score earned on the PSSA for reading.
Math Score	Equals the score earned on the PSSA for math.

Findings for Research Question 2. *What is the relationship between the extent of parental involvement and student achievement when controlling for the family structure, reading score, math score, and IEP?*

A logistic regression analysis was performed with achievement level as the dependent variable and parent involvement, family structure, IEP, Reading Score, and Math Score as the predictor variables. Table 6 summarizes the parental involvement scores, PSSA reading score and PSSA math score for the two levels of achievement level. In addition to the information summarized in Table 6, for those students classified as competent, 21.88% had an IEP and 21.88% came from single parent households. In contrast for those students classified as not competent, 39.47% had an IEP and 15.79% came from single parent homes.

A logistic regression analysis was performed with achievement level as the dependent variable and the parent involvement types as independent variables. The model was not significant.

Table 6

Summary of parental involvement score and PSSA scores by student competence level on Pennsylvania industry approved exams.

Score by Level of Competence	N	Mean	S D	Range	
				Low	High
Parent Involvement Score (0 -108)	70	48.185	1.39	20	88
Competent	32	52.12	13.43	27	86
Not Competent	38	44.87	13.49	20	88
PSSA Math Score (700-1900)	70	1133	241.89	775	1863
Competent	32	1204	238.39	1139	1863
Not Competent	38	1100	171.21	775	1450
PSSA Reading Score (700-1900)	70	1222	247.84	700	1826
Competent	32	1140	231.53	815	1826
Not Competent	38	1321	232.94	700	1703

A total of 70 cases were analyzed and the full model significantly predicted achievement-level status (omnibus Chi-square = 14.813, df = 5, $p < .011$). The model accounted for 25.5% of variance in achievement-level status, with 71.9% of competent level students successfully predicted and 73.7% of non-competent level students correctly classified. Overall, 72.9% of the students were correctly classified by the variables in the logistic regression model. Table 6 summarizes the logistic regression coefficients and the Wald statistic and associated probability value and odds ratio for each of the predictor variables. This shows that both parent involvement and reading score were statistically significant components of the model. Using the guidelines for interpreting logistic

regression results by Tabachnick and Fidell (2008), examination of the Exp (B) values indicates that for each additional unit (point) on the parent involvement scale there was a 4% greater odd of the student being competent (Exp B = 1.04, $p = .045$). Similarly increases in the PSSA reading scores were associated with slightly increasing the odds (EXP B = 1.003, $p = .031$) of the student being classified as competent.

Table 7

Results of Logistic Regression with Achievement Level as Dependent Variable (N=70)

PREDICTOR	β	Wald	Sig	Exp(B)
Parent Involvement Score	.041	4.037	.045	1.042
Family Structure 1 = Single 0 = Dual Parent	-.020	.001	.977	.980
IEP 1 = Yes 0 = No	.477	.501	.479	1.612
Reading Score	.003	4.629	.031	1.003
Math Score	.000	.262	.609	.999

Dependent Variable 1 = Competent 0 = Not Competent

Model Chi Square = 14.813

$df = 5$

$p = .011$

Nagelkerke R^2 CI = .255 (95% CI = .199 - .255)

Summary of Findings

In summary, the most prevalent types of parental involvement were Type 1 and Type 4. Parental involvement was significantly related to student achievement. Also the logistic regression analysis indicated that higher parental involvement scores and higher PSSA reading scores were associated with slightly greater odds of the student being classified as competent on Pennsylvania industry approved examinations.

Chapter V

SUMMARY, DISCUSSION, AND RECOMMENDATIONS

Summary

Expectations and requirements for CTE programs have risen in recent decades. Across the United States, CTE programs are being asked to prepare students for either postsecondary education or career employment. CTE students are required to meet both academic and industry performance standards. In addition to technical skill attainment measured by assessments aligned to industry standards, Perkins IV [Carl D. Perkins Career and Technical Education Improvement Act of 2006] now requires that participants meet academic attainment levels as measured by the academic assessments a state has approved under NCLB. This new level of expectation has placed great stress on local schools; consequently, CTE educators are looking for strategies to improve student achievement.

The purpose of this study was to examine whether parental involvement was a factor in the performance of career and technical students. This study attempted to determine the types of parent involvement behaviors that were most prevalent in the CTE, and whether there was a relationship between parent involvement and student achievement when controlling for family structure, IEP, PSSA reading score and PSSA math score.

These parental involvement questions were investigated using descriptive data analysis and logistic regression. At the career and technology center in this study, home-based types of parental involvement were most prevalent and parental involvement

overall was a significant predictor of student achievement. Also noted was that students PSSA reading level was associated positively with student achievement.

Discussion

Increasing parental involvement has been shown to have positive outcomes that can lead to increased student achievement. The decades of research in this area has provided evidence that parents can help their children achieve high standards. Some researchers (Epstein, 1995) have delineated parent behaviors that lead to these positive outcomes. Others have documented how and why parental involvement changes as a child matures (Deslandes & Coulter, 1992; Crosnoe, 2001; Fehrmann, Keith & Reimers, 1987) and whether these changes have an effect on student performance. Epstein (2005) states that schools cannot assume that one type of involvement or a single activity will affect student achievement positively in all subjects. This researcher documented parent behaviors and categorized them into six types so that they could be studied and replicated more effectively. These types—parenting, communicating, volunteering, learning-at-home, collaborating, and decision making—have been found to be the most common parent behaviors and have been examined for individual results.

Types of Parental Involvement. The finding in this study that Types 1 and 4 were more prevalent with parents in the CTE than other types of involvement was not surprising when considering other research with high school students on this subject. Type 1 (parenting) and Type 4 (learning at home) are both home-based parental activities. Home-based involvement is generally defined in the literature as interactions that take place between the child and parent outside of school (Hoover-Dempsey & Sandler, 1997). DePlanty, Coulter-Kern & Duchane (2007) found that when asking

parents what type of involvement was most important, the parents indicated that involvement at home is far more important than is involvement in the school and community. Eccles & Harold (1993) found that some parents believe that involvement in their children's education is not as important in Grades 7–12 as it was during the elementary school years. Parents also may think that adolescents desire and need independence. These beliefs cause the parents to decrease their level of involvement at school, but not as much at home. DePlanty et al. (2007) explains that parents are more likely to become involved if they view their participation as a requirement of parenting.

The finding that Types 1 and 4 were most prevalent was also not surprising when considering the structure of the Mon Valley Career and Technology Center. Students at this school attend the career and technology center on a part-time basis; they come to the CTC for a two and half hour period each day. Students arrive and depart each day from their sending school, and take academic classes and participate in activities at their sending schools. This situation makes it more likely for parents to be involved at the sending school, if at all.

Relationship of Parent Involvement to Student Achievement. The finding that parent involvement was significantly related to achievement level is consistent with other research in the area. Studies that examine the influence of various types of parent involvement on student achievement have shown a link between some types of parent involvement and improved student performance (e.g., Epstein, 1992, 1995; Madigan, 1994). This link has held true for the CTE students at Mon Valley. Findings in this study indicate that increasing parental involvement in the CTC overall could improve student performance.

The significance of a student's PSSA Reading Score was also noted in this study. This effect could be explained by the required written sections of each industry exam. These exams require students to comprehend and apply industry-related vocabulary.

Recommendations for Practice

On the basis of the findings of the research, the following recommendations are offered for administrators and teachers at the Mon Valley Career and Technology Center:

1. Include parent involvement as a strategy to improve student achievement in the school. This activity would involve the school completing additional surveys to discover the barriers for parent involvement that exist in its environment, including parents and teachers.
2. Implement strategies to overcome barriers to implementing parent involvement. These strategies could include teacher in-services related to parent involvement and scheduling parent involvement activities at times convenient for parents.
3. Communicate regularly with parents about school policies, student performance, and school activities. Epstein (2003) recommends a regular schedule of useful notices, memos, phone calls, newsletters, and other communications.
4. Implement content area reading strategies to improve students' comprehension of industry-related material.

Recommendations for Further Research

On the basis of the findings of the research, the following suggestions for further study are offered:

1. Because this study included a population from one school in southwestern Pennsylvania, results can not be generalized to a larger population. More research, perhaps replicating the study with a larger CTE population, should be done.
2. As the findings also indicate that reading level was a significant predictor of exam performance, studies examining this relationship and the effectiveness of improvement strategies would be helpful to CTE administrators.

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APPENDIX A

The Survey Instrument

HIGH SCHOOL AND FAMILY PARTNERSHIPS
Parent Survey

This survey should be answered by the PARENT or GUARDIAN who has the most contact with the Career & Technology Center about your teen.

A. Who is filling in the survey? Please CHECK (✓) if you are...

- | | | |
|----------------------|----------------------|---------------------------|
| _____ a) Mother | _____ e) Father | _____ i) Guardian |
| _____ b) Aunt | _____ f) Uncle | _____ j) Other relative |
| _____ c) Stepmother | _____ g) Stepfather | _____ k) Other (describe) |
| _____ d) Grandmother | _____ h) Grandfather | _____ |

Q-1. We would like to know how you feel about this **career and technology center** right now. Your ideas will help us plan for the future. Please circle one choice for each statement.

	Strongly Agree	Agree	Disagree	Strongly Disagree
a. This is a very good school.	SA	A	D	SD
b. I need more information from the school to talk with my teen about schoolwork.	SA	A	D	SD
c. I feel welcome at the career and technology center.	SA	A	D	SD
d. Parents do not need to be involved much in their high schooler's education.	SA	A	D	SD
e. I often talk with other parents about our teenagers and the career and technology center.	SA	A	D	SD
f. My teen talks about the career and technology center at home.	SA	A	D	SD
g. This Mon Valley CTC is a good place for students and for parents.	SA	A	D	SD
h. I almost always know where my teen is, day or night.	SA	A	D	SD
i. Most days I do not have enough time to talk with my teenager about school.	SA	A	D	SD
j. The community supports the career and technology center.	SA	A	D	SD

Q-2. Parents get involved in different ways with their high school students **at home**. About how often have you done the following with your child?

	Never	1-2 Times	Monthly	Weekly	Every Day
a. Talk to my child about school.	Never	1-2 Times	Monthly	Weekly	Every Day
b. Listen to my teen read something that he/she wrote.	Never	1-2 Times	Monthly	Weekly	Every Day
c. Talk about a homework assignment.	Never	1-2 Times	Monthly	Weekly	Every Day
d. Discuss grades on tests and report cards.	Never	1-2 Times	Monthly	Weekly	Every Day
e. Check that my teen goes to school.	Never	1-2 Times	Monthly	Weekly	Every Day
f. Talk about a TV show with my teen.	Never	1-2 Times	Monthly	Weekly	Every Day
g. Help my teen solve a personal problem.	Never	1-2 Times	Monthly	Weekly	Every Day
h. Help my teen plan time for homework, chores and other responsibilities.	Never	1-2 Times	Monthly	Weekly	Every Day
i. Talk with my teen about his/her school schedule.	Never	1-2 Times	Monthly	Weekly	Every Day
j. Talk with my teen about future plans for college or work.	Never	1-2 Times	Monthly	Weekly	Every Day
k. Tell my teen how important school is.	Never	1-2 Times	Monthly	Weekly	Every Day
l. Attend a community event with my teen.	Never	1-2 Times	Monthly	Weekly	Every Day

Q-3. Parents participate at schools in different ways. How often have you done the following at **your teen's career and technology center**?

	Never	1-2 times	A few times	Many times
During your teen's enrollment at the CTC, how often did you...				
a. Go to a PTA/PTO meeting	Never	1-2 times	A few times	Many times
b. Help with fund raising for the school	Never	1-2 times	A few times	Many times
c. Attend an open house	Never	1-2 times	A few times	Many times
d. Attend a parent-teacher conference	Never	1-2 times	A few times	Many times
e. Work as a volunteer at the school	Never	1-2 times	A few times	Many times
f. Attend a committee meeting at this school	Never	1-2 times	A few times	Many times
g. Give the school information about special circumstances at home.	Never	1-2 times	A few times	Many times
h. Thank someone at school for something he/she did for my teen	Never	1-2 times	A few times	Many times
i. Attend a school event	Never	1-2 times	A few times	Many times

Q-4. Since your child started at the career and technology center, how often has the **SCHOOL contacted YOU** about the following? Circle one choice on each line.

This career and technology center has contacted me about...	Never	1 time	2-3 times	4 or more times
a. My teen's grades	0	1	2-3	4 or more
b. The courses my teen can choose next year	0	1	2-3	4 or more
c. How I could help with fundraising	0	1	2-3	4 or more
d. How I could volunteer at the school	0	1	2-3	4 or more
e. Asking me to come to a school event	0	1	2-3	4 or more
f. Asking me for information about my teen	0	1	2-3	4 or more
g. The school's homework policies	0	1	2-3	4 or more

Q-5. **HOW OFTEN** did your teen's teacher contact you in these ways?

	Never	1 time	2-3 times	4 or more times
a. Memos or notices	0	1	2-3	4 or more
b. Phone calls	0	1	2-3	4 or more
c. Open house	0	1	2-3	4 or more
d. Formal parent-teacher conference	0	1	2-3	4 or more
f. Meetings in the community (not at school)	0	1	2-3	4 or more
g. Report card pick-ups	0	1	2-3	4 or more
h. Visits at home by teachers or staff	0	1	2-3	4 or more

The last few questions will help us plan new programs to better serve your family and families like yours at this career and technology center.

Q-6. **ABOUT YOUR TEEN**

- a. Is your teen a boy or a girl? _____ boy _____ girl
- b. How old is your teen? Date of birth: month _____ day _____ year _____
- c. Which program is your teen in at this school? _____

d. About how much time does your teen spend on homework on an average night?

- _____ (1) No homework
 _____ (2) Less than one hour
 _____ (3) One hour
 _____ (4) Two hours
 _____ (5) Three hours
 _____ (6) Four or more hours a night

e. How much does your teen like this school?

- _____ (1) Likes it a lot
 _____ (2) Likes it some
 _____ (3) Likes it a little
 _____ (4) Does not like it much
 _____ (5) Does not like it at all

Q-7. ABOUT YOUR FAMILY.

a. How many adults live at your home?

_____ (include yourself)

b. Did you attend a vocational school?

_____ yes _____ no

c. What is your education?

- _____ (1) Did not complete high school
 _____ (2) High school diploma
 _____ (3) Other training or education
 _____ (4) Some college
 _____ (5) College degree
 _____ (6) Advanced degree

d. How did you like high school when you were a teen?

- _____ (1) Did not go to high school
 _____ (2) Liked it a lot
 _____ (3) Liked it some
 _____ (4) Liked it little
 _____ (5) Did not like it much
 _____ (6) Did not like it at all

e. Are you employed now?

- _____ (1) Employed full-time
 _____ (2) Employed part-time
 _____ (3) Not employed now

f. How did your teen make the decision to attend the career and technology center?

- _____ (1) My teen wanted to learn a specific trade.
 _____ (2) I wanted my teen to learn a specific trade.
 _____ (3) My teen and I discussed his/her career plans and decided on a specific trade.
 _____ (4) My teen was not happy at his/her home school.

To conclude, we would very much like your opinions on a few questions.

Looking back on your teen's years at the career and technology, what could the school have done to help you and your child?

APPENDIX B

Letter of Introduction from School Director

May 3, 2007

Parent Name
Parent Street Address
City State ZIP

SUBJECT: CHANCE TO WIN 100 DOLLARS OR IPOD NANO AND HELP YOUR SCHOOL

Dear *Parent Name*:

We need your input. This year we are participating in a research study with a graduate student from Penn State University. This study will provide our school with valuable information that will help us to improve our school's programs.

Next week you will receive a questionnaire. Please take a few minutes to complete the survey and return it as instructed.

To encourage your participation, the researcher is offering an incentive. Your name will be entered into a drawing for a chance to win a \$100.00 gift card. Additionally, your child will be eligible to win an Apple® iPod nano.

If you have any questions about the study, please contact Cynthia Shaw at 724-489-9581, Ext. 242. We look forward to your participation.

Sincerely,



Bradley L. Dei Cas
Administrative Director

APPENDIX C

Letter to Parents

May 4, 2007

Parent Name
Parent Street Address
City State ZIP

Dear *Parent Name*:

Enclosed is the survey that Mr. Dei Cas discussed in his letter last week. As he mentioned, your participation automatically enters you and your child in a drawing for a \$100 dollar gift card and an iPod nano. We hope to draw the winners at the Senior Banquet on May 10, if the surveys are returned in time.

Complete and return the survey as follows:

1. Read and sign the Informed Consent form (yellow paper). This form will be used to choose the drawing winner.
2. Circle the appropriate answers on the survey.
3. Return the two forms to the school with your child in the envelope provided.

Please take a few minutes to complete the confidential survey. The information provided will help us improve our programs for future students.



Cynthia A. Shaw
Transition Coordinator

APPENDIX D

Frequency of Response by Individual Questions

Table 8*Responses, Mean Scores, and Standard Deviations for Parent Involvement Questionnaire*

ITEM	<u>Never</u>	<u>1-2 Times</u>	<u>Monthly</u>	<u>Weekly</u>	<u>Every Day</u>	<u>Mean</u>	<u>S.D.</u>
2a – Type1	0	3	0	15	52	3.66	0.70
2b – Type4	3	18	20	22	7	2.17	1.06
2c – Type4	4	5	6	30	24	2.94	1.12
2d – Type4	0	3	19	28	19	2.91	0.85
2e – Type1	9	4	3	4	50	3.17	1.46
2f – Type1	5	13	11	23	18	2.51	1.26
2g – Type1	1	12	11	18	27	2.84	1.17
2h – Type1	3	8	4	30	25	2.94	1.13
2i – Type4	1	13	12	27	17	2.66	1.09
2j – Type4	0	1	7	36	26	3.24	0.69
2k – Type1	1	1	6	20	42	3.44	0.83
2l – Type6	2	38	17	11	2	1.61	0.89
	<u>Never</u>	<u>1-2 Times</u>	<u>A few times</u>	<u>Many times</u>	<u>Mean</u>	<u>S.D.</u>	
3a – Type5	58	7	4	1	0.26	0.63	
3b – Type3	31	17	16	5	0.93	0.99	
3c – Type2	18	18	14	20	1.50	1.15	
3d – Type2	39	14	10	7	0.79	1.03	
3e – Type3	59	1	7	3	0.35	0.83	
3f – Type5	61	6	2	1	0.19	0.55	
3g – Type2	38	15	10	6	0.77	1.00	
3h – Type2	18	21	17	14	1.39	1.08	
3i – Type3	13	20	17	19	1.61	1.09	
4a – Type1	44	12	8	5	0.62	0.96	
4b – Type4	53	8	5	0	0.27	0.60	
4c – Type3	61	3	5	0	0.19	0.55	
4d – Type3	63	1	4	0	0.13	0.49	
4e – Type3	28	14	17	10	1.13	1.11	
4f – Type2	45	10	8	6	0.64	1.00	
4g – Type4	50	12	5	2	0.41	0.75	
5a – Type2	36	14	9	9	0.87	1.09	
5b – Type2	39	14	7	9	0.80	1.08	
5c – Type2	27	15	12	14	1.19	1.18	
5d – Type2	53	9	1	5	0.38	0.85	

APPENDIX F

Letter of Permission to Use Survey



CENTER ON SCHOOL,
FAMILY, AND COMMUNITY
PARTNERSHIPS

JOHNS HOPKINS UNIVERSITY 3003 NORTH CHARLES STREET, SUITE 200 BALTIMORE, MD 21218 410-516-8900 FAX 410-516-8890

Date:

To:

From: Joyce L. Epstein, Lori J. Connors, Karen Clark Salinas

Re: Permission to use:

- School and Family Partnerships: Surveys and Summaries, (Revised, 1993)
 - Questionnaires for Teachers and Parents in Elementary and Middle Grades
 - How to Summarize Your School's Survey Data
 Joyce L. Epstein and Karen Clark Salinas.
- High School and Family Partnerships: Surveys and Summaries, (1993)
 - Questionnaires for Teachers, Parents, and Students
 - How to Summarize Your High School's Survey Data
 Joyce L. Epstein, Lori J. Connors, and Karen Clark Salinas.

This is to grant permission for you to use or adapt the survey(s) noted above in your study.

We ask only that you include appropriate references to the surveys and authors in the text and bibliography of your reports and publications.

Best of luck with your work.

Cynthia A. Shaw
Coal Center, PA 15423

EDUCATION

Penn State University

August 2008

Ph. D. in Workforce Education and Development

Dissertation: *A Study of the Relationship of Parent Involvement to Student Achievement in a Pennsylvania Career and Technology Center*

California University of PA

M. Ed. Reading Specialist

May 1994

Thesis: *The Effects of Prereading Questions on the Comprehension of College Material*
Received research grant from the Jesse B. Guttman Foundation

California University of PA

B. S. Secondary English Education

May 1991

WORK EXPERIENCE

Northern Westmoreland Career & Technology Center, New Kensington, PA July 2008 –p
Assistant Director

Oversee with daily operations of the school; assist with curriculum development, grant writing, PDE reporting

Eastern Westmoreland Career & Technology Center, Latrobe, PA Dec 2007 –July 2008
Assistant Director

Oversee with daily operations of the school; communicate with sending schools and parents; assist with curriculum development, grant writing, PDE reporting, and academic integration; observe/assess staff performance; and assist with discipline.

Mon Valley Career & Technology Center, Charleroi, PA August 2002 – Dec 2007
Coop Coordinator/Adult Education Coordinator

Coordinate student cooperative education placements; develop and administer adult education programs; coordinate e-rate program and technology plan; assist with strategic planning. Primary business and industry contact.

Computer Programming Instructor

April 2000 - August 2002

Duties included teaching computer programming to students in grades 9 – 12, developing curriculum in conjunction with advisory committee and industry standards, advisor of SkillsUSA and the National Technical Honor Society.

Penn Commercial Business/Technical School, Washington, PA Feb 1993 – April 2000
Business Faculty/ Retention Coordinator

Duties included developing business and office administration curriculum, teaching business English, business writing, marketing, office procedures and computer applications. Served as liaison with county, state, and accreditation agencies; developed and implemented the *Institutional Effectiveness Plan*; wrote grant applications; supervised/evaluated non-credit teaching staff.