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The impact of the McKinney-Vento Program on the end-of-grade test scores of homeless grade 6 students

George Hendricks
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COLLEGE OF SOCIAL AND BEHAVIORAL SCIENCES

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2010

ABSTRACT

The Impact of the McKinney-Vento Program on the End-of-Grade Test Scores of
Homeless Grade 6 Students

by

George Hendricks

M.S.W., East Carolina University, 2000
B.S.W., East Carolina University, 1994

Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy
Human Services

Walden University
May 2010

ABSTRACT

Congressional concern about homeless students resulted in the McKinney-Vento Act (MCKV) in 2001, which provides funds to local educational agencies (LEAs). MCKV is almost a decade old, yet no evaluations of its academic effectiveness have been reported. Using a systems theory framework, this study answered research questions (RQs) involving whether normally housed students in Grade 6 scored higher than homeless students in Grade 6 in reading (RQ 1) and math (RQ 2) on end-of-grade (EOG) test scores and whether homeless students in Grade 6 from LEAs that received MCKV funding scored better in reading (RQ 3) and math (RQ 4) on EOG test scores than those from LEAs that did not. Data from 2006 and 2007 were provided by the North Carolina (NC) Department of Public Instruction. About 20% of the state's LEAs received MCKV grants, which created a treatment group (funded LEAs) and a control group (nonfunded LEAs). Based on *t* tests, the normally housed students scored significantly higher on EOG reading and math tests. Using untreated control group designs with matched pretests (Grade 5 EOG test scores) and posttests (Grade 6 EOG test scores), 2 x 2 ANOVAs with repeated measures failed to reject the null hypotheses for RQs 3 and 4. This study did not support the hypotheses that MCKV grants improved the academic achievement of homeless students. MCKV provides valuable services, but in NC, it does not support training programs for teachers, counselors, and social workers on improving academic achievement. The positive social change implication of this study is that concerned educators can use these results to lobby legislators to fund training to improve academic performance of homeless students in order to help break the cycle of homelessness.

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DEDICATION

This dissertation is dedicated to my wife, Kelly; my sons, Trevor and Tanner; and my parents, Jerry and Elton Hendricks, for their patience and unending support.

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TABLE OF CONTENTS

LIST OF TABLES	vi
LIST OF FIGURES	vii
CHAPTER 1: INTRODUCTION	1
Background of the Problem	1
Statement of the Problem.....	8
Purpose of the Study	9
Research Questions, Hypotheses, and Variables	9
Dependent Variables	12
Independent Variables	12
Theoretical Foundation of the McKinney-Vento Program.....	13
Definitions of Terms	15
Significance of the Study	16
Assumptions, Scope, Limitations, and Delimitations	18
Assumptions.....	18
Scope.....	18
Limitations	18
Delimitations.....	20
Summary	21
CHAPTER 2: LITERATURE REVIEW	22
Organization of the Literature Review	22
Strategy for Searching the Literature.....	22
Relationship to Previous Research.....	23
History of Homelessness.....	24
Definition of Homelessness	24
Growth of Homelessness	26
Comprehensive Treatments of Homelessness	29
Specific Topics Related to Homelessness.....	30
Health Care of Homeless Children	31
Psychological and Mental Health Issues of Homeless Children	32
The Challenged Homeless Family	33
The Not-So-Good Life in the Homeless Shelter.....	35
Mistrust of Officials.....	35
Educational Consequences of Homelessness.....	36
Responses to Homelessness.....	38
Response of Schools to Homelessness	38
Response of Federal Government to Homelessness	41
The McKinney-Vento Program	42
History.....	42
Lack of Evaluation of the Program.....	44
Research Design.....	47

Research Climate	47
Quasi-Experimental Study: Why It Is Needed and How It Is Done	49
Alternative Research Design Methods.....	49
North Carolina EOG Testing in Reading Comprehension and Mathematics	50
Reliability of the North Carolina EOG Tests.....	51
Validity of the North Carolina EOG Tests	51
Variables	52
Summary.....	52
CHAPTER 3: RESEARCH METHOD	54
Introduction.....	54
Research Design.....	55
Research Questions: RQ 1 and RQ 2: The Preliminary Question	56
Hypotheses.....	57
Analysis of RQ 1 and RQ 2	58
Research Questions: RQ 3 and RQ 4: The Primary Question	58
Hypotheses.....	59
Analysis of RQ 3 and RQ 4	60
Setting and Sample	60
Sample Size.....	60
Statistical Power.....	61
Instrumentation and Materials	61
Instrumentation	61
Reliability of the North Carolina EOG Test: Mathematics	62
Validity of the North Carolina EOG Test: Mathematics	62
Reliability of the North Carolina EOG Test: Reading Comprehension	63
Validity of the North Carolina EOG Test: Reading Comprehension	63
Data Collection	63
Requirement for Normality of the Data	65
Program Treatment: What Was Done To Improve Education?.....	65
Threats to Internal Validity.....	67
Ambiguous Temporal Precedence	68
Ambiguous Temporal Precedence	68
Selection Bias.....	68
History.....	69
Maturation.....	69
Regression.....	69
Attrition.....	70
Testing.....	70
Instrumentation	70
Protection of Participants' Rights	70
Limitations and Assumptions	71
Limitations	71
Assumptions.....	72

Conclusion	72
CHAPTER 4: RESULTS.....	73
Introduction.....	73
Conceptual Framework of the Study	73
Data Used in the Study	75
Decision To Use Data From 2006 and 2007.....	76
Information Included in the Data.....	77
Size of Data Files.....	77
Demographics of the Data	78
Data Analysis: The Effect of Housing.....	79
Reading Comprehension Scores by Housing Status: RQ 1	79
Mathematics Scores by Housing Status: RQ 2	81
Data Analysis: The Effect of MCKV Funding.....	84
Types of Data Used in the Analysis of RQ 3 and RQ 4	84
2 x 2 ANOVA Results for Reading Comprehension 2006.....	86
2 x 2 ANOVA Results for Reading Comprehension 2007.....	87
2 x 2 Anova Results for Mathematics 2006.....	89
2 x 2 ANOVA for Mathematics 2007.....	90
Conclusion	91
RQ 1 and RQ 2: Effect of Housing on Academic Performance	91
RQ 3 and RQ 4: Effect of MCKV Funding on Academic Performance	91
CHAPTER 5: SUMMARY, CONCLUSION, AND RECOMMENDATIONS	93
Introduction.....	93
Interpretation of the Findings.....	94
Homelessness and EOG Scores	96
MCKV and EOG Scores.....	97
Theory Underlying the Program	97
Recommendations for Action	98
Improve Assessment of the Program	98
Impact of the Program	99
Limitations and Assumptions	103
Limitations	103
Assumptions.....	104
Implications for Social Change.....	105
Conclusion	107
REFERENCES	108
APPENDIX A: HOUSING STATUS AND READING COMPREHENSION SCORES	118
APPENDIX B: HOUSING STATUS AND MATHEMATICS SCORES.....	120
CURRICULUM VITAE.....	122

LIST OF TABLES

Table 1. National Data on Percentage of Homeless Students Achieving State Proficiency	7
Table 2. Number of Students Taking EOG Tests	78
Table 3. Demographic Data of Funded LEAs	79
Table 4. Reading Comprehension 2006 and 2007: Descriptive Statistics Results	80
Table 5. Reading Comprehension 2006 and 2007: Levene’s Test for Equality of Variances.....	81
Table 6. Mathematics 2006 and 2007: Descriptive Statistics Results	82
Table 7. Mathematics 2006 and 2007: Levene’s Test for Equality of Variances.....	83
Table 8. Summary of Comparisons of Homeless and Normally Housed Students	83
Table 9. Reading Comprehension: 2006 Posttest Versus 2005 Pretest	87
Table 10. Test of Within-Subject and Between-Subject Effects (2006 EOG Reading Test)	87
Table 11. Reading Comprehension: 2007 Posttest Versus 2006 Pretest	88
Table 12. Test of Within-Subject and Between-Subject Effects (2007 EOG Reading Test)	89
Table 13. Mathematics: 2006 Posttest With 2005 Pretest	89
Table 14. Test of Within-Subject and Between-Subject Effects (2006 EOG Mathematics Test)	90
Table 15. Mathematics: 2007 Posttest With 2006 Pretest	90
Table 16. Test of Within-Subjects and Between-Subject Effects (2007 EOG Mathematics Test)	91

LIST OF FIGURES

Figure A1. Normally housed (2006) status and reading scores.....	118
Figure A2. Homeless (2006) status and reading scores.....	118
Figure A3. Normally housed (2007) status and reading scores.....	119
Figure A4. Homeless (2007) status and reading scores.....	119
Figure B1. Normally housed (2006) status and math scores.	120
Figure B2. Homeless (2006) status and math scores.	120
Figure B3. Normally housed (2007) status and math scores.	121
Figure B4. Homeless (2007) status and math scores	121

CHAPTER 1: INTRODUCTION

Background of the Problem

The effective education of homeless children is a major concern across the United States (Anderson, 2003; Duffield, 2001; Swick, 2006). Markward and Biros (2001) reported that in 1987, Congress recognized the homeless educational problem and the need for improvement. This recognition gave rise to the passage that year of the Stewart B. McKinney Act (PL 100-77, 1987), the precursor to the McKinney-Vento Program, referenced as *the program*, the *subgrant component of the program*, or the *MCKV* in the rest of the study. As early as 1997, Stronge reported the need for a comprehensive evaluation to determine empirically which programs for the homeless improved the educational experience of homeless students. However, there has been no evidence that Stronge's suggestion was implemented. Similarly, Anderson, Janger, and Panton (1995) noted that even though grants were being made to local districts supporting a range of services to homeless students, the educational impact of this program was not known. Its impact remains unknown. Markward and Biros commented, "No attempts were made to establish empirically how well these activities work. Without this information neither policy makers nor practitioners can accurately predict which intervention strategies work best" (p. 185).

Ten years ago, scholars were expressing concern whether congressional efforts to improve the education of homeless children were working. After a decade, that concern still has not been addressed. As the literature review in chapter 2 demonstrates, no peer-

reviewed studies have addressed the effectiveness of the MCKV with respect to the educational achievement of homeless children.

I began this evaluation of the educational effectiveness of the program by conducting a search of the databases available through Academic Search Premier, PsycArticles, Social Service Abstracts, and Sociological Abstracts. To complete these searches, I used key words in combination with the definition and growth of homelessness in the United States, the changing demographics of the homeless population, and the causes and consequences of homelessness. There has been no published literature providing an empirical assessment evaluating whether the MCKV has improved the educational experience of homeless students. This study is a first step in evaluating the educational effectiveness of the MCKV.

Many scientists have voiced the opinion that the number of homeless people in the United States is growing (Jackson, 2007). Furthermore, much of the increased homeless population in recent years has come from families, especially those headed by single mothers. Having more families and mothers among the homeless population has resulted in an increase in the number of school-age children who are homeless (Toro, Dworsky, & Fowler, 2007; Wright, Rubin, & Devine, 1998). When single men made up the majority of the homeless population, education was only a minor issue. That is no longer the case, and many school-age children are now among the homeless population. The U.S. Department of Education (USDOE, 1997) reported that the number of homeless children and youth doubled between 1991 and 1993.

Jackson (2007) observed that 34% of homeless persons are in families with children and that 84% of the adults in homeless families are women. Nuñez and Collignon (1997) reported that the school-age children subgroup of the homeless population constitutes the fastest growing segment of that population. Duffield (2001) reported that an estimated 1.35 million children in the United States are homeless. Jozefowicz-Simbeni and Israel (2006) asserted that 900,000 children and youth experience some period of homelessness in a given year. This trend toward more school-age children in the homeless population began to be recognized in the late 1970s and early 1980s. This awareness helped to convince Congress that the education of homeless children had become a serious national problem.

During the 1970s and 1980s, homelessness began to be increasingly recognized by social scientists (Hopper, 2003; Jencks, 1994) and by Congress (Doak, 2006) as an important and growing social problem. This concern resulted in the passage of PL 100-77 in 1987. This concern for the welfare of homeless students continued through the 1990s and resulted in an expansion in 2001 of the 1987 Act. In 2001, the Stewart B. McKinney Act PL 100-77 was renamed the McKinney-Vento Act.

Prior to the Johnson Administration, the issue of homelessness received little attention from the federal government. With the advent of “the Great Society” programs, homelessness began to be studied by more social scientists, who identified a broad range of topics that were influenced by homelessness (Bassuk & Rubin, 1987; Berck, 1992; Doak, 2006). As scholarly studies of homelessness increased, the nature and characterization of the demographics of homelessness became more clearly defined. In

addition, the causes and consequences of homelessness increasingly became the focus of scholarly attention.

This intense scholarly scrutiny increased the awareness that among the large number of homeless people, there were many school-age children (Jozefowicz-Simbeni, 2003; Julianelle & Foscarinis, 2003; Swick, 2006). Researchers recognized that many of these homeless children did not attend school regularly or, in some cases, did not attend school at all. Two of the factors that combined to discourage school attendance were mobility, that is, relocation of students from school to school (Heinlein & Shinn, 2000; Nuñez, 2001), and the bureaucratic complications of registering and attending new schools when the children brought no school records. These two major factors discouraged students from registering. They gave rise to two important mandates in the program legislation of 2001.

Even though approximately \$62 million, the 2007-2008 budgeted amount, has been invested annually in the program (Expect More.Gov., 2006), it has been only a small fraction of the USDOE budget and an even smaller percentage of the federal budget. Even so, in recent years, the relative federal support for homeless education has been declining. The National Coalition for the Homeless (2007) noted that “the share of the United States budget allocated to homeless assistance grants has declined by 28% since 1995” (p. 1).

This study provided what may be the first direct empirical assessment in the United States of the educational impact of the MCKV. It accomplished this goal by studying the impact of the MCKV on the educational success of homeless Grade 6

students in North Carolina. The earlier studies discussed in the literature review were evaluations of the processes required by the program. This was the first educational outcomes study of the program in North Carolina. It may arguably have been the first such study in the nation.

The general phenomenon of homelessness has been studied thoroughly for many years. Rossi (1989) provided an excellent early quantitative study correlating the rapid rise in rents with the increase in homelessness. Anderson (2003) observed that the volume of literature on homelessness was almost unmanageable at that time. Much more has been published since then, and a large body of literature on the causes and consequences of homelessness is now available. This large collection of literature can generally be organized into two major categories: the causes of homelessness (e.g., Doak, 2006; Duffield, 2001; Wong, Salomon, Thistle-Elliott, Tallarita, & Reed, 2004) and the consequences of homelessness (e.g., Berck, 1992; Dordick, 1993; Hopper, 2003; Schmitz, Wagner, & Menke, 2001; Swick, 2006).

A moderate amount of literature has addressed the educational problems of homeless children specifically (Attles, 1997; Heinlein & Shinn, 2000; Jackson, 2007; Kerbow, Azcoitia, & Buell, 2003; National Center for Homeless Education, 2008; Rafferty & Rollins, 1989; Zima, Wells, & Freeman, 1994). In a thorough literature search, however, I found no peer-reviewed empirical studies evaluating whether the program, especially the subgrant component of the MCKV has improved the educational experience of homeless children. A number of researchers (Attles, 1997; Heinlein &

Shinn, 2000; Jeynes, 2002; Kerbow et al., 2003) have dealt with a related issue, namely, the educational challenges experienced by highly mobile students.

There are many possible reasons that the program has not been carefully studied. The first is that the target population of the program is very diverse, covering Kindergarten to Grade 12. Some children are homeless more or less permanently, others are homeless only once or for short periods, and still others are homeless episodically. This large diversity of ages, as well as the length, quality, and nature of their homeless experience, has made it difficult to gather and assess data related to homelessness. A second reason for the limited serious study of the program concerns the difficult process of evaluating the impact of national legislation on geographically and culturally diverse populations. The special needs of the homeless students in a large, urban, inner-city community are quite different from the needs of homeless students in rural Montana. It may be that a program that is fulfilling its mission in one type of community is almost useless in another.

Perhaps a program like the MCKV, which is a national and federal program with uniform national requirements, can be assessed effectively only location by location, area by area, and cultural group by cultural group. Some of these difficulties were avoided in this preliminary study because it was limited to North Carolina and to one age group, namely, students in Grade 6. A third challenge to assessing the MCKV is that the records correlating academic achievement and homelessness are difficult to obtain.

Two recent dissertations evaluated the required processes of the program, but neither study evaluated the educational effectiveness of the subgrant component of the

program. Rosenfeld (2003) reported the extent to which homeless youth in New Jersey were being identified and enrolled in public schools. Hayes-Whigham (2006) explored the degree to which the Dallas Independent School District implemented the requirements of the 2001 McKinney-Vento Homeless Assistance Act. Both of these dissertations evaluated the processes of MCKV, but not the educational outcomes.

The National Center for Homeless Education (2008) contracted with the USDOE's Office of Student Achievement and School Accountability Programs to assist with program assessment. One of its recent studies provided an encouraging and positive report on the percentage of homeless students attaining proficiency in their states' reading comprehension and mathematics tests (see Table 1).

Table 1

National Data on Percentage of Homeless Students Achieving State Proficiency

Year	Grade 6 reading	Grade 6 math
2006-2007	42%	48%
2005-2006	46%	40%
2004-2005	39%	37%

Note. From *Analysis of 2006-2007 Federal Data Collection and Three Year Comparison*, by National Center for Homeless Education, (2008). Retrieved from <http://www.ed.gov/Programs/homeless/index.html>

Although these data were encouraging regarding the effectiveness of the program, they left questions unanswered: (a) How are the homeless North Carolina students doing in comparison with normally housed students? and (b) Is there a difference in academic success between funded and nonfunded local educational agencies (LEAs)? In addition, these data applied only to students in LEAs receiving subgrants. In North Carolina, only about 20% of the LEAs receive subgrants. These data provided little or no evidence that

the program has improved the educational experience of homeless students in North Carolina.

The MCKV is the most important and comprehensive federal legislation enacted by Congress to address the issue of homeless education. It was designed to improve the educational experience of homeless children. The program established mandates that each state is required to meet. These include the creation of statewide coordinators to oversee services to homeless students, as well as coordinators with similar duties in each LEA. In North Carolina, LEAs are usually counties or a combined county and city school system. The 18 types of services permitted under the program are described in chapter 3. The program also provides limited funding to help states to fulfill these mandates. These federal funds are awarded to the states and then distributed by the states through subgrants to the LEAs.

This project was a quasi-experimental evaluation of the educational impact of the subgrant component of the program enacted in 2001. This evaluation was based on the educational experience of homeless Grade 6 students in North Carolina in 2006 and 2007.

Statement of the Problem

The MCKV has been in existence for almost a decade. Its precursor, the Stewart B. McKinney Act (PL 100-77), of which the program is a major extension, began in 1987. There have been no peer-reviewed, empirical studies assessing whether these important programs have achieved their educational goals. The need for assessment was recognized and reported long ago (Anderson et al., 1995; Markward & Biros, 2001; Stronge, 1997). It is important for assessment, planning, and budget allocation that

Congress, educational leaders, and budget planners have information that demonstrates whether this important educational program is achieving its goal. There have been assessments of the processes and services required by the program (Hayes-Whigham, 2006; Rosenfeld, 2003), including the special transportation required, the ease of registration, and the general program goal of improving the attendance of homeless students (Jozefowicz-Simbeni & Israel, 2006; Julianelle & Foscarinis, 2003). However, there have been no reported assessments of program outcomes.

Purpose of the Study

The purpose of this quasi-experimental study was to assess whether the program has improved the educational experience of North Carolina Grade 6 students, as measured by their scores on the end-of-grade (EOG) reading comprehension and mathematics tests. These EOG scores were used in the study as indicators of the effectiveness of the program.

Research Questions, Hypotheses, and Variables

1. Do normally housed Grade 6 students in North Carolina demonstrate higher academic achievement in reading comprehension than homeless Grade 6 students?
2. Do normally housed Grade 6 students in North Carolina demonstrate higher academic achievement in mathematics than homeless Grade 6 students do?

H_{01} : There was no significant ($p \leq .05$) difference in reading comprehension EOG scores in North Carolina between normally housed Grade 6 students and homeless Grade 6 students in the 2006-2007 school year.

H_{a1} : There was a significant difference ($p \leq .05$) in reading comprehension EOG scores in North Carolina between normally housed Grade 6 students and homeless Grade 6 students in the 2006-2007 school year.

H_{02} : There was no significant ($p \leq .05$) difference in mathematics EOG scores in North Carolina between normally housed Grade 6 students and homeless Grade 6 students in the 2006-2007 school year.

H_{a2} : There was a significant ($p \leq .05$) difference in mathematics EOG scores in North Carolina between normally housed Grade 6 students and homeless Grade 6 students in the 2006-2007 school year.

The independent variable in Research Question (RQ) 1 and RQ 2 was a nominal variable that reflects the state of housing of students. The variable had the value of homeless or normally housed. The dependent variable comprised the EOG scores of North Carolina Grade 6 students in reading comprehension and mathematics in the 2006-2007 school year. I hypothesized that normally housed students had higher EOG scores than homeless students in the 2006-2007 school year. The research design is described in detail in chapter 3.

3. Did homeless students from LEAs that received program funding achieve higher EOG reading comprehension scores than students from LEAs that were not funded?
4. Did homeless students from LEAs that received program funding achieve higher EOG mathematics scores than students from LEAs that were not funded?

H_{03} : There was no significant increase ($p \leq .05$) in North Carolina from the Grade 5 pretest to the Grade 6 posttest of the EOG reading comprehension scores in the LEAs that received program treatment compared to the LEAs that were not funded in the 2006-2007 school year.

H_{a3} : There was a significant increase ($p \leq .05$) in North Carolina from the Grade 5 pretest to the Grade 6 posttest of the EOG reading comprehension scores in the LEAs that received program treatment compared to the LEAs that were not funded in the 2006-2007 school year.

H_{04} : There was no significant increase ($p \leq .05$) in North Carolina from the Grade 5 pretest to the Grade 6 posttest of the EOG mathematics scores in the LEAs that received program treatment compared to the LEAs that were not funded in the 2006-2007 school year.

H_{a4} : There was a significant increase ($p \leq .05$) in North Carolina from the Grade 5 pretest to the Grade 6 posttest of the EOG mathematics scores in the LEAs that received McKinney-Vento treatment compared to the LEAs that were not funded in the 2006-2007 school year.

The independent variables in RQ 3 and RQ 4 were nominal variables that reflected whether an LEA received funding, or not, and a second nominal level variable which indicated a before-treatment (Grade 5) and an after-treatment (Grade 6) value. The dependent variables were the scores of North Carolina Grade 6 students on the EOG tests in reading comprehension and mathematics (North Carolina Department of Public Instruction [DPI] Accountability Services, n.d.). I hypothesized that in the LEAs that

received program funding in the 2006-2007 school year, the EOG test scores were higher than in the LEAs that did not receive program funding.

This quantitative, quasi-experimental study took advantage of the fact that about 20% of North Carolina's LEAs received program funding to support the education of homeless students and the other 80% received no funding. Preexisting groups became the experimental or control groups in this study, depending on whether their LEAs received program funding. Because the data came from an archival source, I had no opportunity to create comparable random statistical groups, as is required in a true experiment. The research design is described in detail in chapter 3.

Dependent Variables

There were two dependent variables in this study. The first conceptual variable related to RQ 1 and RQ 3 showed the reading comprehension skill of Grade 6 students in North Carolina. Operationally, this variable was measured by the homeless students' scores on the EOG reading comprehension test. The second conceptual variable related to RQ 2 and RQ 4 showed the mathematics skill of Grade 6 students in North Carolina. Operationally, this variable was measured by the homeless students' scores on the EOG mathematics test.

Independent Variables

In RQ 1 and RQ 2, the independent variable was state of housing, which had two values: normally housed and homeless. In RQ 3 and RQ 4, the independent variables were state of funding, which had two values, namely, funded and nonfunded, and grade, which had two values, namely, Grade 5 (pretest) and Grade 6 (posttest).

Theoretical Foundation of the McKinney-Vento Program

General systems theory has been used frequently as a guiding principle in social work and other disciplines in the social sciences (Bertalanffy, 1968). It is sometimes referenced as *the person in the environment* (Zastrow, 2004). Germain and Bloom (1999) noted its relationship to the holistic concepts of contemporary biology. As Netting, Kettner, and McMurtry (2004) pointed out, the environment within which an individual lives, works, and studies is a major influence shaping a person's life. General systems theory asserts that it is difficult, perhaps impossible, to separate the individual from the often nested systems in which the individual lives and studies. These nested systems include the biological basis of life, the family, the neighborhood, the school or workplace, and the general culture.

The student is a part of all of these systems, and each system or subsystem has an impact that cannot be ignored. Bowen (2007) observed that general systems theory has much in common with the psychological field theory of Lewin (1951). In a simple formula, Lewin (1936) expressed this interaction in the mathematical concept of $B = f(P, E)$. Lewin (1936) reasoned that behavior is a function of the person and the environment, in contrast to $B = f(P)$, which implies that behavior is a function only of the individual person. Field theory has great commonality with general systems theory. It recognizes that changing behavior is the most effectively accomplished not only by altering the individual's attitudes, values, self-esteem, vision, and so on, but also by altering the system in which the individual is embedded. Conyne (1988) commented on the lack of success that arises in counseling when counselors fail to take the

environmental reality into account. The counselors who limit their work to individuals without considering the environment significantly reduce the impact of the counseling.

The MCKV implemented the general systems theory approach (Bertalanffy, 1968) by attempting to change the environment within which the education of homeless students is conducted. The fundamental concern of the program is very similar to Bowen's (2007) contention that general systems theory helps to grasp the importance of how the local environment in which students are embedded influences their academic performance. Powers, Bowen, and Rose (2005) identified social and environmental dimensions external to the public schools that are factors in the adjustment and academic success of middle and high school students. Their research resonated with general systems theory and with the program.

The program identified issues in the experience of homeless school-age children that impede their educational success. In response, the program mandated certain actions by local and state educational agencies. It also provided limited support to implement these mandates. The philosophy supporting the program is that a change in homeless students' environment will improve their opportunities for educational success. The program has not addressed all of the barriers that limit the educational success of homeless children, but it has been a strong initial step. Some of the important barriers addressed by the program are that (a) absences from school interfere with academic success, (b) poor physical health is a barrier to academic success, and (c) mental and emotional problems are barriers to academic success.

Congress, by enacting PL 100-77, recognized that homeless children were not attending school regularly and factors such as complicated enrollment procedures discouraged attendance. The 1987 Act emphasized the importance of school attendance. In 1990, amendments to the Act (PL 101-645) recognized that there were educational problems resulting from the poor physical and emotional health of homeless children; subsequently, Congress authorized the use of program funds to correct these problems (Project Hope, 2008). The MCKV of 2001 continued the congressional commitment to these attendance, medical, and psychological issues. The theoretical approach on which the program is built hypothesized in a systems theory manner that getting homeless students in school with better physical and emotional health and with more effective support services will improve their educational achievement.

Definitions of Terms

End-of-grade test: In the spring of each year, North Carolina administers a test in many grades, including Grade 6 reading comprehension and mathematics achievement. It is assumed that these EOG tests are good markers for educational outcome.

Homelessness: Homelessness is defined in the program as “an individual who lacks a fixed, regular, adequate nighttime residence” (as cited in Doak, 2006, p. 2).

Local educational agencies (LEAs): LEAs are the unit established by the North Carolina DPI in the 100 county units and 15 city units in the state that operate separate, standalone public educational systems.

McKinney-Vento Subgrant Program: Each state must use program funds to assist homeless children and youth in enrolling, attending, and succeeding in school. LEAs in

North Carolina apply to the DPI for a competitive grant from the state. About 20% of the LEAs in North Carolina receive program funding.

North Carolina State Homeless Liaison: This position is mandated under the program. The coordinator for education of homeless children and youth, established in each state, must gather and transmit data on homelessness, develop and carry out the state plan regarding homelessness, and provide technical assistance to administrators and teachers.

School of origin: The school of origin is the school that the child or youth attended when permanently housed or the school in which the child or youth was last enrolled.

Significance of the Study

As far as I could determine, this study was the first to compare the academic achievement of homeless and normally housed North Carolina Grade 6 students empirically. In the literature review is a section on the extensive literature regarding the impact of homelessness on academic achievement in other states. Such a study, however, had not been conducted in North Carolina.

The MCKV is the major federal program designed to address and improve the educational needs of homeless children. It is important for Congress, the USDOE, educational leaders, and budget planners to have information about the extent to which the program is achieving its educational purpose. It is also important to move beyond an assessment that is limited to an evaluation of the required program services. In the opinion of the advocates for the homeless (National Association for the Education of

Homeless Children and Youth, 2008; Wong et al., 2004), the funds allocated to support the education of homeless students are insufficient. These advocates have attempted to make a strong case for increased funding. Their arguments will be more convincing and effective, and increased funding will be more likely if the program for which increased support is sought has been effectively evaluated and been demonstrated to be achieving its educational goals. This was the primary social change implication of this study.

As important as the program mandates of 2001 were, and even though they have been in place for many years, no one can state with certainty that these mandates have actually improved the educational experience of homeless children. The desired educational progress could not have been made without the mandates of the program. It is important, for example, that homeless students attend school regularly, that they are provided with rapid and noncomplicated enrollment, and that they remain in their school of origin. The special transportation services provided for homeless students also have been beneficial. Without question, the required program services have contributed to these important ends, but have these services been enough, and has the desired educational improvement been achieved? It may be that even though the program mandates are the necessary conditions for academic improvement, they may not automatically provide the sufficient conditions for the desired educational improvement. This study was a beginning step in resolving this uncertainty.

Assumptions, Scope, Limitations, and Delimitations

Assumptions

I assumed that the data used in the quantitative section of this study and obtained from the North Carolina DPI (n.d.) were of high quality. This assumption meant that the tests were administered properly, the tests were properly secured before administration, and the data were properly secured after administration. I also assumed, but not otherwise verified, that the EOG tests in reading comprehension and mathematics were valid indicators of the educational achievement of homeless Grade 6 students in North Carolina.

Scope

The scope of this study included all of the homeless and normally housed Grade 6 students in North Carolina who participated in the EOG mathematics and reading comprehension tests in the 2006-2007 school year.

Limitations

Preliminary conversations with national and state officials who are familiar with efforts to provide educational services to homeless students led me to conclude that this study, although valuable, involved certain limitations. Although this study was large, involving more than 107,000 Grade 6 North Carolina students, of whom about 1,000 (approximately 0.5% of the North Carolina student population) are homeless, it was limited to North Carolina. It was unclear to me whether a large study in only one state could justify a generalization from a particular state to the entire United States.

North Carolina is a diverse state. The culture and economy of North Carolina vary significantly from the coast to the mountains. There are large, affluent, and urban counties and there are small, rural, and poor counties. Data are available only for students who take the EOG reading and mathematics tests, not for all homeless children who enroll in or who attend school. The data from the North Carolina DPI (n.d.) reported a number of students who had been identified as being homeless, but who had no EOG test scores.

The educational needs of students vary widely from elementary school to middle school to high school. It is not clear that the one-size-fits-all approach can be applied to Grades K to 12. I was uncertain that an assessment of the program on the middle school level, as in this study, could be reliably extended to elementary or high school situations.

In regard to RQ 3 and RQ 4, the two groups that were compared came from funded and nonfunded LEAs tested in Grade 5 (pretest) and Grade 6 (posttest). As Shadish, Cook, and Campbell (2002) noted, the question of selection bias is the fundamental differentiation between experimental and quasi-experimental research design. In my opinion, whether the experimental and control groups were truly randomized represented a borderline case. Therefore, I took a conservative approach and labeled the study as quasi-experimental.

No good estimate could be found of the percentage of the homeless students in North Carolina who never attend school. The need exists for a complete evaluation of the program. This preliminary study, which evaluated the impact of the subgrant program on homeless and normally housed Grade 6 North Carolina students, was only a beginning.

Delimitations

In this study, I did not cover Grades 1 to 5 and Grades 7 to 12. I did not consider states other than North Carolina and considered only the students in North Carolina who participated in the test. A further delimitation of the study was my choice to use archival data, an option that did not accommodate a random selection process.

Not all LEAs in North Carolina applied for the subgrant in the period of the study, and if they did apply, not all applications for the subgrant were approved. The fact that some LEAs had received program funding, but others had not, created a useful assessment opportunity. This study was an evaluation of the subgrant component of the MCKV that has been implemented among Grade 6 homeless students in North Carolina.

An important issue for this study was the selection process used by the DPI to determine the 21 LEAs that were to receive the funding. The director of Homeless Education in North Carolina for the period of this study (2006-2007) reported to me that all school districts in North Carolina were given an application for the program and were encouraged to apply (D. McHenry, personal communication, August 26, 2008). The DPI established a review committee of professional educators, mainly teachers, who developed a rubric to guide selection. Twenty-two LEAs submitted subgrant applications, but 1 application was rejected by the DPI committee because it did not meet the stated criteria. The remaining 21 LEAs were funded. I was unable to locate a copy of the 2005 communication that invited applications and specified selection criteria. Thus, the funded experimental group that I used in this study was basically a voluntary, self-selected

group. As noted in chapter 3, a few LEAs, mainly charter schools, with small enrollments had not enrolled any homeless students. I chose not to include these LEAs in the study.

Summary

The MCKV remains the most important federal initiative responding to the educational needs of homeless children across the United States. It is a valuable but underfunded program. Whether this program is successful in improving the educational experience of homeless students has never been the subject of a peer-reviewed empirical assessment. This study was a preliminary step in determining the value of the program. Chapter 2 provides an in-depth review of the literature associated with the program and homeless education. It showed that there is a gap in the literature regarding the assessment of the subgrant component of the program. Chapter 3 describes the research design and addresses the threats to validity that are typically present in all quasi-experimental studies. Chapter 4 describes the data and the data collection process. It also reports the results of the *t* test and ANOVA studies of the data. Chapter 5 includes a summary of the findings and a discussion of the conclusions. Also included in chapter 5 are the implications for social change, recommendations for action, limitations and delimitations of the study, and suggestions for future research.

CHAPTER 2: LITERATURE REVIEW

Organization of the Literature Review

The MCKV is the major federal legislation designed to improve the educational experience of homeless students. The purpose of this study was to evaluate the educational effectiveness of the subgrant component of the program. This literature review surveyed scholarly studies related to the phenomenon of homelessness, paying particular attention to the education of homeless children. I found an absence of literature directly related to an empirical review of the educational effectiveness of the subgrant component of the program.

This literature review was organized around the history of homelessness; a definition of homelessness; increases in the number of homeless individuals; and particular topics, such as the physical and mental health of the homeless, family issues, and the homeless shelter experience. I paid special attention to the educational consequences of homelessness and to the public schools' response to the homeless. There is a section on the federal government's responses to homelessness, especially the history leading up to the program of 2001. One section is devoted to the theory underlying the program, and one section describes the research design employed to assess the program. Another section is devoted to the North Carolina EOG tests used to measure the mathematics and reading comprehension skills of Grade 6 students in the state.

Strategy for Searching the Literature

I began this evaluation of the educational effectiveness of the program by conducting a search of literature in the databases available through Academic Search

Premier, PsycArticles, Social Service Abstracts, and Sociological Abstracts. These searches used key words in combination with the definition and growth of homelessness in the United States, the changing demographics of the homeless population, as well as the causes and consequences of homelessness. However, I found no assessment in any of these searches to determine whether the subgrant component of the MCKV has improved the educational experience of homeless students.

In addition to the systematic literature search regarding the program, I held conversations about the assessment of the program with individuals who were arguably the most knowledgeable persons of the implementation of the program in North Carolina in one case and in the United States in three other cases at the time of the study. These experts included Gary Rutkin, past program supervisor at the USDOE, and his successor, John McLaughlin; Deborah McHenry, North Carolina program state coordinator; and Barbara Duffield, policy director for the National Association for the Education of Homeless Children and Youth. These conversations confirmed the lack of peer-reviewed assessments of the program.

This study was a first step in evaluating the *educational* effectiveness of the subgrant component of the program regarding reading and mathematics comprehension among homeless Grade 6 students in North Carolina. This study was arguably the first empirical study to evaluate the educational effectiveness of the program.

Relationship to Previous Research

No published reports exist that assess the educational effectiveness of the program subgrant component of the MCKV in North Carolina or anywhere else. However, a large

amount of scholarly literature related to homelessness, including numerous studies discussing the problem of educating homeless students, has been published. This literature has documented a wide variety of studies regarding the causes and consequences of homelessness, but the specific variables used in this study have not previously been defined in the literature.

History of Homelessness

Doak (2006) reported that prior to the 20th century, homeless individuals often were blamed for their own homeless situation. The earlier attitudes were summarized in the English Poor Law of 1601, which distinguished between the worthy poor and the unworthy poor. The plight of the homeless in those days was attributed by society to laziness, crime, or some other moral failing. This historical and traditional attitude has since been diminished, although it does continue to represent a fairly prevalent societal view that factors such as drug addiction or welfare dependence are the causes of homelessness. Over the 20th century, not only social scientists but also the American population, especially Congress, came to appreciate the fact that homelessness is more of a systemic problem than a personal moral failure. This change in attitude helped to pave the way for legislation that culminated in the program in 2001.

Definition of Homelessness

The definition of homelessness is not consistent and is often ambiguous. PL 100-77 was one of the first attempts by Congress to provide a major congressional response to the needs of homeless Americans. This law defined a homeless person as one who meets the following conditions:

1. An individual who lacks a fixed, regular, and adequate nighttime residence.
2. An individual who has a primary nighttime residence that is:
 - A. A supervised publicly or privately operated shelter designed to provide temporary living accommodations including welfare hotels, congregate shelters, and transitional housing for the mentally ill.
 - B. An institution that provides a temporary residence for individuals intended to be institutionalized; or
 - C. A public or private place not designed for, or ordinarily used as, a regular sleeping accommodation for human beings. (p. 2)

One of the first challenges to research is the lack of consensus regarding the definition of homelessness. The aforementioned definition, created by PL 100-77, remains the “government approved” definition of homelessness. It was relevant to this current study because it applies to the program of 2001. It should be noted, however, that Burt (2001) and her colleagues at the Urban Institute disagreed with what they considered to be the government’s overly narrow definition of a homeless person. The government’s definition focuses on where a person is housed at night, that is, on the person’s sleeping arrangements. Researchers from the Urban Institute preferred including in the definition of homelessness other elements, such as children in foster care, those doubled up for short periods in conventional dwellings, and elderly family members who cannot afford to live elsewhere.

The National Coalition for the Homeless (2007) understood the difficulty of determining the number of homeless people. This coalition concluded that the question, “How many homeless are there?” is a misleading way to state the problem. The researchers associated with this coalition preferred to discuss the number of people who experience homelessness over a given time rather than try to estimate the number of persons homeless at any given moment.

Growth of Homelessness

There is no consensus that homelessness in this country is growing. The U.S. Department of Housing and Urban Development (HUD, 2007) reported, “The results suggest that, at a minimum, the homeless population did not increase substantially in the 1996 to 2005 period” (p. 26). It has been difficult to determine with any precision the exact number of homeless individuals in the United States (HUD, 2007) because the issue is largely one of definition (Burt, 2001; Jencks, 1994; Rossi, 1989). How long and under what conditions a person has to live to be defined as a homeless person is a challenge, whether one is counting the total number of persons who were homeless during a year or counting the number of persons who were homeless in a particular category on a particular night.

In the minds of the general public, the homeless population are usually thought to be individuals who are living in cars or cardboard houses in vacant lots on the edge of a city. Although a few people living in such situations do exist, they make up only a small fraction of the total homeless population. As Doak (2006) pointed out, the demographic data have not been precise. In the numerous demographic studies mentioned in the following paragraphs, a close reading reveals that the reports of the number of homeless persons, although generally consistent, have varied in detail from report to report. In my opinion, this variation is the result of one or both of the following factors: (a) the definition of the homelessness problem; and (b) the counting problem, that is, whether to count the homeless over an extended period of time, and, if so, what period of time

(usually a year) or whether to report the number of homeless persons on a particular night.

Counting the homeless population has been a subject of scholarly attention and government reports for many years (Rossi, 1989). By 1995, the USDOE had concluded that more than 740,000 children and youth in the United States were homeless. Gargiulo and Kilgo (2005) asserted that by 2005, the number of homeless youth and children in the United States had surpassed 1 million. They also pointed out that about 250,000 of these homeless individuals were believed to be preschool-age children. Nuñez and Collignon (1997) reported on the demographics of homelessness. They mentioned that the subgroup composed of school-age children constituted the fastest growing segment of the homeless population at the time of their study.

Of particular interest in this current study were the topics of the number of homeless school-age children and the impact of homelessness on their lives. Ringwalt, Greene, Robertson, and McPheeters (1998) noted that the prevalence of homelessness of students in the 12- to 17-year age range was around 8% of the total homeless population and that this age group generally comprised children in Grade 7 through their senior year in the education system. This is an important time in the lives of developing adolescents because their values and life directions are being established. A stable family environment is important for continuity, support, and consistency in the life of young persons at this vital developmental stage. Popp, Stronge, and Hindman (2003) observed that 1 million children experience homelessness at some time each year. One third of these children reside in shelters, and one third are in shared housing. These researchers

also noted that on any given night, 100,000 youths may be in some type of homeless situation.

The USDOE (1997) reported that the number of homeless children and youth doubled between 1991 and 1993. The HUD (1996) estimated that approximately half of all homeless children did not attend school regularly at the time of its report. In a more recent survey, the Los Angeles Homeless Service Coalition (2007) provided what appeared to me to be the best synopsis of recent homeless data, noting that “3.5 million people experience at least one homeless night a year and of these 3.5 million, 1.35 million are children and 16% of the homeless are under 5 years of age” (p. 8).

Gargiulo (2006) reported that over the last few decades, the nature and character of homelessness have changed. Until about 1985, the primary group of people who did not have adequate housing comprised adult males. By 2006, in Gargiulo’s opinion, families and children composed the most rapidly expanding segment of the homeless population. Gargiulo and Kilgo (2005) asserted that by 2005, families and children comprised about half of the homeless population. Duffield (2001) observed that an estimated 1.35 million children in the United States were homeless early in this century. Burt and Aron (2000) pointed out that at the time of their study, an astounding 40% of homeless children in the United States were under the age of 5. Ringwalt et al. (1998) reported, without explanation, that adolescent boys are more likely than girls to be homeless. They also concluded, with some surprise to me, that there was no difference in the prevalence of youth homelessness based on race, poverty status, family structure, or region of the country.

Comprehensive Treatments of Homelessness

From a long list of general studies of homelessness, a few significant book-length works have appeared to me to be especially important in understanding the growth, reality, and impact of homelessness. Jencks (1994) discussed many of the major topics regarding homelessness. For example, he wrote about the complex and challenging problem of counting the number of homeless persons, which is a daunting task (Doak, 2006; Mawhinney-Rhoads & Stahler, 2006). Jencks also reviewed the social and political changes between 1985 and 1995 that exacerbated the problem of homelessness. These factors are still relevant. They include the reduction in the number of individuals who are mentally ill who previously were involuntarily committed. Many of these persons are now living on the streets. Another contributing factor to increased homelessness has been the impact of the epidemic growth of a crack culture. Jencks discussed the increased number of women with children in contemporary society who do not have husbands who can provide support. He also commented on the increasing unwillingness of extended families to provide housing for the less fortunate members of their families.

In another impressive work, Hopper (2003) conducted an ethnographic study, focused heavily on New York City, of the history of that city's efforts to deal with homelessness. Hopper's work was a good introduction to the social and political efforts on behalf of the extremely poor. This early background of social concern and political action was important to this study because the period that Hopper described saw the rise of a national environment, especially in Congress, that resulted in PL 100-77, which was the basis of the MCKV, the focus of this current study.

Another study that I found useful was that of Rossi (1989). Although Rossi covered many of the topics addressed by Jencks (1994), his treatment of the growing presence of single women with children was especially insightful. Rossi introduced the term *disaffiliation*, which differentiated this new group from other extremely poor persons. By disaffiliation, Rossi referred to homeless people as those who were “without enduring and supporting ties to family, friends and kin” (p. 43).

In a completely different kind of study, Liebow (1993) collected and told the stories of more than 50 homeless single women. Liebow used a method that he described as “participant, observation research” (p. 321). Although Liebow’s work was devoid of the statistics provided in many social science studies, it presented the best insight into the emotional and psychological experiences of the homeless. Liebow’s work is a helpful study to view homelessness existentially and personally, not just remotely and analytically.

Specific Topics Related to Homelessness

In addition to these comprehensive studies, many peer-reviewed monographs and focused articles in the scholarly literature have addressed a variety of issues of homelessness. Although most of these monographs did not speak directly to the subject of this dissertation, which is the evaluation of the program and its efforts to improve the educational experience of homeless students, they were indirectly relevant and important to my study. These studies of the various aspects of homelessness have described the ecological environment of homeless students. The works have contributed to the general systems theory approach, or the ecological perspective, the term favored by most social

workers (Bronfenbrenner, 1979; Germain & Bloom, 1999). These studies have described where homeless students live, and they have provided an understanding of the environment in which the education of homeless students is conducted. Any program aimed at understanding the education of homeless children needs to be cognizant of the many issues of the homeless students' environment.

Health Care of Homeless Children

One of the environmental problems faced by homeless children is that of poor health. Compared to normally housed children, homeless students often do not have access to regular preventive health care support, which includes such important issues as regular immunizations, dental visits, and vision examinations. Homeless children often do not receive treatment when they are sick, and if they do receive treatment at all, it is frequently delayed. There has been general agreement among researchers (Berck, 1992; Dordick, 1993; Hopper, 2003) that homeless people suffer from more types of illnesses for longer periods of time and with more harmful consequences than normally housed students do. Jozefowicz-Simbeni and Israel (2006) remarked that homeless youth face health problems arising frequently from poor living conditions and poor nutrition. Wong et al. (2004) reported that homeless children "suffer from high rates of acute and chronic illnesses including fever, ear infections, cough, stomach problems, asthma, diarrhea and headaches. Homeless children are more likely than other children to experience emergency room visits, [and to] be hospitalized" (pp. 289-290).

Psychological and Mental Health Issues of Homeless Children

The negative factors in the ecological environment that limit the lives and educational opportunities of homeless students extend well beyond the issues of physical health. The issues also include psychological stability and mental health. Russell and Williams (1998) reported that children who live in a homeless environment are twice as likely to experience learning disabilities and 3 times more likely to give evidence of emotional problems than their peers in the same class who are normally housed. The incidence of mental retardation is significantly higher among people who are homeless than among those who are normally housed, according to Zima, Bussing, Foreness, and Benjamin (1997). Russell and Williams summarized their observations by claiming that homelessness is a breeding ground for disabilities among children. Taylor, Stuttaford, Broad, and Vostanis (2006) observed that even though homeless children have more severe and frequent mental health problems, they are less likely than normally housed children to receive treatment.

In the view of Swick (2006), the most damaging aspect of being homeless is the experience of isolation, a reality that all homeless persons, especially children, experience. Having needed resources removed or threatened to be removed is a traumatic experience for anyone. This sense of isolation is especially troubling to powerless children. According to Swick, a safe, secure, and dependable environment is critical to ensuring the emotional security that children need. Children are especially susceptible to feelings of insecurity that inevitably arise in homeless situations. Erikson (1950) observed that stability is important for children to develop positive physical and

emotional health. Erikson believed that a stable family is a key component of a child's ability to succeed in life. In the opinion of Berck (1992), many of the educational issues that homeless children encounter in school arise originally from the insecurity of the homeless experience.

The Challenged Homeless Family

The difficulties and challenges that homelessness presents create problems for the entire family system. Schmitz et al. (2001) asserted that homelessness results in parental distress by undermining the authority of parents and diluting the parental role. Nuñez and Collignon (1997) pointed out that the average homeless family is “a young single mother, with one or two children who reads below the 6th grade level” (p. 57). Homeless parents often are less responsive to their children's needs. This neglect creates a general splintering of the family unit. Although it is frequently an economic situation that leads families to the homeless experience, the impact of homelessness often extends beyond economic issues to the psychological needs and stability of the family, especially for the children. Numerous relational issues (e.g., parent to parent, parent to children, children to children) can arise from the lack of a permanent home. The needs of the family in general that are experienced during the time of the crisis of homelessness inevitably become a part of the emotional life of the children.

Kozoll, Osborne, and Garcia (2003) observed that migrant workers who are voluntarily homeless often deal more effectively with homelessness than many other Americans do. Migrant workers often travel as families to new work sites, and frequently, a connection to the extended family is maintained. The presence and power of a strong

family, especially the support of the extended family, seem to compensate to some extent among migrant workers for the absence of a permanent home.

Swick and Bailey (2004) argued that the lack of opportunities for homeless parents and children to develop effective social, human relations, and communication skills is a major consequence of homelessness. Such social skills are critical to the subsequent effective functioning of children in society. The lack of such skills exacerbates the children's educational problems. The absence of privacy in typical shelters is clearly a barrier to effective parent-child communication. The shelter or the doubled or tripled family situation in which children may live does not support social skill development. Swick (1994) pointed out that children and parents need to develop enjoyable and meaningful family relationships, but this goal is difficult to achieve in a shelter setting or in a crowded environment in which many families are living together. This environment often increases the parents' sense of dependency and discourages individual initiative and action.

This passive indifference and dependence can be transferred to the children, where it contributes, in Swick's (1994) view, to the poor academic performance of homeless children. The ultimate result of this dependency was identified by Swick and Graves (1993) as the ecology of despair. They contended that poverty and illiteracy, bad enough when embedded in an ineffective human relationship and social service system, can give rise to despair, powerlessness, isolation, and extreme insecurity on the part of homeless adults. When these attitudes permeate the family, they help to shape the values

and attitudes of the children. These attitudes and values then influence the children's performance in the education system.

The Not-So-Good Life in the Homeless Shelter

Liebow (1993) observed that the homeless shelter culture and lifestyle are such that sheltered families cannot provide their children with the stability that they need. Swick (2006) observed that almost all shelters experience overcrowding and provide few opportunities for privacy. In addition, the frequent presence in the shelters of adults who themselves have major mental health problems adds to the children's negative experience. The chaotic dynamics of street life move into the shelters in spite of the best intentions of the shelter managers. The shelter environments create feelings of insecurity, uncertainty, and fear, especially in children. This uncertainty clearly has educational implications: It is difficult to do algebra homework in such a chaotic environment.

Johnsen, Cloke, and May (2005) remarked that the problems with the quality of life in the shelter and the attitudes of the shelter leaders have been recognized not only as an American problem but also as a problem in the United Kingdom. They claimed that shelters often are spaces of fear more than they are spaces of care. Swick (2006) described "the reality of not having a housing situation where one is safe and secure creates multiple barriers to gaining control over one's life" (p. 195).

Mistrust of Officials

Park, Metraux, Brodbar, and Culhane (2004) noted the importance for homeless parents and children to have a frequent and a positive interaction and relationship with public and private social service providers. These relationships should include social

workers, shelter operators, teachers, and school officials, but such positive relationships do not always happen. Park et al. discovered that living in some shelters and working with some social service professionals actually may reduce the sense of empowerment among individuals who are homeless. Swick and Bailey (2004) pointed out that the attitudes and behavior of some social service professionals, as well as the memory of negative experiences with authority figures, often cause some homeless parents to avoid interactions with the school and the support opportunities available to help their children. The hesitancy of parents to relate to the school is unfortunate because this is an interaction and source of support that homeless children desperately need. The same type of problem has been found in health care services for the homeless population. Zlotnick and Marks (2002) reported that because of their mistrust of health care officials, some homeless people fail to obtain health services for themselves and their children, even though these services are available to them.

Educational Consequences of Homelessness

If the researchers who are interested in the impact of the program on the educational experience of homeless students narrow the scope of the literature review from homeless in general to the more focused topic of the education of homeless students, they will discover that although the amount of existent literature is reduced, there are still many scholarly studies directly related to the topic of the education of homeless students. There also has been significant literature on a related topic, namely, the education of highly mobile students, or students who change schools frequently. A partial list of this extensive collection of studies on school mobility includes such

researchers as Attles (1997); Buckner, Bassuk, and Weinreb (2001); Dong et al. (2005); Hanushek, Kain, and Rivkin (2004); Heinlein and Shinn (2000); Jeynes (2002); and Kerbow et al. (2003). Not all mobile students are homeless, but most homeless students have experienced some degree of mobility (Black, 2006; Sanderson, 2004; Titus, 2007).

The correlation between homelessness and poor academic achievement is well documented. The presence of homelessness produces low achievement test scores, the increased incidence of disabilities, poor grades, more frequent school behavior problems, more grade retentions, more severe truancy, and a higher incidence of school dropouts (Israel, Urberb, & Toro, 2001; Jozefowicz-Simbeni, 2003; Masten, Miliotis, Graham-Berman, Ramirez, & Neemann, 1993; Ziesemer, Marcoux, & Marwell, 1994). Rafferty and Rollins (1989) found that only 42% of 3,800 homeless children in New York scored at or above grade level on a reading test in 1988, as compared to 68% of normally housed students citywide. Zima et al. (1994) concluded that homeless children are more than 4 times as likely to score at or below the 10th percentile in a vocabulary and reading test, as compared to the general population.

Homeless children also are more likely than are their normally housed peers to be retained. In Los Angeles, 30% of the homeless students were retained, versus 18% of the normally housed students (Wood, Valdez, Hayashi, & Shinn, 1990). In New York, the corresponding numbers were 20% versus 8% (Rubin et al., 1996). Rafferty (1998) also reported that children who are homeless have lower standardized test and achievement test scores and are more likely than are normally housed students to be retained in the

same grade level. Nuñez (2001) reported that 57% of school-age homeless children in New York City had changed schools at least once since becoming homeless.

The negative impact of homelessness on academic achievement also was reported by Bassuk and Rubin (1987) and Byrnes and Yamamoto (1986). Rafferty, Shinn, and Weitzman (2004) conducted a detailed analysis and comparison of the school experiences and academic achievement of 46 adolescents in families that had formerly experienced homelessness and compared them to 87 permanently housed adolescents. Both groups of students were from families that were receiving public assistance. Both groups had similar cognitive abilities. The 46 formerly homeless students had more school mobility, more grade retention, and lower plans for postsecondary education than the permanently housed students. Fox, Barnett, Davies, and Byrd (1990) concluded that 79% of the homeless students in New York City scored at or below the 10th percentile on the Peabody Picture Vocabulary Test. This significant peer-reviewed literature regarding the negative impact of homelessness on the education of children has correlated homelessness with low achievement test scores, poor grades, frequent school behavior problems, more grade retention, more severe truancy, and a higher incidence of school dropouts (Israel et al., 2001; Jozefowicz-Simbeni, 2003; Masten et al., 1993; Ziesemer et al., 1994).

Responses to Homelessness

Response of Schools to Homelessness

After the enactment of PL 100-77, but prior to the program of 2001, a few public schools began to recognize the unique education problems that homeless children

experience. These schools started to implement programs to address the special needs of homeless students. A study in 2000 just prior to passage of the program (Stronge & Reed-Victor, 2000) described a few intervention programs for the homeless. The researchers observed that many interventions for homeless children require activities outside of the school system. At least three different schools have developed methodologies designed to address the needs of homeless students. First, the Home, Education Readiness, and Opportunity (HERO) program focused on special activities and services to enhance the self-image of homeless students. Second, a program has been directed to shaping the teachers' attitudes and skills in working with the homeless. Third, a program has sought to improve the knowledge and skills of the school social workers and school counselors who deal with the homeless.

Davey, Penuel, Allison-Tant, and Rosner (2000) commented on the success of the HERO program of Nashville, Tennessee, which was funded under PL 100-77. The major purpose of the HERO program was to reduce the effect of mobility on educational achievement. All families and children who were residents of any Nashville, Tennessee, shelter for homeless people were eligible to join the HERO program. Once families and their children were admitted to a shelter, the shelter director informed the parents of the merits of the program, and the school was provided with the name of the family/child. School social workers were notified after five or more unexcused absences of the homeless students. The HERO Program Homework Center is an after-school, community-based program that provides educational training and support 2 hours per night for 2 nights a week at four homeless shelters in the city. This learning center

provides homework instruction by certified teachers and computer games to promote cognitive development.

A typical outing in a learning center might involve swimming, music, and art at the local Boys and Girls Club, all designed to assist in the formation of a positive self-image in children. According to Zufferey and Kerr (2004), such an image is necessary for the development of self-confidence and personal strengths. The HERO program appeared to be successful. Daily school attendance rates in the last few weeks of the program were 90% higher than at the beginning.

Knowlton (2006) described a second type of intervention that involves an effort to shape the classroom teachers' understanding of homeless students. Attention is given to the teachers' response to homelessness within the classroom. Knowlton discussed the importance of three factors in educating homeless students: a close classmate, or "buddy"; a mentor; and a structured daily routine. This second approach involves the recognition of the role of the teacher in the homeless problem. Although it is not always mentioned in the literature, individual classroom teachers spend more time with homeless students than do social workers, psychologists, administrators, or counselors combined. The relationship that is formed and the "homeless friendly" classroom setting are the most important aspects of assisting homeless children. Support personnel such as school counselors and social workers can provide needed services, but the presence of a supportive and welcoming teacher with a thorough knowledge of homelessness is paramount.

A third school-based intervention was described by Baggerly and Borkowski (2004), who noted the importance of the role of the school counselors who work with homeless students. They contended that it is useful for school counselors to help shelter staff and classroom teachers understand that they are on the same team. They stated that the literature has not included many descriptions of the importance of school social workers in dealing with homeless students. When a problem arises for a homeless student, it is almost always the school social worker who is tasked to respond to the problem on behalf of the school.

Response of Federal Government to Homelessness

The literature review of the government's response to homelessness can be described in two parts: (a) the general government's action regarding homelessness, and (b) the specific congressional legislation focused on education, namely, PL 100-77, as amended, and the program of 2001, the government's primary response to the educational needs of homeless students. Concerning federal action, the plight of the homeless has not gone unnoticed by the federal government. Weicker (2006), assistant secretary for housing, pointed out that as early as 1949, the housing issue for the homeless population began to be recognized by Congress. In that year, Congress passed the Housing Act. This legislation enunciated a national goal of having a decent home, in a suitable living environment, for every American family. This earlier attention was focused on the suitability of the living environment.

Later emphasis turned to the more general needs of the homeless and considered the impact that homelessness has on the quality of life in particular. Tompsett, Toro,

Guzicki, Manrique, and Zatakia (2006) compared data regarding the attitude of the public on the issue of homelessness from the period 1993 to 1994 to the more recent period. They found that the American population and, ultimately, Congress had less stereotyped views of the homeless in 2006 than in the earlier period. By 2006, there also was an increased appreciation that homelessness often involves more than economic issues. This new attitude about homelessness helped to create the political climate in which serious legislation regarding homelessness became possible.

The McKinney-Vento Program

History

The program of 2001 had its origin in PL 100-77. According to the National Coalition for the Homeless (2006), the original PL 100-77 was amended four times, namely, in 1988, 1990, 1992, and 1994, before the 2001 program. The 1988 revision expanded eligible activities and clarified the distribution of funds. Major modifications that expanded programs for which program funds could be used were adopted in 1990. The 1992 revision continued the expansion of the program into rural areas, provided support for drugs and alcohol programs, and authorized support for mentally ill persons. In 1994, more flexibility was provided to LEAs, specifying the right of homeless preschoolers to a free and public education. In this revision, parents were provided with a stronger voice regarding the placement of their children. In 2001, the Act was renamed the McKinney-Vento Homeless Assistance Act.

One overriding goal of the program was to allow students to return to their school of origin during a homeless situation. School of origin was defined as the school in which

the children were enrolled when they became homeless. Another major goal of the program was that homeless students should remain in a regular school and not be segregated in special schools for homeless individuals. In the opinion of those who drafted the legislation, this reduced the harassment and ostracism of being homeless.

Slowly, separate schools for homeless children disappeared. Doak (2006) commented that the proponents of separate schools have argued that separate schools provide badly needed services, such as showers, clothing, hygiene items, dental and medical care, psychological counseling, and birthday parties and gifts. The proponents of separate schools for the homeless also have asserted that separate schools shield children from the embarrassment and ridicule they might encounter in the regular public school setting. The opponents of separate schools also have argued that the stigma of being outside of the mainstream outweighs any advantages. The Homeless Children and Youth Program passed in January 2002 as part of the No Child Left Behind Act (PL 107-110) required the elimination of separate schools for homeless children. Doak noted that the PL 107-110 states, "Homelessness alone is not sufficient reason to separate students from the mainstream school environment" (p. 64). This law mandates that homeless children be placed in the mainstream school environment.

The program (2001) mandated the designation of a state coordinator to promote educational access for homeless students; however, this component was slow to be activated. Thompson and Davis (2003) observed that even as late as 2003, 2 years after the enactment of the program, a significant number of homeless liaisons in Illinois were not aware that they were the homeless designees. The liaisons also had little or no

knowledge of the program. Thompson and Davis documented the need for school districts to devote more training, outreach, and knowledge to services in the area of MCKV programming.

Lack of Evaluation of the Program

Just prior to the adoption of the program in 2001, Markward and Biros (2001), in an assessment of PL 100-77 and its subsequent amendments, pointed out that excellent initiatives had been taken to meet the educational needs of homeless students. However, it was clear to the advocates for the homeless that much more remained to be done. One of the changes that Congress made in 1990 that was especially relevant to this study was the recognition that the purpose of PL 100-77 was not simply to enroll homeless children, “but to promote their academic success in public schools” (Project Hope, 2008, p. 1).

I suspected, and the literature review subsequently confirmed, that the evaluation of the federal programs for homeless children has focused on processes rather than educational outcomes. There have been reports of improved services, but very little attention has been given to identifying what improvements in education actually have been achieved. The process aspect of the program was evaluated, and that evaluation documented that the services required by the program are being fulfilled. Hayes-Whigham (2006) and Rosenfeld (2003) reported on the process of the program, but neither commented on the educational achievement. There was understandable frustration in Congress about the absence of an assessment of educational outcomes. This frustration led to specific language in 1990 that noted that the legislation was intended “to promote

academic success.” The intent of Congress was not only to improve services but also to improve education.

In the 1990 amendment, steps were taken to increase access to educational services. These improvements were retained in the 2001 program. Project Hope (2008) summarized the program of 2001 as follows:

Since 1990, however, states have been authorized within certain limits to award grants to local educational agencies (LEAs) for an array of educational and support services in response to the needs of homeless students. Today, schools that apply for and receive, McKinney-Vento funds may use them to provide before school and after school programs, tutoring programs, referrals for medical and mental health services, pre-school programs, parent education, counseling, social work services, transportation services, and other services that may not otherwise have been provided by the public school program. (p. 2)

The program mandated that states initiate significant positive steps to assist the education of homeless students. These include requiring transportation for homeless students in a manner that keeps them in their original schools, easing the enrollment process by reducing bureaucratic barriers, and providing meals and some or all of the services listed above.

The decision regarding particular services is at the discretion of the LEA. It has not been demonstrated in the literature that these steps have been effective in improving the educational experience of homeless students. In the manner of the logicians of philosophy, the program may have provided the necessary, but not sufficient, conditions for improving the educational experience of homeless students. As a result of the program, people at the local and state levels are thinking about the topic of homeless education. There is some federal money to support homeless education projects. The 2005-2006 Federal Data Collection Report on the program noted that during 2005-2006,

there was a 28% increase in the number of homeless children and youth served by LEAs with subgrants, as compared to 2004-2005 (as cited in National Center for Homeless Education, 2007). Many services required under the act are now being provided.

All of these services are positive developments. However, individually and collectively, they do not guarantee an improvement in educational achievement. There may be other factors, known or unknown, limiting the effectiveness of the program. The problem is that no one knows whether the process is achieving its goal. Beginning in 2002-2003, the federal government required states to provide academic achievement data based on homeless students. These data, which were collected by the USDOE, suggested that reading comprehension and mathematics scores across the nation have improved (as cited in National Center for Homeless Education, 2008). The process, however, does not make it easy to determine what role the program, especially the subgrant program, has played in this improvement (National Center for Homeless Education, 2008).

As part of the literature review, this researcher sought the advice of persons who were especially knowledgeable about homeless education in general and the program in particular. First, I spoke with Gary Rutkin, who at the time of the conversation, supervised the program at the USDOE. This researcher noted the lack of peer-reviewed literature regarding the program. I asked especially about evaluation of the educational effectiveness of the program. Rutkin replied, "If you find anything, let me know" (personal communication, May 25, 2007).

I then spoke with Debra McHenry, arguably the most informed North Carolinian regarding the program, especially its implementation in North Carolina. For 5 years, she

had the primary responsibility in the North Carolina DPI for implementing the program. When I asked her where I might begin to look for scholarly, peer-reviewed assessments of the program, she, like Rutkin, also stated that she was not aware of any studies on the educational effectiveness of the program (personal communication, October 28, 2007). I also interviewed John McLaughlin, who followed Rutkin as the supervisor of the program at the USDOE. McLaughlin also opined, in agreement with Rutkin and McHenry, that there has been an absence of peer-reviewed literature assessing the impact of this legislation on the educational experience of homeless children (personal communication, July 6, 2008).

These conversations confirmed my conclusion that although much had been written about homelessness and the impact of homelessness on education, the initial conclusion about the absence of peer-reviewed literature on this topic was correct: No empirical, scholarly, peer-reviewed evaluations of the program had been done. This absence has resulted in a serious gap in the literature. I suggest that this study has responded to the need to fill that gap.

Research Design

Research Climate

Shadish et al. (2002) suggested, “Experiments are so highly prized that in a research area such as medicine the randomized experiment is often referred to as the gold standard” (p. 13). It provides the highest level of confidence regarding the effectiveness of any program that is intended to alter outcomes. The purpose of an experiment is to establish a causal connection between the independent and dependent variables when an

experiment is possible, but therein is the challenge. This classical, positivistic approach, found in the physical sciences, is not always possible in the social sciences. Bawden and Sonenstein (n.d.) concluded, “In the human services arena, programs suited to a classic experiment may be the exception rather than the rule” (p. 1).

Eisenhart and Towne (2003) observed that there has been much debate in recent years among educational researchers about the definition of scientifically based research. A postpositivist approach was favored by the National Research Council (2002), which argued for a standard to be employed in determining federally funded educational research. As Eisenhart and Towne noted, however, the work of the National Research Council did not end the debate.

A properly conducted scientific experiment designed to measure the effect of a treatment requires the utilization of a randomized control group. This control group, which receives no treatment, is statistically identical to the experimental group (Shadish et al., 2002). However, frequently in the social sciences and in medicine, and often in economics, such classical scientific experiments are not feasible, and an alternative may be necessary that often takes the form of a quasi-experiment. In a true experiment, it is possible to establish with a high degree of confidence a clear, causal connection between the independent and dependent variables. In a quasi-experiment, the best that researchers can hope for is to develop arguments that support a relationship between the independent and dependent variables, but there is always less confidence than in a true experiment that a causal connection has been established.

Quasi-Experimental Study: Why It Is Needed and How It Is Done

In this study, the archival data that were utilized came from the EOG tests in mathematics and reading comprehension for 2005-2006 and 2006-2007 school years for homeless Grade 6 students in North Carolina. According to D'Agostino and Kwan (1995), such data constitute a retrospective study because "the phenomenon under investigation occurs before the onset of the study" (p. AS 101). Therefore, assignment to groups is beyond my control.

In chapter 3, the process of selection is described. I paid particular attention to the control group and its relation to the experimental group because the character of the control group was vital to the question of internal validity. Cook and Campbell (1979) stated that internal validity "refers to the validity with which statements can be made about whether there is a causal relationship from one variable to another in the form in which the variables were manipulated or measured" (p. 38). The issue of establishing internal validity, as Shadish et al. (2002) noted, is the ubiquitous problem in quasi-experiments. How effectively the internal validity issue was addressed determined the level of acceptance of my claim of causality.

Alternative Research Design Methods

I considered and then rejected alternative methods of assessing the possible impact of the program. One alternate method that was considered was to survey teachers, counselors, school social workers, and other persons who were knowledgeable about the program. The purpose of the survey was to determine their opinions about the effectiveness of the program. This method was less effective because of the difficulty in

quantifying the results. Another method was to compare the retention statistics of homeless students in funded and nonfunded LEAs. This method also was less desirable than assessing the scores on the EOG tests because the number of students retained was only a small fraction of the number of students tested. In addition, I never was certain that I would obtain retention data for North Carolina homeless students.

North Carolina EOG Testing in Reading Comprehension and Mathematics

The website for the North Carolina DPI (n.d.) indicates that the material describing the EOG testing process was placed on the website in April 2003. The North Carolina testing process can be divided into two parts. The first part is the North Carolina Standard Course of Study (NCSCS). This established the standard Grade 6 curriculum for reading comprehension and mathematics. The responsibility for creating and updating the NCSCS is assigned to the North Carolina DPI's Division of Instructional Services (2002). The department is assisted by curriculum specialists, teachers, administrators, and university professors. The NCSCS is reviewed for possible revisions every 5 years by the North Carolina DPI.

The second part of the EOG testing program is the test itself. "North Carolina tests are curriculum-based tests designed to measure the objectives found in the North Carolina Standard Course of Study" (North Carolina DPI Accountability Services, n.d., p. 2). There is a 22-step process for evaluating new test questions. Test development is continuous. A difficulty level is assigned to each test question. Easy test questions are ones that about 70% of the students answer correctly. Medium test questions are ones that

50% to 60% of the students answer correctly. Difficult test questions are ones that 20% to 30% of the students answer correctly.

Reliability of the North Carolina EOG Tests

Sanford (1996) noted that the North Carolina EOG tests control for reliability and validity with three types of reliability: alternate form, test-retest reliability, and internal consistency reliability. The alternate form reliability examines whether equivalent forms of the EOG tests yield the same results. The test-retest reliability examines whether two test administrations yield the same results. One example of test-retest reliability of the EOG tests identified a 0.86 reliability factor after three test administrations in Grade 7 reading comprehension. The internal consistency reliability examines whether the test measures a single basic concept. A national survey of teachers resulted in a set of mixed attitudes regarding the validity of the EOG tests. The largest criticism of teachers was that the tests created a “teach to the test” classroom experience (Abrams, Pedulla, & Madaus, 2003). A survey of North Carolina teachers resulted in a complaint from them about the tendency of the testing process to encourage teachers to focus on the test process (Jones et al., 1999).

Validity of the North Carolina EOG Tests

The NCSCS (North Carolina DPI Accountability Services, n.d.) defines the competencies expected for reading comprehension and mathematics. Bazemore, Van Dyk, Kramer, Brown, and Yelton (2006) concluded that the EOG tests are designed to measure reading comprehension and mathematics achievement. Content and construct validity are used to determine that the test measures concepts from the NCSCS.

Variables

Because there have been no previous studies directly related to the educational assessment of the program, no literature-based variables were referenced in the literature. This study followed the process described by Creswell (2003) regarding the use of independent and dependent variables in quantitative studies. The dependent variables were the test scores in reading comprehension and mathematics. The independent variables were funding versus no funding, grade level (Grade 5 and Grade 6), and homeless versus normally housed.

Summary

Homelessness is a multifaceted problem that has given rise to a variety of opinions. However, general agreement across the political spectrum has widely accepted that homelessness is a serious national problem, especially for homeless preschool and school-age children. Politicians also have agreed that it is difficult to determine precisely the number of individuals who are homeless, but all political persuasions would agree that the number of homeless school-age children is too large.

Data have converged to show that when compared to normally housed children, homeless children do not achieve at the same academic level. The findings were based on retention statistics, standardized tests, and the opinions of teachers. There is strong support across the political spectrum for programs to improve the educational experiences of homeless children. It is informative that Congressman McKinney was a Republican and Congressman Vento was a Democrat. The requests for additional funds for the program need to be buttressed by studies of the program's effectiveness.

Beginning that assessment is the purpose of this study. Chapter 3 explains the research method of the study.

CHAPTER 3: RESEARCH METHOD

Introduction

This chapter describes the research design used in the study. A preliminary part of this study addressed the question of the impact of homelessness on the educational success of students. Such a comparison had been done in other states, but never in North Carolina. The primary research question of this study asked, “Does the McKinney-Vento Program improve the academic achievement of homeless students in the LEAs that receive program subgrants?” Some LEAs in North Carolina receive subgrants through the program to support the education of homeless students; other LEAs do not. Of the 111 LEAs in North Carolina, 21 received funding, but 90 did not. The fact that some LEAs received funding and others did not created the opportunity for a comparison and an assessment of the subgrant program.

The North Carolina DPI, as a part of its assessment program every spring, administers reading comprehension and mathematics EOG tests to all Grade 6 students. These test scores are retained by the DPI as a part of its archival records. The data are, in principle, public archival data and, in theory, they are available to any citizen of North Carolina, although these data are not normally published and are difficult to obtain. Providing these data in response to a request from a private citizen requires an extensive effort on the part of the staff at DPI, who must extract the required data and make them available in a usable form. Following approval from Walden University’s Institutional Review Board (IRB approval # 07-07-09-0085392), I engaged in many conversations with the staff as they sought to understand and prepare the requested data. The scores for

the reading comprehension and mathematics tests administered in the spring of 2006 and 2007 were made available to me by the DPI for this study. In addition, the scores of homeless Grade 5 students for the preceding year were provided and were used as a pretest for comparison purposes.

Research Design

The archival data gathered by the DPI in 2005, 2006, and 2007 did not meet the requirements of a random selection, as required in a true experimental study. However, the data in Table 3 in chapter 4 are representative of the various geographical regions of North Carolina. In a later section of this study, I describe the process used by the DPI to determine which LEAs were funded. There were 21 LEAs funded in a basically self-selection process with minor DPI input. This nonrandom selection process is known as a quasi-experiment. Bell (2008) commented that although “randomized experiments are always preferred, where such experiments are not possible, a well-conceived quasi-experimental design, if executed *with statistical sophistication and in recognition of its limitations* [italics added], will provide better information than no evaluation at all” (p. 1).

I used the funded LEAs as the experimental group and the nonfunded LEAs as the control group. Shadish et al. (2002) labeled this quasi-experimental design as an “untreated control group design with dependent pretest and posttest samples” (p. 136). They described this design as “the most common of all quasi-experiments” (p. 136). Similarly, Creswell (2003) referenced this a nonequivalent pretest and posttest control

group design. Using the symbols of both groups of researchers, the design can be diagrammed as the following:

$$\begin{array}{cccc} \text{NR} & \text{O}_1 & \text{X} & \text{O}_2 \\ \hline \text{NR} & \text{O}_1 & & \text{O}_2 \end{array}$$

The NR indicates a nonrandom selection, and the X indicates a treatment. In the case of this study, the treatment consists of some of the services approved and supported by the program. They are described later in this chapter. These services were given only to the experimental group. O₁ indicates the pretest EOG scores of both groups. The dashed horizontal line between the experimental and control group indicates that comparison groups have not been established by random assignment. The O₂ indicates the posttreatment EOG scores of both groups, even though only the experimental group was treated. The left-to-right dimension implied that the treatment preceded the final observation. A comparison of the EOG scores of the funded and nonfunded groups, as indicated by the change from O₁ to O₂, was the fundamental measurement of this study.

Research Questions: RQ 1 and RQ 2: The Preliminary Question

RQ 1 asked, “Do normally housed Grade 6 students in North Carolina demonstrate higher academic achievement in reading comprehension than homeless Grade 6 students?” RQ 2 asked, “Do normally housed Grade 6 students in North Carolina demonstrate higher academic achievement in mathematics than homeless Grade 6 students do?” I used both of these RQs to study the EOG scores of all North Carolina Grade 6 students, normally housed and homeless, in the 2005-2006 and 2006-2007 school years. RQ 1 and RQ 2 were not part of the fundamental focus of this study

because they did not address the issue of the impact of the program on the academic achievement of homeless students. Rather, these two questions considered the educational impact of homelessness on students by comparing the reading comprehension and mathematics EOG scores of both groups of students.

This comparison was included in this current study for two reasons. First, it addressed the important preliminary question regarding the impact of homelessness on educational achievement. Second, there had not been a previous empirical analysis in North Carolina of the impact of homelessness on education. The data available in this study facilitated such an analysis. Third, it was important for North Carolina's educational planners to know the extent to which homelessness has impacted educational achievement in the state.

Hypotheses

H_{01} : There is no significant ($p \leq .05$) difference in reading comprehension EOG scores in North Carolina between normally housed Grade 6 students and homeless Grade 6 students in the 2006-2007 school year.

H_{a1} : There is a significant difference ($p \leq .05$) in reading comprehension EOG scores in North Carolina between normally housed Grade 6 students and homeless Grade 6 students in the 2006-2007 school year.

H_{02} : There is no significant ($p \leq .05$) difference in mathematics EOG scores in North Carolina between normally housed Grade 6 students and homeless Grade 6 students in the 2006-2007 school year.

H_{a2} : There is a significant ($p \leq .05$) difference in mathematics EOG scores in North Carolina between normally housed Grade 6 students and homeless Grade 6 students in the 2006-2007 school year.

Analysis of RQ 1 and RQ 2

Separate comparisons were made about the educational effects of homelessness for 2006 and 2007. In each year, the independent variable was a nominal level variable, state of housing, which had two values: normally housed and homeless. The dependent variable was a ratio level variable, namely, the EOG score. I compared the impact of homelessness on the academic achievement of Grade 6 students from across North Carolina. I calculated the mean EOG scores and standard deviation for the homeless children and the mean EOG scores and standard deviation for the normally housed children and used independent t tests to determine whether there were statistically significant differences ($p \leq .05$) in the scores between the normally housed and the homeless students. I made four separate comparisons of the EOG scores of normally housed students with those of homeless students: reading comprehension (2006), mathematics (2006), reading comprehension (2007), and mathematics (2007).

Research Questions: RQ 3 and RQ 4: The Primary Question

In contrast to RQ 1 and RQ 2, which considered all North Carolina Grade 6 students, RQ 3 and RQ 4 used only data related to homeless students. RQ 3 asked, “Do homeless students from LEAs that receive program funding achieve higher EOG reading comprehension scores than students from LEAs that are not funded? RQ 4 asked, “Do

homeless students from LEAs that receive program funding achieve higher EOG mathematics scores than students from LEAs that are not funded?”

RQ 3 and RQ 4 compared the change from the pretest, O_1 , to the posttest, O_2 , scores of homeless students in the 21 LEAs receiving funding to the EOG scores of homeless students in the 90 LEAs that are not funded. Separate calculations were done for reading comprehension and mathematics for 2006 and 2007. The possible impact of the program on the educational achievement of homeless students was the major focus of this study.

Hypotheses

H_{03} : There is no significant increase ($p \leq .05$) in North Carolina from the Grade 5 pretest to the Grade 6 posttest of the EOG mathematics scores in the LEAs that received program treatment compared to the LEAs that were not funded in the 2006-2007 school year.

H_{a3} : There is a significant increase ($p \leq .05$) in North Carolina from the Grade 5 pretest to the Grade 6 posttest of the EOG mathematics scores in the LEAs that received program treatment compared to the LEAs that were not funded in the 2006-2007 school year.

H_{04} : There is no significant increase ($p \leq .05$) in North Carolina from the Grade 5 pretest to the Grade 6 posttest of the EOG reading comprehension scores in the LEAs that received program treatment compared to the LEAs that were not funded in the 2006-2007 school year.

H_{a4} : There is a significant increase ($p \leq .05$) in North Carolina from the Grade 5 pretest to the Grade 6 posttest of the EOG reading comprehension scores in the LEAs that received McKinney-Vento treatment compared to the LEAs that were not funded in the 2006-2007 school year.

Analysis of RQ 3 and RQ 4

For this study, each student had to have both a Grade 5 pretest score and a Grade 6 posttest score. There were two independent nominal level variables in these hypotheses. One was year, and the other was the nominal level variable, funding category, with two values, namely, funded or nonfunded. The dependent variable was a ratio level variable, EOG score.

A 2 x 2 repeated-measures ANOVA was used to determine whether there was a significant difference between the EOG scores for the two funding states, funded and nonfunded, and for the 2 years, Grade 5 (pretest) and Grade 6 (posttest). I also analyzed the data by checking to see whether the interaction of grade by funding was significant.

Setting and Sample

Sample Size

In 2006-2007, the North Carolina DPI administered EOG tests in reading comprehension and mathematics to an estimated 107,000 Grade 6 students across the state. In 2006, EOG scores were reported for 54,000 students, about 50% of the total. In 2007, scores for about 94,000 students, or about 88%, were reported. These numbers were above the minimums suggested for the statistical tests that were employed (Johnson & Christensen, 2004). About 0.5% of the Grade 6 students in North Carolina have been

identified as homeless. It should be noted, however, that this study considered only homeless students who attend public schools. The HUD (1996) estimated that one half of all homeless children do not attend school regularly. In my opinion, the passage of the program in 2001 has increased the percentage of homeless students who attend school regularly, even though attendance is still much less than 100%.

Statistical Power

Tabachnick and Fidell (2001) commented, “A critical issue in designing any study, is whether there is adequate power, that is, a strong probability that effects that actually exist have a chance of producing statistical significance in your eventual data analysis” (p. 11). Weinbach and Grinnell (2007) defined statistical power as “the ability of the statistical analysis to correctly detect a true relationship between variables” (p. 124).

The power of a test depends on the size of the sample, level of significance, and the size of the effect. Pollant (2007) noted that power is seldom an issue for samples of 100 or more. Given the size of the DPI data, low power was not a problem in this study. The program G*Power 3 (Faul, Erdfelder, Lang, & Buchner, 2007) was used to calculate statistical power. Power exceeded .95 with respect to detecting a medium effect size.

Instrumentation and Materials

Instrumentation

The EOG tests were developed by DPI to determine skill levels in reading comprehension and mathematics. The EOG is designed to assess the students’

understanding of the concepts presented in the North Carolina Standard Course of Study (NCSCS; DPI, 2002). Both tests employ a multiple-choice methodology.

The mathematics test consists of 82 multiple-choice questions and is administered in two parts: calculator active (54 questions) and calculator inactive (28 questions). The reading comprehension test consists of 9 reading selections, with 6 to 9 associated questions for each selection. Each student is asked to read 5 literary selections (2 fiction, 1 nonfiction, 2 poems); 3 informational selections (2 content and 1 consumer); and 1 embedded experimental selection (may be fiction, nonfiction, poetry, consumer, or content).

Reliability of the North Carolina EOG Test: Mathematics

Reliability refers to the consistency of the score for a repeated testing of the same population. The DPI considers a test reliable when the reliability coefficient is at least 0.85. According to Bazemore et al. (2006), “The internal consistency coefficient is based on “scores derived from individual items or subsets of items” (p. 62). In 2001, the Grade 5 internal consistency coefficient was 0.95, and the Grade 6 internal consistency coefficient was 0.96. Both were well above the 0.85 accepted by the industry and the DPI.

Validity of the North Carolina EOG Test: Mathematics

The standard definition for validity is whether a test measures what it purports to measure. Validity has had a somewhat different focus in its use by the DPI. To determine validity, “test scores are evaluated rather than the test itself” (Bazemore et al., 2006,

p. 87). The DPI surveyed North Carolina mathematics teachers for their opinions about the adequacy of the match between the EOG tests and the NCSCS. The questionnaires asked the teachers to evaluate five statements regarding this match using a 3-point Likert scale. The highest rating score was *to a superior degree*, the next level was *to a high degree*, and the lowest was *not at all*. The percentage of teachers ranking the test to a superior or high degree ranged from 85% to 48%.

Reliability of the North Carolina EOG Test: Reading Comprehension

The reading comprehension internal consistency coefficient is based on “scores derived from individual items or subsets of the items within a test or subsets of items” (Bazemore et al., 2006, p. 62) from a single administration of the test. In 2001, the Grade 5 internal consistency coefficient was 0.918, and the Grade 6 internal consistency coefficient was 0.937. These were well above the 0.85 accepted by the DPI.

Validity of the North Carolina EOG Test: Reading Comprehension

The validity of the reading comprehension EOG test is determined by the relevancy of the teacher’s judgment regarding student achievement on the actual EOG test scores. Bazemore et al. (2006) reported that the Pearson correlation coefficients range from 0.49 to 0.65, indicating a moderate to strong correlation between student achievement and the teacher’s judgment of student achievement.

Data Collection

The data were the EOG scores in reading comprehension and mathematics administered to all North Carolina Grade 6 students in the spring of 2006 and 2007. For the Grade 6 class of 2006, I used their Grade 5 EOG scores from 2005 as a pretreatment

baseline. For the Grade 6 class of 2007, I used their Grade 5 scores from 2006 as a pretreatment baseline.

My decision to study the 2005-2006, 2006-2007 school years was influenced by the opinion of the person who for many years directed homeless education in North Carolina. In her opinion, 2006 was the first year in which North Carolina had useful quantitative data on homeless education (personal communication, D. Mchenry, October 28, 2007). The data provided by the North Carolina DPI (2002) included the following:

1. Homeless or normally housed status.
2. The LEA of the student, but not the student's individual school, student's name, or student's gender.
3. The mathematics score of the student. The range for the mathematics scores is 0 to 381. The same scale score was used for the Grade 5 and the Grade 6 tests.
4. The reading comprehension score of the student. The range for the reading comprehension scores is 0 to 348. The same scale was used for the Grade 5 and Grade 6 students.

The pretest and the posttest data were matched. This meant that the Grade 5 scores of a particular student could be compared to the Grade 6 scores of the same student. In addition to the EOG scores, the DPI provided me with a separate list of the 21 LEAs in North Carolina that received funding in the 2005-2006 and 2006-2007 funding cycles (K. Gattis, personal communication, August 12, 2008).

Requirement for Normality of the Data

An important step required in a t test or an ANOVA statistical process is to determine whether the data form a normal distribution. Triola (2008) observed that this is a “loose requirement” (p. 585) and that the method works well unless the data distribution is far from normal. The process can tolerate major departures from normality, especially if the number of data units is large, as was the case in this study. A normality plot was made for each set of data. In each case, the general shape of the plot was normal. Generally, the normality of the data is acceptable if the data have a single mode and there are not a large number of outliers. The data for this study did not contain many outliers.

Program Treatment: What Was Done To Improve Education?

LEAs receiving funding can use 18 different categories of services (National Center for Homeless Education, 2008) to improve the educational experience of homeless students. Following is a list of the approved program services:

1. Tutoring or other instructional support.
2. Expedited evaluations (Quick and easy registration in a new school).
3. Staff professional development and awareness.
4. Referrals for medical, dental, and other health services.
5. Transportation.
6. Early childhood programs.
7. Assistance with participation in school programs.
8. Before- and after-school mentoring in regular and summer programs.
9. Obtaining or transferring records necessary for enrollment.

10. Parent education related to rights and resources for homeless children.
11. Coordination between schools and agencies.
12. Counseling.
13. Addressing needs related to domestic violence.
14. Clothing to meet a school requirement.
15. School supplies.
16. Referral to other programs and services.
17. Emergency assistance related to school attendance.
18. Other services.

As this list indicates, each of these items provides a special and, in some cases, very important service to homeless students. Based on the variety in this list, there is no standard program-assisted support service program.

Each funded LEA in North Carolina almost certainly has used a different set of the 18 authorized program service options. According to aggregated data collected by the National Center for Homeless Education (2008) from across the United States, the most frequently supported service has been the provision of school supplies. I was unable to locate the 2006 and 2007 archival records that indicated the detailed allocation of funds across the various funded North Carolina LEAs. According to the program director at that time (D. McHenry, personal communication, February 16, 2009), the state very likely did not collect or retain the allocation data. The administration of each LEA was allowed to determine the greatest need of the homeless students in that particular region and to establish the optimum use of the program funds in the LEA.

I was not concerned with the detailed utilization of subgrant funds, nor was I concerned whether a LEA was using its subgrant for school supplies, transportation, or referrals for medical or dental services. As mentioned in chapter 1, the issue was not whether program services are being provided, but whether the goal of the program, which is the academic improvement of homeless students, was being achieved, as indicated by the analysis of the archived data. The focus of this study did not depend on detailed knowledge of how the subgrant funds were used. This study considered the relationship between program funding and academic achievement. It treats program funding as a holistic variable with many subcomponents.

Threats to Internal Validity

As Shadish et al. (2002) reported, a major concern of any study is to justify its claim to internal validity. The issue of internal validity is always the primary challenge in any quasi-experiment. Creswell (2003) noted, “Internal validity threats are experimental procedures, treatments, or experiences of the participants that threaten the researcher’s ability to draw correct inferences for the data in an experiment” (p. 171). Trochim (2001) defined internal validity as “the approximate truth about inferences regarding cause-effect or causal relationships.... For studies that assess the effects of social programs or interventions, internal validity is perhaps the primary consideration” (p. 172).

My analysis suggested that of the eight possible threats to internal validity identified by Shadish et al. (2002), only selection bias and attrition constituted a threat in this study. Even though a strong argument could be made that even selection bias and

attrition did not threaten this study, the conclusion that it was safe to ignore selection bias and attrition remained only a conjecture, not a compelling conclusion.

Ambiguous Temporal Precedence

Ambiguous temporal precedence refers to the possible confusion in the order of the treatment and the test. It was not a threat in this study because the treatment (i.e., the program services such as transportation, school of origin, ease of registration, counseling, etc.) always preceded the final EOG tests.

Selection Bias

There could have been a threat to internal validity arising from selection bias. It might have been the case that prior to the subgrant treatment, the LEAs that were subsequently funded were already performing services for homeless students that exceeded the services provided in nonfunded LEAs. In short, these funded LEAs may have been a select and privileged group not typical of North Carolina LEAs. If such bias was in place, the funded LEAs' preferential status may have given them an educational advantage that resulted in higher EOG test scores. As far as I could ascertain, there was no preliminary evidence that the experimental LEA group had such preferential bias.

I could find no evidence of selection bias that shaped the experimental group. There was, however, no conclusive proof that selection bias did not exist. It is possible that when they applied and were selected, the funded LEAs were already doing more than the nonfunded LEAs to support homeless students. Conversations with the DPI personnel who administered the program revealed that the program coordinator was unaware of any bias in the funded LEAs.

History

Typically, the threat due to history is concerned with events that occur between pretreatment and posttreatment, in addition to the treatment. I found no general events that were peculiar or special to the program-funded counties. The state coordinator of the program reported that one goal of the DPI was to ensure that the funded LEAs were spread across the state (D. McHenry, personal communication, August 12, 2007). This DPI goal was achieved by the fortunate distribution of the participating LEAs, not by DPI administrative action. There was no apparent preferential selection of any part of the state. Likewise, if there had been broad public issues at work in the state, those issues would have with high probability also impacted the nonfunded LEAs as well as the funded LEAs. There was no evidence that any of the funded LEAs experienced a history that influenced the students' reading comprehension or mathematics scores.

Maturation

Maturation is concerned with changes that occur between the pretreatment and the posttreatment. I could find no evidence of maturation differences during the study. It is difficult to imagine any maturation changes that might have been limited to the funded LEAs that did not influence the rest of the state.

Regression

I could find no evidence that the LEAs forming the experimental group were selected because of extreme EOG test scores.

Attrition

The EOG tests in reading comprehension and mathematics that were administered to Grade 5 homeless students in 2005 for test year 2006 and in 2006 for test year 2007 were used as a pretreatment baseline. These homeless students from Grade 5 were identified so that when they were tested as Grade 6 students, the change in their performance could be tracked. There was significant attrition that may have been the result of the following factors: (a) Students moved to a new LEA, (b) students were not homeless in either Grade 5 or Grade 6, and (c) the record keeping of the LEA was faulty.

Testing

Because this test was a one-time test, the threat arising from multiple administrations was not applicable.

Instrumentation

Instrumentation was not an applicable threat because for each year with each set of students, there was only a single administration of the North Carolina EOG examination.

Protection of Participants' Rights

The protection of the participants' privacy rights was ensured through the manner in which the data were supplied by the North Carolina DPI. The DPI did not make available the names of the individual students who took the EOG tests. Rather, the DPI used a random coding system to match individuals to the archival data, a protocol that did not allow any identification of the students. As mentioned in the Data Collection and Analysis section, the information that the DPI provided indicated each student's LEA,

mathematics score, reading comprehension score, and homeless or normally housed status. I did not have access to each student's school, gender, or name.

Limitations and Assumptions

Limitations

I consulted with national and state officials who were familiar with efforts to provide educational services to homeless students, especially in North Carolina. These conversations led me to conclude that this study, although valuable, involved certain limitations, including the following:

1. Although this study was large, it was limited to North Carolina. It involved about 107,000 Grade 6 students, of whom approximately 0.5% were considered homeless. It is unclear whether a study in only one state is useful as a means to assess the entire national program.
2. North Carolina is a diverse state whose culture and economy vary significantly from the coast to the mountains. There are large and affluent urban counties, and there are small and poor rural counties.
3. Data were available only for students who took the EOG tests, and not all homeless children enroll in or attend school. The DPI notified me that a few students who were identified as homeless had no EOG test scores. It is likely that these students were absent on the day of the test. Their absence was in addition to homeless students who are never engaged with the public schools (HUD, 1996).

4. The educational needs of students vary widely from elementary school to middle school to high school. It is not clear that the one-size-fits-all approach of this study can be applied to Grades Kindergarten to 12. It is uncertain that an assessment of the program on the middle school level (Grade 6) can be reliably extended to elementary or high school situations.
5. There are a few more North Carolina LEAs over and above the 111 mentioned here. They are usually charter schools, and in 2006 and 2007, their enrollments were very small, and none of them had any homeless students enrolled. As mentioned previously, they were not included in this study.

Assumptions

1. I assumed, but could not verify, except by the statements of the DPI, that the EOG tests in reading comprehension and mathematics are valid indicators of the educational achievement of Grade 6 homeless students in North Carolina.

Conclusion

When the data were received from DPI, I analyzed them according to the process described in this chapter. The results are presented in chapter 4. The normality of all data sets was assessed and determined to be satisfactory. As the data analysis showed, RQ 1 and RQ 2 revealed that homelessness has a significant negative impact on educational success. The data for RQ 3 and RQ 4 showed that the program has not resulted in a significant improvement in the educational achievement of the students in LEAs that were funded by the program versus LEAs that were not funded.

CHAPTER 4: RESULTS

Introduction

The primary purpose of this quasi-experimental study was to examine whether the federally funded subgrant program of the McKinney-Vento Act (MCKV) adopted in 2001 has had a positive impact on the educational outcome of Grade 6 homeless students in North Carolina. The secondary purpose was to evaluate the academic differences between homelessness and normally housed Grade 6 North Carolina students. More specifically, the following research questions guided this study:

1. Do normally housed Grade 6 students in North Carolina demonstrate higher academic achievement in reading comprehension than homeless Grade 6 students?
2. Do normally housed Grade 6 students in North Carolina demonstrate higher academic achievement in mathematics than homeless Grade 6 students do?
3. Do homeless students from local educational authorities (LEAs) that receive program funding achieve higher end-of-grade (EOG) reading comprehension scores than students from LEAs that are not funded?
4. Do homeless students from LEAs that receive program funding achieve higher EOG mathematics scores than students from LEAs that are not funded?

Conceptual Framework of the Study

The rationale behind the MCKV program is that homeless students with better physical and emotional health and with more effective support services from their schools will improve in their educational achievement and social development. This is a

reflection of systems theory's emphasis on the connections between and among all aspects of human development rather than a focus on one domain at a time (Bertalanffy, 1968; Bowen, 2007; Germain & Bloom, 1999; Lewin, 1951).

The MCKV program implemented the general systems theory approach (Bertalanffy, 1968) by attempting to change the environment within which the education of homeless students is conducted. The fundamental concern of the program is very similar to Bowen's (2007) contention that general systems theory facilitates an understanding of the importance of how the local environment in which students are embedded influences their academic performance. Powers, Bowen, and Rose (2005) identified social and environmental dimensions external to the public schools that are factors in the adjustment and academic success of middle and high school students. Their research resonated with general systems theory and the MCKV program.

The MCKV program identified issues in the experience of homeless school-age children that impede their educational success. In response, the program mandated certain actions by local and state educational agencies, and it also provided limited support to implement these mandates. The philosophy supporting the program is that a change in homeless students' environment will improve their opportunities for educational success. The program has not addressed all of the barriers that limit the educational success of homeless children, but it has been a strong initial step. Some of the important barriers addressed by the program are that (a) absences from school interfere with academic success, (b) poor physical health is a barrier to academic success, and (c) mental and emotional problems are barriers to academic success.

Congress, by enacting PL 100-77 in 1987, recognized that homeless children were not attending school regularly and that other factors such as complicated enrollment procedures discouraged attendance. The 1987 Act, which later evolved into the MCKV program, emphasized the importance of school attendance. Amendments to the act in 1990 recognized that there were educational problems resulting from the poor physical and emotional health of homeless children, so Congress authorized the use of program funds to address these problems (Project Hope, 2008). The program of 2001 continued the congressional commitment to these attendance, medical, and psychological issues, and other services. The theoretical approach undergirding the program hypothesized in a systems theory manner that homeless students with better physical and emotional health and with more effective support services from their schools would improve their educational achievement. In short, the MCKV program is an effort to improve education by shaping the system within which education is occurring.

Data Used in the Study

The data used for this study were part of the archival records retained by the North Carolina DPI for the purpose of program evaluation. The data were comprised of the EOG test scores in reading comprehension and mathematics. North Carolina administered the tests to students in Grades 5 and 6 in the spring of 2006 and the spring of 2007. The data were requested from and supplied by the DPI. For the Grade 6 class of 2006, I used their Grade 5 EOG scores from 2005 as a pretreatment baseline. For the Grade 6 class of 2007, I used their Grade 5 EOG scores from 2006 as a pretreatment baseline.

Decision To Use Data From 2006 and 2007

I made the decision to use test data from the spring of 2006 and the spring of 2007 after consulting with the person who directed homeless education in North Carolina for many years (D. McHenry, personal communication, July 6, 2008). In her opinion, North Carolina collected very little data on homeless students prior to the 2005-2006 academic year; therefore, I chose to use data from the 2005-2006 and 2006-2007 academic years. The state director of homeless education said these were the first years that significant and useful data were available. She also mentioned, as I subsequently discovered, that the 2007 data were of higher quality than the 2006 data.

North Carolina, responding to federal requirements after 2001, began to improve its collection of data related to the education of homeless students. However, even by 2007, the effectiveness of the data collection, as revealed in the archival records, was far from complete. For example, in 2007, of the 90 LEAs in North Carolina that did not receive funding, the scores for only 35 (39% of the total) were reported and available in the archival data records. The data for the funded LEAs were better but still disappointing. In 2007, the scores of 14 (67%) of the 21 funded LEAs were reported in the archival data supplied for this study. The funded LEAs were represented at a higher rate than nonfunded LEAs (67% vs. 39%), indicating that the funded LEAs were already paying more attention to homeless students than the nonfunded LEAs. Although the data were not as complete as I had hoped, they did show that the program was having at least some impact on school systems, as indicated by increased attention to the educational needs of homeless students and improved data collection procedures overtime.

Information Included in the Data

The North Carolina DPI provided the data for this study as Excel files on flash drives and compact disks. The data included the following:

1. Homeless or normally housed status of each student.
2. The students' EOG mathematics scores.
3. The students' EOG reading comprehension scores.
4. The LEA of each student.
5. The data provided no indication of the students' names, gender, race, or the names of the individual schools in the LEA.

Along with Grade 6 test data for 2006, the DPI also provided for the same students their Grade 5 scores, which I used as a pretest base. Similarly, the DPI provided Grade 6 test data for 2007, along with the pretest data from Grade 5 administered in 2006.

Size of Data Files

Table 2 summarizes the size of the data files used in the t test analyses comparing EOG scores between types of housing (normal housing vs. homeless status) for Grade 6 students in North Carolina. The limitations of the data already were apparent in these initial reviews. For example, it was unreasonable to expect that the number of Grade 6 students actually increased from 57,721 in 2006 to 94,409 in 2007. Likewise, it was unreasonable to expect that the number of homeless Grade 6 students increased twofold from 247 to 495. This was obviously an archival or a reporting problem. In either case, it was a limitation of the quality of the data available.

Table 2

Number of Students Taking EOG Tests

Year and EOG test	Homeless Grade 6 students	Normally housed Grade 6 students
2006 Reading	249	57,721
2006 Mathematics	247	57,966
2007 Reading	496	94,026
2007 Mathematics	495	94,409

Demographics of the Data

Table 3 provides demographic information for the 21 LEAs that received program funding in the 2005-2006 and 2006-2007 academic years. In Table 3, LEA refers to the county in North Carolina, income refers to the average family income, local money is the county's financial contribution to public education, and poverty percentage refers to the percentage of families with income below the official poverty level. The last column identifies whether the LEA identified and reported information on homeless students' EOG scores for 2006 and 2007. As Table 3 reveals, the LEAs receiving program funding were very diverse. For example, the large population counties were represented by Mecklenburg, Wake, and Forsyth; the small population counties were represented by Perquimans, Ashe, and Halifax; the wealthy counties were represented by Wake and Mecklenburg; and the poor counties were represented by Robeson and Halifax.

Table 3

Demographic Data of Funded LEAs

LEA	Population	Income	Local money	Poverty percentage	Reported data 2006-2007
Alamance	130,800	19,391	28,160,000	11	No/No
Ashe	24,384	16,429	4,910,000	10	Yes/No
Chatham	49,329	23,355	15,386,000	10	No/No
Cleveland	56,207	17,466	12,872,000	12	No/Yes
Cumberland	271,172	17,916	68,583,000	13	Yes/Yes
Duplin	49,063,	14,499	7,446,000	20	Yes/Yes
Durham	223,314	23,156	84,612,000	13	No/Yes
Forsyth	306,067	23,023	98,850,000	11	Yes/Yes
Franklin	47,260	17,562	10,433,000	13	No/Yes
Gaston	190,365	19,225	36,021,000	11	Yes/Yes
Guilford	421,048	23,340	151,309,000	10	Yes/Yes
Halifax	35,317	12,900	511,4000	27	No/Yes
McDowell	42,151	16,109	5,567,000	13	Yes/Yes
Mecklenburg	695,454	27,352	207,482,000	8	Yes/Yes
Nash	101,264	17,746	23,650,000	16	No/No
Onslow	115,935	15,719	23,117,000	12	Yes/Yes
Pasquotank	34,897	14,815	8,715,000	18	No/No
Perquimans	11,368	15,728	2,200,000	19	No/No
Robeson	123,339	13,224	16,825,000	24	No/No
Rowan	123,023	18,303	29,121,000	11	Yes/Yes
Wake	627,846	27,004	217,052,000	7	Yes/Yes

Data Analysis: The Effect of Housing

Reading Comprehension Scores by Housing Status: RQ 1

RQs 1 and 2 addressed the issue of how housing status influences EOG scores.

RQ 1 asked, “Do normally housed Grade 6 students in North Carolina demonstrate higher academic achievement in reading comprehension than homeless Grade 6 students do?”

I created histograms to confirm the normality of the reading comprehension data. (see Figures A1-A4). I then conducted independent samples *t* tests to compare the reading comprehension tests scores for normally housed and homeless students for Spring 2006 and Spring 2007. I also conducted Levene’s tests to evaluate the equality of variances.

Table 4 presents the means, standard deviations, and sample sizes for the Reading Comprehension 2006 and 2007 tests.

Table 4

Reading Comprehension 2006 and 2007: Descriptive Statistics Results

Housing status	<i>M</i>	<i>SD</i>	<i>N</i>
Reading comprehension 2006			
Normally housed	255.24	28.35	57,721
Homeless	247.73	32.18	249
Reading comprehension 2007			
Normally housed	254.28	30.44	94,026
Homeless	245.43	29.57	496

Table 5 presents the Levene's test for the equality of variances and equality of means for the Reading Comprehension 2006 and 2007 tests. Because the Levene's test shows that equal variances cannot be assumed, for the 2006 test, I used $t = 3.68$, which corresponds to $p = .000$ and supports the rejection of the null hypothesis for the equality of means. In short, the null hypothesis of no significant ($p < .05$) differences between the 2006 reading comprehension scores of normally housed and homeless students is rejected. For the 2007 test, I used $t = 6.57$, which corresponds to $p = .000$ and supports rejection of the null hypothesis of the equality of means. In short, the null hypotheses of no significant ($p \leq .05$) differences between the 2007 reading comprehension scores of normally housed and homeless students is rejected.

Table 5

Reading Comprehension 2006 and 2007: Levene's Test for Equality of Variances

Levene's test for equality of variances			Test for equality of means		
Reading comprehension 2006					
	<i>F</i>	Sig.	<i>t</i>	<i>df</i>	Sig.
Equal variances assumed	5.02	.025	4.17	57968	.000
Equal variances not assumed			3.68	249.66	.000
Reading comprehension 2007					
Equal variances assumed	5.88	.015	6.38	94520	.000
Equal variances not assumed			6.57	500.55	.000

Mathematics Scores by Housing Status: RQ 2

RQ 2 asked, “Do normally housed Grade 6 students in North Carolina demonstrate higher academic achievement in mathematics than homeless Grade 6 students do?”

I created histograms to confirm the normality of the mathematics data (see Figures B1-B4). I then conducted independent samples *t* tests to compare the mathematics scores for normally housed and homeless students. I also conducted Levene's tests to evaluate the equality of variances and means. Table 6 presents the results for means, standard deviations, and sample sizes for mathematics in the spring of 2006 and 2007.

Table 6

Mathematics 2006 and 2007: Descriptive Statistics Results

Housing status	<i>M</i>	<i>SD</i>	<i>N</i>
Mathematics 2006			
Normally housed	347.80	46.42	57,966
Homeless	336.34	54.29	247
Mathematics 2007			
Normally housed	346.80	48.51	94,409
Homeless	334.38	59.69	495

Table 7 presents the Levene's test for the equality of variances for the Mathematics 2006 and 2007 tests. Because the Levene's test shows that equal variances cannot be assumed, I used $t = 3.31$, which corresponds to $p = .001$ and supports rejection of the null hypothesis of the equality of means for the Mathematics 2006 test. In short, the null hypothesis of no significant ($p \leq .05$) difference between 2006 mathematics scores of normally housed and homeless students is rejected. Because the Levene's test shows that equal variances cannot be assumed, I used $t = 5.14$, which corresponds to $p = .000$ and supports rejection of the null hypothesis of the equality of means for the Mathematics 2007 test. In short, the null hypothesis of no significant ($p \leq .05$) differences between 2007 mathematics scores of normally housed and homeless students is rejected.

Table 7

Mathematics 2006 and 2007: Levene's Test for Equality of Variances

Levene's test for equality of variances			Test for equality of means		
Mathematics 2006					
	<i>F</i>	Sig.	<i>t</i>	<i>df</i>	Sig.
Equal variances assumed	7.97	.005	3.87	58211	.000
Equal variances not assumed			3.31	247.54	.001
Mathematic 2007					
Equal variances assumed	14.55	.000	5.68	94902	.000
Equal variances not assumed			5.14	498.24	.000

Table 8 summarizes the four *t* tests evaluating the null hypothesis of equality of means for homeless and normally housed Grade 6 students. In all four tests, these results indicated that normally housed students scored significantly higher than homeless students.

Table 8

Summary of Comparisons of Homeless and Normally Housed Students

Test	<i>M</i> normally housed	<i>M</i> homeless	<i>t</i>	<i>df</i>	Probability
Reading comprehension 2006	255.24	247.73	3.68	249.66	.000
Reading comprehension 2007	254.28	245.43	6.57	500.55	.000
Mathematics 2006	347.80	336.34	3.31	247.54	.001
Mathematics 2007	346.80	334.38	5.14	498.24	.000

Although these differences were statistically significant, the differences observed were fairly small. The obtained effect sizes (*d*), which were measured by dividing the difference between means by the standard deviation for the normally housed group, varied from $d = .25$ for mathematics in 2006 to $d = .29$ for reading comprehension in 2007. This was very close to Cohen's (1969) convention for a small effect ($d = .20$). I

used the program G* Power to calculate the statistical power. I selected the a priori as the type of power analysis and *t* test for type of test. Alpha was set at .05. The G * Power program (Faul et al., 2007) calculated the actual power.

Although the effect sizes were small, the large sample sizes (57,000 and 94,000) serve to enhance the strong power results. The power results were as follows: Reading Comprehension 2006 was .99, Reading Comprehension 2007 was .99, Mathematics 2006 was .98, and Mathematics 2007 was .99.

Data Analysis: The Effect of MCKV Funding

The following tests addressed the primary purpose of this study, which was to determine whether there was experimental support for the hypothesis that MCKV funding improved the test scores in reading comprehension and mathematics of homeless Grade 6 students. Based on information provided by North Carolina's director of homeless education (D. McHenry, personal communication, July 6, 2008), I added a new variable to the SPSS data file to indicate which LEAs received MCKV funding. This information made possible the comparison of the academic performance of homeless students in funded and nonfunded LEAs.

Types of Data Used in the Analysis of RQ 3 and RQ 4

The EOG test is given only once a year in the spring near the end of the school year. This single annual administration of the test means that there is no possibility of a true pretest to be used as a baseline. I made the decision to use the Grade 5 test scores as a baseline for this study. The DPI agreed to provide the Grade 5 scores. In my opinion, even though establishing a baseline was desirable, this process created two issues.

The first issue was whether the Grade 5 EOG test was appropriate as a pretest for the Grade 6 test. A study of the literature and test descriptions from the DPI (2002, Bazemore et. al., 2006) convinced me that the Grade 5 test was useful as a baseline. Subsequently, I discussed this issue with one of the psychometricians at the DPI. She acknowledged that the Grade 5 and Grade 6 standard curricula and course of study for the 2 years were, of course, different. Although the curricula were different, the tests for Grade 5 and Grade 6 were aligned to measure growth from one year to the next. In this way, the test results could be normalized to provide an accurate comparison and a useful baseline (M. Taylor, personal communication, November 13, 2009).

The second issue was that the data often contained a Grade 6 posttest score, but no Grade 5 pretest score, or vice versa. This requirement of a matching pretest baseline had a positive and a negative effect on the data. Positively, it meant that all individual posttest student scores were matched to the pretest scores of the same students. This was a useful baseline. Negatively, however, this process reduced the number of scores available to me because the unmatched cases were omitted. The absence of a pretest score was more common than the absence of a posttest score, but both instances occurred. Approximately 26% of the 2006 data and 23% of the 2007 data were unmatched and were subsequently not used in the study.

Effect of the MCKV on Reading Comprehension and Mathematics Scores

In contrast to RQ 1 and RQ 2, both of which considered all Grade 6 students in North Carolina, that is, normally housed and homeless, RQ 3 and RQ 4 considered the test scores of only the homeless Grade 6 students. Using these scores resulted in a much

smaller sample size, as was shown in Table 2. In the 2 years of this study, about .5% of Grade 6 North Carolina students were reported as homeless.

I used a 2 x 2 repeated-measures ANOVA to compare the students' scores in MCKV-funded LEAs to the students' scores in the nonfunded LEAs. This study had two independent variables: grade and funding status. Each student in the study had a Grade 5 and a Grade 6 EOG score, and these scores became part of the within-subject effects (see Tables 10, 12, 14, and 16). Regarding funding status, each student was in either a funded or a nonfunded LEA, but never both. Thus, they were part of the between-subject effects (see Tables 10, 12, 14, and 16).

I used the program G* Power to calculate the statistical power. Alpha was set at .05, and the effect size was calculated using the descriptive statistics for each test. The G* Power program (Faul et al., 2007) calculated the actual power. The power results for all four tests are reported in the introduction to Tables 10, 12, 14, and 16. The large sample size resulted in useful power, even when the effect size was small.

2 x 2 ANOVA Results for Reading Comprehension 2006

Table 9 displays the mean, standard deviation, and number of cases for the Reading Comprehension 2006 ANOVA generated by SPSS.

Table 9

Reading Comprehension: 2006 Posttest Versus 2005 Pretest

Funding status	Pretest (Grade 5 2005)	Posttest (Grade 6 2006)	Total
Funded	$M = 252.55$ $SD = 10.33$ $N = 250$	$M = 253.44$ $SD = 2.85$ $N = 250$	$M = 252.99$ $SD = 9.09$ $N = 500$
Nonfunded	$M = 254.37$ $SD = 11.89$ $N = 89$	$M = 255.02$ $SD = 12.63$ $N = 89$	$M = 254.69$ $SD = 12.26$ $N = 178$
Total	$M = 253.46$ $SD = 11.11$ $N = 339$	$M = 254.23$ $SD = 10.24$ $N = 339$	$M = 253.84$ $SD = 10.67$ $N = 678$

These data resulted in a Box's $M = 57.125$ and $p = .000$.

Table 10 displays the SPSS ANOVA output of the within-subject and the between-subject effects for Reading Comprehension 2006. The within-subject effects indicated no significant main effect across grades, $F(1, 337) = 1.14$, and no significant interaction effect for grades by funding, $F(1, 337) = .026$, $p = .872$, power = .25. Sphericity is assumed. The SPSS ANOVA output of the between-subject effects for Reading Comprehension 2006 indicated no significant main effect (i.e., no difference between funded and nonfunded LEAs, $F(1, 337) = 2.81$, $p = .094$, power = .950.

Table 10

Test of Within-Subject and Between-Subject Effects (2006 EOG Reading Test)

Source	Type III sum of squares	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Within-subject effect					
Grade	77.39	1	77.39	1.14	.286
Grade* funded	1.77	1	1.77	.026	.872
Error (Grade)	22870.92	337	67.87		
Between-subject effect					
Intercept	3.383E7	1	3.383E7	250316.59	.000
funded	380.540	1	380.540	2.81	.094
Error	45551.1	337	135.166		

2 x 2 ANOVA Results for Reading Comprehension 2007

Table 11 displays the mean, standard deviation, and number of cases for the Reading Comprehension 2007 ANOVA generated by SPSS. These data resulted in a Box's $M = .139$ and $p = .99$.

Table 11

Reading Comprehension: 2007 Posttest Versus 2006 Pretest

Funding status	Pretest (Grade 5 2006)	Posttest (Grade 6 2007)	Total
Funded	$M = 345.13$ $SD = 19.89$ $N = 249$	$M = 348.42$ $SD = 8.19$ $N = 249$	$M = 346.87$ $SD = 14.04$ $N = 498$
Nonfunded	$M = 345.56$ $SD = 19.50$ $N = 86$	$M = 348.36$ $SD = 7.98$ $N = 86$	$M = 346.49$ $SD = 13.74$ $N = 172$
Total	$M = 345.34$ $SD = 19.69$ $N = 335$	$M = 348.39$ $SD = 8.08$ $N = 335$	$M = 346.86$ $SD = 13.89$ $N = 670$

Table 12 displays the SPSS ANOVA output of the within-subject and the between-subject effects for Reading Comprehension 2007. The within-subject effects displayed a significant main effect across grades, $F(1, 333) = 4.94$, and no significant interaction effect, $p = .860$, power = .995. Sphericity is assumed. The SPSS ANOVA output of the between-subject effects for Reading Comprehension 2007 indicated no significant main effect (i.e., no difference between funded and nonfunded LEAs), $F(1, 333) = .020$, $p = .888$, power = .950.

Table 12

Test of Within-Subject and Between-Subject Effects (2007 EOG Reading Test)

Source	Type III sum of squares	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Within-subject effect					
Grade	1184.39	1	1184.39	4.94	.027
Grade* funded	7.45	1		.031	.860
Error (Grade)	79885.2	333	239.81		
Between-subject effect					
Intercept	6.153E7	1	6.153E7	282030.35	.999
Funded	4.338	1	4.338	.020	.888
Error	72647.03	333	218.16		

2 x 2 ANOVA Results for Mathematics 2006

Table 13 displays the mean, standard deviation, and number of cases for the Mathematics 2006 ANOVA generated by SPSS. These data resulted in a Box's $M = 5.561$ and $p = .142$.

Table 13

Mathematics: 2006 Posttest With 2005 Pretest

Funding status	Pretest (Grade 5 2005)	Posttest (Grade 6 2006)	Total
Funded	$M = 252.69$ $SD = 6.91$ $N = 154$	$M = 254.24$ $SD = 7.14$ $N = 154$	$M = 253.46$ $SD = 7.02$ $N = 308$
Nonfunded	$M = 252.31$ $SD = 8.70$ $N = 35$	$M = 254.40$ $SD = 7.82$ $N = 35$	$M = 253.35$ $SD = 8.26$ $N = 70$
Total	$M = 252.62$ $SD = 7.25$ $N = 189$	$M = 254.27$ $SD = 7.25$ $N = 189$	$M = 253.41$ $SD = 7.64$ $N = 378$

Table 14 displays the SPSS ANOVA output of the within-subject and the between-subject effects for Mathematics 2006. The within-subject effects indicated a significant main effect across grades, $F(1, 187) = 12.43$, and no significant interaction effect for grade by funding, $F(1, 187) = .273$, $p = .602$, power = 0.83. Sphericity is assumed. The SPSS ANOVA output of the between-subject effects for mathematics 2006

indicated no significant main effects (i.e., no difference between funded and nonfunded LEAs), $F(1, 187) = .008, p = .930, \text{power} = .950$.

Table 14

Test of Within-Subject and Between-Subject Effects (2006 EOG Mathematics Test)

Source	Type III sum of squares	df	MS	F	p
Within-subject effect					
Grade	188.014	1	188.014	12.43	.001
Grade* funded	4.162	1	4.162	.273	.602
Error (Grade)	2848.46	187	15.23		
Between-subject effect					
Intercept	1.465E7	1	1.465E7	1611999.16	.000
Funded	.695	1	.695	.008	.930
Error	16912.25	187	90.440		

2 x 2 ANOVA for Mathematics 2007

Table 15 displays the mean, standard deviation and number of cases for Mathematics 2007 ANOVA generated by SPSS. These data resulted in a Box's $M = 6.51$ and $p = .092$.

Table 15

Mathematics: 2007 Posttest With 2006 Pretest

Funding status	Pretest (Grade 5 2006)	Posttest (Grade 6 2007)	Total
Funded	$M = 345.18$ $SD = 19.79$ $N = 252$	$M = 348.15$ $SD = 9.70$ $N = 252$	$M = 346.66$ $SD = 14.75$ $N = 504$
Nonfunded	$M = 345.22$ $SD = 14.56$ $N = 85$	$M = 349.13$ $SD = 7.66$ $N = 85$	$M = 347.18$ $SD = 13.61$ $N = 170$
Total	$M = 345.20$ $SD = 19.68$ $N = 337$	$M = 348.64$ $SD = 8.68$ $N = 337$	$M = 346.92$ $SD = 14.18$ $N = 674$

Table 16 displays the SPSS ANOVA output of the within-subject effects for Mathematics 2007. The within-subject effects indicated a significant effect across grades, $F(1, 335) = 8.25$, and no significant interaction effect for grades by funding, $F(1, 335) =$

.15, $p = .698$, power = 0.99. Sphericity is assumed. The SPSS ANOVA output of the between-subject effects for Mathematics 2007 indicated no significant main effects (i.e., no difference between funded and nonfunded LEAs), $F(1, 335) = .113$, $p = .737$, power = .950.

Table 16

Test of Within-Subjects and Between-Subject Effects (2007 EOG Mathematics Test)

Source	Type III sum of squares	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Within-subject effect					
Grade	1505.21	1	1505.21	8.25	.004
Grade* funded	27.47	1	27.47	.15	.698
Error (Grade)	61123.55	335	182.46		
Between-subject effect					
Intercept	6.120E7	1	6.120E7	209531.65	.998
Funded	33.039	1	33.039	.113	.737
Error	97844.71	335	292.07		

Conclusion

RQ 1 and RQ 2: Effect of Housing on Academic Performance

All four tests (Reading Comprehension 2006, 2007 and Mathematics 2006, 2007) supported the finding that the normally housed Grade 6 North Carolina students scored better than the homeless Grade 6 students on the EOG test. Thus, the null hypotheses for RQ 1 and RQ 2 were rejected.

RQ 3 and RQ 4: Effect of MCKV Funding on Academic Performance

Three issues were addressed:

1. The most important issue was to determine whether MCKV funding improved academic performance, or stated differently, was there a main effect of MCKV funding? The data (see Tables 10, 12, 14, and 16) did not support rejection of the

null hypotheses for RQ 3 or RQ 4. There was no significant difference in the funded and nonfunded scores.

2. There was a main effect of grade on academic performance for three of the four tests: Reading Comprehension 2007 (see Table 12), Mathematics 2006 (see Table 14), and Mathematics 2007 (see Table 16). These tests supported the finding that the Grade 6 posttest scores were significantly better than the Grade 5 pretest scores.
3. There was no significant interaction effect between grade and MCKV funding for any of the four tests (see Tables 10, 12, 14, and 16).

That this study did not support the conclusion that MCKV funding for LEAs significantly improved the EOG scores of homeless Grade 6 students in North Carolina is not the final word on the MCKV program. The MCKV program, even in its moderately funded state, achieved such important goals as increasing the school attendance of homeless student (Attles, 1997; Heinlein & Shinn, 2000; Jeynes, 2002; Kerbow et al., 2003).

The overall value of MCKV is discussed in chapter 5, which includes a summary of the findings and a discussion of the conclusions, the implications for social change, recommendations for action, limitations and delimitations of the study, and suggestions for future research.

CHAPTER 5: SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Introduction

The primary purpose of this study was to evaluate empirically whether the subgrant program of the McKinney-Vento Act of 2001 (MCKV) resulted in an improvement of the educational achievement of homeless Grade 6 students in North Carolina as revealed by the EOG reading comprehension and mathematics tests from 2006 and 2007. This issue was addressed by comparing the student scores in LEAs that received program funding to the student scores in LEAs that were not funded. A secondary purpose of the study was to compare the academic achievement of homeless and normally housed Grade 6 students. Stated another way, did the normally housed and homeless students score differently on the EOG tests?

The findings were reported in chapter 4. In chapter 5, I interpret the findings, discuss the implications for social change, and make recommendations for future research as well as improvements to the program. The motivation of the study was to close the gap in the literature resulting from the absence of an evaluation of the MCKV.

As early as 1997, Stronge identified the need for a comprehensive evaluation to determine empirically which programs for homeless students are effective in improving their educational experience. However, there has been no evidence that Stronge's suggestion has been implemented. Similarly, Anderson et al. noted in 1995 that even though program grants were being made available to local districts supporting a range of services for homeless students, the educational impact of the grants has never been identified. Markward and Biro (2001) commented, "No attempts were made to establish

empirically how well these activities work. Without this information neither policy makers nor practitioners can accurately predict which intervention strategies work best” (p. 185). The current study was a preliminary step in helping policymakers and practitioners to determine whether the program has had a positive impact on the academic achievement of homeless students.

The literature search revealed no earlier studies from anywhere in the nation describing an empirical analysis of the impact of the MCKV on academic achievement. This study was the first attempt in North Carolina to compare the EOG scores of students from funded LEAs to the scores of students from nonfunded LEAs. This study compared the academic achievement of homelessness and normally housed students.

These studies were conducted to provide assessment information to congressional and North Carolina state government leaders, budget planners, and educators regarding the impact of homelessness on academic achievement and the effectiveness of MCKV in addressing the problem. I used archival data that are collected each spring by the North Carolina DPI as part of its process to evaluate the effectiveness of North Carolina’s public school education program.

Interpretation of the Findings

In preparing for the study, I held conversations with the director of homelessness for North Carolina (D. McHenry, personal communication, February 16, 2009). These conversations with her led to my decision to analyze data from 2006 and 2007, which, in her opinion, were the earliest years that North Carolina had collected useful EOG test data on homeless students. She observed that before 2006, the North Carolina collection

and archival process was ineffective because of the lack of a federally mandated reporting system. She opined that the 2007 data were probably better than the 2006 data. When I eventually obtained the data from the DPI, her opinion regarding its lack of completeness and uneven quality was confirmed. In addition, the data from 2007 were, as she had predicted, much more complete than the data from 2006.

The data from the DPI for this study became available to me after the research proposal was submitted. When I received the data from the DPI, I was surprised at their lack of completeness. The major disappointment had to do with the low number of test scores reported from the nonfunded LEAs. Compared to the data for RQ 1 and RQ 2 (i.e., the study of the effect of housing status), the data available for studying RQ 3 and RQ 4 (i.e., the impact of the MCKV program) were less complete. These data for RQ 3 and RQ 4 dealt only with homeless Grade 6 students and were much fewer than the data for RQ 1 and RQ 2 because only about 0.5% of the Grade 6 population were reported as being homeless.

The data problem was more fundamental than just a smaller number of students. As an example, 90 North Carolina LEAs were not funded, and 21 LEAs were funded; therefore, I had expected that there would be 4 to 5 times more homeless scores reported from the nonfunded LEAs, but this was not the case. There were actually considerably more homeless students' scores reported from the 21 funded LEAs than from the 90 nonfunded LEAs. Some of the difference could be explained by the fact that the 21 funded LEAs included some of North Carolina's largest counties. However, the 21 funded LEAs also include some of the smallest counties. Thus, the shortage of nonfunded

homeless scores cannot be explained easily. This discovery was the largest disappointment in the data. For example, in the 2007 mathematics scores, there were 252 funded scores and 85 nonfunded scores. The low number of homeless scores from nonfunded LEAs could probably be explained by the fact that the staff in the nonfunded LEAs were not as attentive or careful in reporting the scores of homeless students and that they had no resources to support the reporting requirement. This imbalance appeared in all data sets for RQ 3 and RQ 4. For the funded categories, the data were probably more representative because some of the largest counties in the state (e.g., Mecklenburg-Charlotte, Wake- Raleigh, Cumberland- Fayetteville, and Winston Salem Forsyth-Winston Salem) were included.

Homelessness and EOG Scores

A sizeable data set (2006: 57,000; 2007: 97,000) was available for the four *t* tests used to determine the general impact of homelessness (RQ 1 & RQ 2) on academic achievement. In these years, there were about 105,000 Grade 6 North Carolina students. In 2006, the scores of 57,721 normally housed and 249 homeless students were reported. These scores represented about 55% of the total enrollment in Grade 6. In 2007, the scores of 94,026 normally housed students and 496 homeless students, or about 89% of the total enrollment, were reported. The numbers indicated that between 0.45% and 0.55% of the Grade 6 North Carolina student population were identified by DPI as homeless. The actual homeless population was probably larger because some homeless Grade 6 students were not tested and some homeless students had never been enrolled in school.

The analysis for RQ 1 and RQ 2 was based on two academic subjects, namely, reading comprehension and mathematics for the 2005-2006 academic year and the 2006-2007 academic year. The four tests revealed a difference between the mean of the normally housed and the homeless students, with the homeless scores always less than the scores of the normally housed students. The findings supported my conclusion that homelessness had a negative effect on the academic achievement of the Grade 6 students in this study.

MCKV and EOG Scores

RQ 3 and RQ 4 addressed the fundamental question of this study: Did the homeless students in LEAs that received program funding achieve higher EOG scores than the homeless students in LEAs that were not funded? There were four separate tests relevant to RQ 3 and RQ 4, namely, the 2006 and 2007 mathematics tests and the 2006 and 2007 reading comprehension tests. I found no significant ($p < .05$) differences between funded and nonfunded LEAs, as well as no significant interactions of funding over time. The lack of significant interactions meant that the scores from the funded LEAs did not increase at a faster rate than the scores from the nonfunded LEAs

Theory Underlying the Program

The theoretical basis of this study was general systems theory, which has been used frequently as a guiding principle in social work and other social sciences (Bertalanffy, 1968). It is sometimes called the person in the environment (Zastrow, 2004). As Netting et al. (2004) noted, the environment within which an individual lives, works, and studies has a major influence in shaping that individual's life. General

systems theory asserts that it is difficult to separate the individual from the systems in which the individual lives. The program operates within a general systems theory approach, and it supports changes in the environment within which a student lives, works, and studies. The so-called program “treatment” is a collection of environment-changing interventions designed to facilitate improved academic achievement.

The program identifies issues in the experience of homeless school-age children that impede their educational success. In response, the program provides interventions and, in some cases, mandated actions by local and state educational agencies. The program also provides limited financial support to the LEAs to implement these interventions. The philosophy underlying the program is that a positive change in homeless students’ environment will improve their likelihood of educational success.

Recommendations for Action

Two recommendations will improve the assessment and effectiveness of the program if they are implemented. The first involves a more scientifically rigorous evaluation of the program. The second involves the provision of adequate financial support for the basic program and the implementation of creative additions to the program.

Improve Assessment of the Program

This study was limited because the archival nature of the data resulted in a quasi-experimental study. There was a difference between the quality of the data used to answer RQ 1 and RQ 2 and the data used to answer RQ 3 and RQ 4. There were no fundamental concerns about the data for RQ 1 and RQ 2. They were sufficient to

demonstrate the negative impact of homelessness on academic achievement. This was not a surprising conclusion. As reported in chapter 2, more than 20 scholarly studies on homelessness and its close relative, student mobility, have been published. The findings agreed with my conclusions that homelessness is related to academic achievement.

Many of those studies were not as quantitative as this study, and even though none of them use the North Carolina EOG data, their basic conclusions were the same.

For RQ 3 and RQ 4, the number of EOG scores was small for the nonfunded LEAs; however, the fact that statistical power was sufficient to identify even a small effect size did not lead to a rejection of the null hypotheses for RQ 3 and RQ 4. The data for the funded and nonfunded LEAs were adequate and representative of student scores in North Carolina. Nevertheless, a higher level of confidence would have resulted from a more complete and balanced data set.

Impact of the Program

There is no easy answer to explain why the program has not had a greater impact on the educational experience of Grade 6 homeless students. The 18 activities for which the program can legally provide support are inherently valuable to the education of homeless students. It is difficult to find fault with wanting children to be present in school, providing transportation, facilitating registration, providing school supplies, and so on. All of these educational services are of great value to homeless students. Each LEA in North Carolina determines how the subgrant funds are to be used. As a result there are many approaches to meeting the academic needs of homeless students. Some of

them are probably more effective than others. It is difficult to identify which approaches are more important in improving academic achievement.

Homeless children of all ages are under tremendous strain. In my opinion, the sum total of the program treatments, good as they are, cannot overcome the massive negative consequences of homelessness. For example, most homeless children lack a good place to study. In addition, they often are uncertain about the next meal, and they are concerned about where they will sleep. These basic issues of survival can dominate the lives of homeless children and their parents, and they can seriously compromise any academic concentration.

Another fact is that even good parents often find themselves distracted by financial and personal crises. In such an environment, parental involvement in encouraging and assisting their children with homework is a low priority; homeless parents often do not engage in this activity at all. Beyond the parental issues, the disruption of normal social relationships and the general lack of stability, all of which were documented in the literature review, create challenging issues for homeless education. In short, although the program is well intentioned and inherently valuable, it is not powerful enough to overcome the disruptions in the homeless students' lives in only 1 year.

More resources for the program would certainly help to meet these challenges, although more resources are not a panacea for this complex problem. I agree with advocates for the homeless (e.g., National Association for the Education of Homeless Children and Youth, 2008; Wong et al., 2004) that the funds currently allocated to

support homeless students are insufficient. Advocates for the homeless population have attempted to make a strong case for increased funding. I believe that their efforts are worthy of attention. The first two RQs supported the finding of a relationship between homelessness and academic achievement. This empirical study strengthens the advocates' case that more needs to be done. In short, this underfunded program is important but inadequate.

In the literature review, I discussed three earlier school programs designed to address the needs of homeless student. Each of these programs focused on an activity and intervention specifically and directly addressed in the list of 18 services authorized by the MCKV. In my opinion, these creative interventions have not been adequately pursued, even though they are promising.

The first, the HERO program, was described by Davey et al. (2000). It focused on activities and services designed to enhance the social environment and the self-image of homeless students. Self-image, confidence, and motivation are fundamental to educational success. These characteristics are subject to special challenges, especially for homeless students. These important concepts are not specifically addressed in any of the 18 MCKV-approved services.

The second program (Knowlton, 2006) was designed to shape the classroom teachers' knowledge of and ability to respond to homeless students. Typical classroom teachers lack adequate training and knowledge of the special needs of homeless students. This lack of preparation exists, even though classroom teachers usually spend more time with homeless students than do school psychologists, social workers, administrators, or

counselors combined. In my opinion a “homeless friendly” classroom may be the single most important at-school factor in the academic and social success of homeless students. As currently structured, the MCKV does not support a major emphasis in creating the best possible classroom experience for homeless children.

A third intervention modality stresses the importance of the role of counselors and social workers in dealing with homeless situations (Baggerly & Borkowski, 2004). Although the social worker is almost always the person at the school charged with responding to the problems and special needs of homeless students, the literature has been generally silent on the importance of this interaction. Social workers and counselors need to be better trained in the special issues relevant to homelessness.

Possible modifications to the program show promise in contributing to the academic achievement of homeless students. Just as the program calls for the appointment of coordinators to oversee the services provided to homeless students, I believe that the program should mandate that teachers, counselors, and social workers be trained and become better prepared to serve the needs of homeless students. Proper training of teachers, counselors, and social workers regarding the special needs of homeless students should be a required condition for any LEA that applies for a program grant. Such changes in the program may increase the probability that the program can make an educational difference in the lives of homeless students.

Limitations and Assumptions

Limitations

I consulted with national and state officials who were familiar with efforts to provide educational services to homeless students, especially in North Carolina. These conversations led the researcher to conclude that this study, although valuable, did involve certain limitations:

1. Although this study was large, it was limited to North Carolina. In 2007, it involved 94,000 students. One might question whether these students were a representative sample of the entire nation.
2. North Carolina is a diverse state whose culture and economy vary significantly from the coast to the mountains. There are large and affluent urban counties, and there are small and poor rural counties. One might question whether a generalized study over the whole state was valuable in assessing the specific needs of these diverse areas.
3. Data were available only for students who took the EOG tests, and not all homeless children enroll in or attend school. For 2007, about 90% of the Grade 6 students had test scores reported. For 2006, only about 55% of the Grade 6 students had test scores reported. It is likely that some students were absent on the day of the test. This absence was in addition to homeless students who had never been enrolled in public school (HUD, 1996).
4. The educational needs of students in elementary school, middle school, and high school vary widely. It is not clear that the one-size-fits-all approach of

this study can be applied to Grades Kindergarten to 12. It is uncertain that an assessment of the program on the middle school level (Grade 6) can be reliably extended to elementary or high school situations.

5. The two groups that were compared were funded and nonfunded LEAs. They may, or may not, have been characterized by selection bias. Shadish et al. (2002) noted that the question of selection bias is the fundamental differentiation between experimental and quasi-experimental research designs. In my opinion, whether the experimental and control groups were truly randomized represented a borderline case. Therefore, I took a conservative approach and labeled the study as quasi-experimental.
6. There are a few more North Carolina LEAs over and above the 111 mentioned in this study. They are usually charter schools, and in 2006 and 2007, their enrollments were very small, and none of them had any homeless students enrolled. As mentioned previously, they were not included in this study.
7. It is unreasonable to expect that the number of Grade 6 students actually increased from 57,721 in 2006 to 94,409 in 2007. Likewise, it is unreasonable to expect that the number of homeless Grade 6 students grew 100% from 247 to 495. This was obviously an archival and reporting problem, and a limitation on the quality of the data.

Assumptions

1. The data in the quantitative section of this study and obtained from the North Carolina DPI were of high quality. The tests were administered properly, few

counties or schools were omitted from the test, the tests were properly secured before administration, and the data were properly secured after administration.

2. I assumed, but could not verify, except by the statements from the DPI, that the EOG tests in reading comprehension and mathematics were valid indicators of the educational achievement of Grade 6 homeless students in North Carolina.

Implications for Social Change

Beginning about 25 years ago, the national problem of homelessness began to be recognized by Congress. Included in this recognition was the awareness that the number of homeless children is growing, resulting in an increased number of homeless school-aged children. Since the adoption of the Stewart B. McKinney Act of 1987, federal programs have sought to address the special educational needs of homeless students. This congressional interest culminated in the McKinney-Vento Program of 2001, which is still the major federal program addressing the educational needs of homeless children. The effectiveness of the program has not been adequately evaluated.

The analysis of the primary research question concluded that the program has not improved academic performance of homeless Grade 6 students. The policy implications of this conclusion, however, have to be interpreted carefully. Although the direct academic implications of this study are disappointing, I do not question the overall value of the program. That would be a premature and unjustified conclusion. The failure to improve the educational achievement of homeless Grade 6 students from one year to the next should not be interpreted a fundamental weakness of the program.

The program has made many other contributions that should not be ignored, although an improvement in EOG scores is not one of them. It is important, for example, that homeless students attend school regularly, that they are provided with a rapid and noncomplicated enrollment protocol, and that they remain in their school of origin. The special transportation services provided for homeless students also have been beneficial. The services provided by the program have contributed to such important ends as socialization and stability, both of which often are absent in the lives of homeless students. The program's broad services, a total of 18 separate items, are important, but are these services enough? It may be that even though the program's services are the necessary conditions for academic improvement, these services also may not provide sufficient conditions for educational improvement. This study was a beginning step in resolving this uncertainty.

There are significant indirect implications of the value of the program. For example, indirectly, the fact that funded LEAs are much more diligent in collecting and reporting data regarding the academic achievement of homeless students was strong evidence that the program is having a positive impact in creating awareness of the needs and situation of homeless students. It is important for Congress, the USDOE, educational leaders, and budget planners to have information regarding the extent to which the program is achieving its intended or direct purpose. Social change is enhanced when leaders have knowledge of the effectiveness of social intervention programs for homeless children.

Conclusion

Three clear conclusions emerged from this study. First, as currently structured, the program does not improve the academic achievement of homeless students. This basic and important goal of the program has not yet been achieved. However, the second conclusion is that the program does provide valuable services to homeless children across the United States. Without the support of the program, many students would not be transported safely to school or have the opportunity for an adequate education. The program helps to overcome enrollment difficulties and supports many students who otherwise would be deprived of the necessary school supplies and other support services. In my opinion, the program contributes to such important issues as the socialization, citizenship, and emotional stability of homeless children. The school experience may be one of the few, perhaps the only, stable experiences in the lives of homeless students. These valuable contributions of the program need to be recognized and appreciated by educational leaders as they seek ways to improve the students' academic achievement.

Finally, possible modifications to the program may offer the promise of improving its impact on education. These modifications primarily involve training and sensitizing teachers, counselors, and social workers to the special needs of homeless students, with the goal of creating a better at-school experience. However, these changes are but a first step in altering the unstable and disruptive homeless environment of these students.

REFERENCES

- Abrams, L., Pedulla, J., & Madaus, G. (2003). Views from the classroom: Teachers opinion of state-wide testing programs. *Theory into Practice, 42*(1), 18-30.
- Anderson, I. (2003). Synthesizing homeless research: Trends, lessons and prospects. *Journal of Community & Applied Social Psychology, 13*(2), 197-205.
- Anderson, L., Janger, M., & Panton, K. (1995). *An evaluation of state and local efforts to serve the educational needs of homeless children and youth*. Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement.
- Attles, H. S. E. (1997). *The effects of homelessness on the academic achievement of children*. New York: Garland.
- Baggerly, J., & Borkowski, T. (2004). Applying the ASCA national model to elementary school students who are homeless: A case study. *Professional School Counseling, 8*(2), 1-11.
- Bassuk, E. L., & Rubin, L. (1987). Homeless children: A neglected population. *Journal of Orthopsychiatry, 57*(2), 279-286.
- Bawden, D. L., & Sonenstein, I. L. (n.d.). *Quasi-experimental designs of the Urban Institute*. Retrieved from http://www.childwelfare.com/_courses/Documents/bawden.html
- Bazemore, M., Van Dyk, P., Kramer, L., Brown, R., & Yelton, A. (2006). *The North Carolina mathematics and reading comprehension technical report*. Retrieved from <http://www.ncpublicschools.org/docs/accountability/testing/reading/mathematicstechmanual.pdf>
- Bell, S. H. (2008). *Quasi-experimental methods*. Retrieved from <http://www.urban.org/toolkit/datamethods/quasi-experimental>
- Berck, J. (1992). *No place to be voices of homeless children*. Boston: Houghton & Mifflin.
- Bertalanffy, L. von. (1968). *General systems theory: Foundations, development, and application*. New York: George Braziller.
- Black, S. (2006). Searching for stability. *American School Board Journal, 193*(9), 60-62.
- Bowen, G. (2007). *Social organizations and schools: A general systems theory perspective*. Boston: Allyn & Bacon.

- Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.
- Buckner, J. C., Bassuk, E. L., & Weinreb, L. F. (2001). Predictors of academic achievement among homeless and low-income housed children. *Journal of School Psychology, 39*(1), 45-69.
- Burt, M. R. (2001). *Helping America's homeless: Emergency shelter or affordable housing?* Washington, DC: Urban Institute Press.
- Burt, M. R., & Aron, L. (2000). *America's homeless II: Populations and services*. Washington, DC: Urban Institute.
- Byrnes, D., & Yamamoto, K. (1986). Views on grade retention. *Journal of Research and Development in Education, 20*(10), 14-20.
- Cohen, J. (1969). *Statistical power analysis for the behavioral sciences*. New York: Academic Press.
- Conyne, R. (1988). The counseling ecologists: Helping people and environments. In R. Hayes & R. Aubrey (Eds.), *New directions for counseling and human development* (pp. 304-324). Denver, CO: Love.
- Cook, T. D., & Campbell, D. T. (1979). *Quasi-experimentation: Design and analysis issues for field settings*. Boston: Houghton Mifflin.
- Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed method approaches* (2nd ed.). Thousand Oaks, CA: Sage.
- D'Agostino, R., & Kwan, H. (1995). Measuring effectiveness: What to expect without a randomized control group. *Medical Care, 33*(4), AS 95-105.
- Davey, T. L., Penuel, W. R., Allison-Tant, E., & Rosner, A. M. (2000). The HERO program: A case for school social work services. *Social Work in Education, 22*(3), 1-10.
- Doak, M. J. (2006). *Homeless in America: How could it happen here?* Detroit: Thompson.
- Dong, M., Anda, R. F., Felitti, V. J., Williamson, D. F., Dube, S. R., Brown, D. W., et al. (2005). Childhood residential mobility and multiple health risks during adolescence and adulthood: The hidden role of adverse childhood experiences. *Archives of Pediatrics and Adolescent Medicine, 159*(12), 1104-1110.

- Dordick, G. A. (1993). *Something left to lose: Personal relations and survival among New York's homeless*. Philadelphia, PA: Temple University Press.
- Duffield, B. (2001). The educational rights of homeless children: Policies and practices. *Educational Studies, 32*, 323-336.
- Eisenhart, M., & Towne, L. (2003). Contestation and change in national policy on scientifically based research. *Educational Researcher, 32*(10), 31-38.
- Erikson, E. H. (1950). *Childhood and society*. New York: Norton.
- Expect more.gov. (2006). *Expect federal programs to perform well and better every year*. Retrieved from <http://www.whitehouse.gov/omb/expectmore/summary/10003325.2006.html>
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*, 175-191.
- Fox, S. J., Barnett, R. J., Davies, M., & Byrd, H. R. (1990). Psychopathology and developmental delay in homeless children: A pilot study. *Journal of American Academy of Child and Adolescent Psychology, 29*, 732-735.
- Gargiulo, R. M. (2006). Homeless and disabled: Rights, responsibilities, and recommendations for serving young children with special needs. *Early Childhood Education Journal, 33*(5), 357-362.
- Gargiulo, R. M., & Kilgo, J. (2005). *Young children with special needs* (2nd ed.). Clifton Park, NY: Delmar.
- Germain, C., & Bloom, M. (1999). *Human behavior in the social environment: An ecological view*. New York: Columbia University Press.
- Hanushek, E., Kain, J. F., & Rivkin, S. G. (2004, August). Disruption versus tiebout improvement: The costs and benefits of switching schools. *Journal of Public Economics, 88*(9-10), 1721-1746.
- Hayes-Whigham, D. (2006). No homeless child left behind: The McKinney-Vento Homeless Assistance Act in Dallas. *Dissertation Abstracts International, 67*(10), DAI-A. (UMI No. 3238614)
- Heinlein, L. M., & Shinn, M. (2000). School mobility and student achievement in an urban setting. *Psychology in the schools, 37*(4), 349-366.

- Hopper, K. (2003). *Reckoning with the homeless*. New York: Cornell University Press.
- Israel, N., Urberg, K., & Toro, P. A. (2001, August). *Academic performance and maladjustment in housed and homeless adolescents*. Paper presented at the annual convention, American Psychological Association, San Francisco.
- Jackson, A. (2007). *The annual homeless assessment report to Congress*. Washington: DC: U.S. Department of Housing and Urban Development, Office of Community Planning and Development.
- Jencks, C. (1994). *The homeless*. Cambridge, MA: Harvard University Press.
- Jeynes, W. (2002). *Divorce, family structure and the academic success of children*. New York: Hayworth Press.
- Johnsen, S., Cloke, P., & May, J. (2005). Day centres for homeless people: Spaces of care or fear? *Social & Cultural Geography*, 6(6), 787-811.
- Johnson, B., & Christensen, L. (2004). *Educational research: Quantitative, qualitative and mixed approaches* (2nd ed.). Boston: Pearson Education.
- Jones, G., Jones, B., Hardin, B., Chapman, L., Yarborough, T., & Davis, M. (1999). The impact of high-stakes testing on teachers and students in North Carolina. *Phi Kappa Delta*, 81(3), 199-203.
- Jozefowicz-Simbeni, D. M. H. (2003, April). *Why do they leave? Why do they stay? Qualitative and quantitative perspectives on high school dropout*. Poster session presented at the biennial meeting, Society for Research in Child Development, Tampa, FL.
- Jozefowicz-Simbeni, D. M. H., & Israel, N. (2006). Services to homeless students and families: The McKinney-Vento Act and its implications for school social work practice. *Children & Schools*, 28(1), 37-44.
- Julianelle, P. F., & Foscarinis, M. (2003). Responding to the school mobility and youth experiencing homelessness: The McKinney-Vento Act and beyond. *Journal of Negro Education*, 72(1), 39-54.
- Kerbow, D., Azcoitia, C., & Buell, B. (2003). Student mobility and local school improvement in Chicago. *Journal of Negro Education*, 72(1), 158-164.
- Knowlton, A. S. (2006, Fall). Helping the homeless: What educators can do to ease the pain. *Delta Kappa Gamma Bulletin*, xx, 17-19.

- Kozoll, R. H., Osborne, M. D., & Garcia, G. E. (2003). Migrant worker children: Conceptions of homelessness and implications for education. *Qualitative Studies in Education, 16*(4), 567-585.
- Lewin, K. (1936). *Principles of topological psychology*. New York: McGraw-Hill.
- Lewin, K. (1951). *Field theory in social science*. New York: Harper & Brothers.
- Liebow, E. (1993). *Tell them who I am*. London: Penguin Books.
- Los Angeles Homeless Services Coalition. (2007). Retrieved from [http://lahsc.org/word press/educate/statistics/united-states-homeless statistics-](http://lahsc.org/word%20press/educate/statistics/united-states-homeless%20statistics-)
- Markward, M. J., & Biros, E. (2001). McKinney revisited: Implications for school social work. *Children and Schools, 23*(3), 182-187.
- Masten, A. S., Miliotis, D., Graham-Berman, S. A., Ramirez, M., & Neemann, J. (1993). Children in homeless families: Risks to mental health and development. *Journal of Consulting and Clinical Psychology, 61*, 335-343.
- Mawhinney-Rhoads, L., & Stahler, G. (2006). Educational policy and reform for homeless students: An overview. *Education and Urban Society, 38*(3), 288-306.
- McKinney-Vento Homeless Assistance Act of 2001, P.L. 100-628, 101 Stat 482.
- National Association for the Education of Homeless Children and Youth. (2008). *Funding for the education for homeless children and youth Program (FY 2009 appropriation)*. Retrieved from <http://www.naehcy.org/update.html>
- National Center for Homeless Education. (2009). *Analysis of 2005-2006 federal data collection and three year comparison*. Retrieved from <http://www.ed.gov/Programs/homeless/index.html>
- National Center for Educational Statistics. (2007). *North Carolina grade 6 enrollment*. Retrieved from <http://nces.ed.gov/programs/stateprofiles>
- National Center for Homeless Education. (2008). *Analysis of 2006-2007 federal data collection and three year comparison*. Retrieved from <http://www.ed.gov/Programs/homeless/index.html>
- National Coalition for the Homeless. (2006). *NCH fact sheet #18*. Washington, DC: Author.

- National Coalition for the Homeless. (2007). *How many people experience homelessness*. Retrieved from http://www.nationhomelsss.org/publication/facts/how_many.pdf
- National Research Council. (2002). *Scientific research in education*. Washington, DC: National Academy Press.
- Netting, E. F., Kettner, P. M., & McMurtry, S. L. (2004). *Social work macro practice*. Boston: Pearson.
- North Carolina Department of Public Instruction. (2002). *Standard course of study and grade level competencies*. Retrieved from <http://www.dpi.state.nc.us/curriculum/nscos>
- North Carolina Department of Public Instruction Accountability Services. (n.d.). *North Carolina end of grade tests grades 3-8 and 10*. Retrieved from <http://www.ncpublicschools.org>
- Núñez, R. D. (2001). Family homelessness in New York City: A case study. *Political Science Quarterly*, 116(3), 367-379
- Núñez, R. D., & Collignon, K. (1997). Creating a community of learning for homeless children. *Educational Leadership*, 55(2), 56-60.
- Park, J. M., Metraux, S., Brodbar, G., & Culhane, D. P. (2004). Child welfare involvement among children in homeless families. *Child Welfare*, LXXXIII(5), 423-436.
- Pollant, J. (2007). *SPSS survival manual: A step by step guide to data analysis using SPSS version 15*. New York: Open University Press.
- Popp, P. A., Stronge, J. H., & Hindman, J. L. (2003). Students on the move: Reaching and teaching highly mobile children and youth. *Urban Development Series*. New York: ERIC Clearinghouse on Urban Education. (ERIC Document Reproduction Service No. ED482661)
- Powers, J. D., Bowen, G. L., & Rose, R. A. (2005). Using social environment assets to identify intervention strategies for promoting school success. *Children & Schools*, 37(3), 177-187.
- Project Hope. (2008). *History of the McKinney Act. A report of the National Center for Homeless Children and Youth*. Retrieved from <http://www.wm.edu/hope/national/mckinney/mckinney.html>

- Rafferty, Y. (1998). Meeting the educational needs of homeless children. *Educational Leadership*, 55(4), 38-52.
- Rafferty, Y., & Rollins, N. (1989). *Learning in limbo: The educational deprivation of homeless children*. New York: Advocates for Children.
- Rafferty, Y., Shinn, M., & Weitzman, B. C. (2004). Academic achievement among formerly homeless adolescents and their continuously housed peers. *Journal of School Psychology*, 42, 179-199.
- Ringwalt, C. L., Greene, J. M., Robertson, M., & McPheeters, M. (1998). The prevalence of homelessness among adolescents in the United States. *American Journal of Public Health*, 88, 1325-1329.
- Rosenfeld, C. A. (2003). The education of homeless students: McKinney progress in New Jersey. *Dissertation Abstracts International*, 64(6), 1931. (UMI No. 3093196)
- Rossi, P. H. (1989). *Down and out in America: The origin of homelessness*. Chicago: University of Chicago Press.
- Rubin, D. H., Erickson, C. J., San Agustin, M., Cleary, S. D., Allen, J. K., & Cohen, P. (1996). Cognitive and academic functioning of homeless children compared with housed children. *Pediatrics*, 97, 289-295.
- Russell, S., & Williams, E. (1998). Homeless handicapped children: A special education perspective. *Children's Environmental Quarterly*, 5(1), 3-7.
- Sanderson, D. R. (2004). Transiency, test scores and the public: One school district's story. *Studies in Educational Evaluation*, 30(3), 225-236.
- Sanford, E. E. (1996). *The North Carolina end of grade test in reading comprehension and mathematics technical report*. Retrieved from <http://www.ncpublicschools.org/accountability/testing/technicalreports>
- Schmitz, C. L., Wagner, J. D., & Menke, E. M. (2001). The interconnection of childhood poverty and homelessness: Negative impact/points of access. *Families in Society*, 82, 69-77
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton Mifflin.
- Stewart B. McKinney Homeless Assistance Act of 1987, Pub. L. No. 100-77.

- Stronge, J. H. (1997). A long road ahead: A progress report on educating homeless children and youth in America. *Journal of Children and Poverty*, 3(2), 13-31.
- Stronge, J. H., & Reed-Victor, E. (2000). *Educating homeless students: Promising practices*. Larchmont, NY: Eye on Education.
- Swick, K. J. (1994). Family involvement: An empowerment perspective. *Dimensions of Early Childhood*, 22(2), 10-13.
- Swick, K. J. (2006). Helping homeless families overcome barriers to successful functioning. *Early Childhood Education Journal*, 33(3), 195-200.
- Swick, K. J., & Bailey, L. B. (2004). Communicating effectively with parents and families who are homeless. *Early Childhood Education Journal*, 32(3), 211-215.
- Swick, K. J., & Graves, S. (1993). *Empowering at-risk families during the early childhood years*. Washington, DC: National Educational Association.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Needham Heights, MA: Pearson Education.
- Taylor, H., Stuttaford, M., Broad, B., & Vostanis, P. (2006). Why a roof is not enough: The characteristics of young homeless people referred to a designated mental health service. *Journal of Mental Health*, 15(4), 491-501.
- Thompson, J. A., & Davis, S. M. (2003). Educating homeless children: Perceptions of school homeless liaisons. *Children & Schools*, 28(1), 37-45.
- Titus, D. N. (2007). Strategies and resources for enhancing the achievement of mobile students. *National Association of Secondary School Principals*, 9(1), 81-97.
- Tompsett, C. J., Toro, P. A., Guzicki, M., Manrique, M., & Zatakia, J. (2006). Homelessness in the United States: Assessing changes in prevalence and public opinion, 1993-2001. *American Journal of Community Psychology*, 37(1/2), 47-61.
- Toro, P. A., Dworsky, A., & Fowler, P. J. (2007, March 1-2). *Homeless youth in the United States*. Paper presented at the national symposium on homelessness research, Washington, DC.
- Triola, M. F. (2008). *Essentials of statistics* (3rd ed.). Boston: Pearson Education.
- Trochim, W. M. K. (2001). *The research methods knowledge base* (2nd ed.) Cincinnati, OH: Atomic Dog.

- U.S. Department of Education. (1995). *Preliminary guidance for the education of homeless children and youth program, Title VII Subtitle B*. Washington, DC: Author.
- U.S. Department of Education. (1997). *State tables for formula-allocated and selected student aid programs, by program fiscal year 1998*. Washington, DC: Author.
- U.S. Department of Housing and Urban Development. (1996). *A report to Congress on worst case housing needs*. Retrieved from www.gopher://huduser.org:73
- U.S. Department of Housing and Urban Development. (2007). *Annual homeless assessment to Congress 2007*. Retrieved from www.huduser.org
- Weicker, J. C. (2006). Housing conditions and homelessness. *Gender Issues, 1*, 35-53.
- Weinbach, R., & Grinnell, R. (2007). *Statistics for social workers* (7th ed.). Boston: Pearson Education.
- Wong, J., Salomon, A., Thistle-Elliott, L., Tallarita, L., & Reed, S. (2004). The McKinney-Vento Homeless Assistance Act - Education for homeless children and youths program: Turning good law into effective education. *Georgetown Journal on Poverty Law & Policy, XI*(2), 283-319.
- Wood, D., Valdez, R. B., Hayashi, T., & Shinn, A. (1990). Health of homeless children and housed poor children. *Pediatrics, 6*(1), 858-866.
- Wright, J. D., Rubin, B. A., & Devine, J. A. (1998). *Beside the golden door: Policy, politics and the homeless*. New York: Aldine De Gruyter.
- Zastrow, C. (2004). *Introduction to social work and social welfare*. Belmont, CA: Thomson.
- Ziesemer, C., Marcoux, L., & Marwell, B. E. (1994). Homeless children: Are they different from other low-income children? *Social Work, 39*, 658-668.
- Zima, B. T., Bussing, R., Foreness, S., & Benjamin, B. (1997). Sheltered homeless children: Their eligibility and unmet need for special education evaluation. *American Journal of Public Health, 87*(2), 236-240.
- Zima, B. T., Wells, K. B., & Freeman, H. E. (1994). Emotional and behavioral problems and severe academic delays among sheltered homeless children in Los Angeles County. *American Journal of Public Health, 84*(2), 260-264.

Zlotnick, C., & Marks, L. (2002). Case management services at ten federally funded sites targeting homeless children and their families. *Children's Services: Social Policy, Research, and Practice*, 5(2), 113-122.

Zufferey, C., & Kerr, L. (2004). Identity and everyday experiences of homelessness: Some implications for social work. *Australian Social Work*, 57(4), 343-353.

APPENDIX A: HOUSING STATUS AND READING COMPREHENSION SCORES

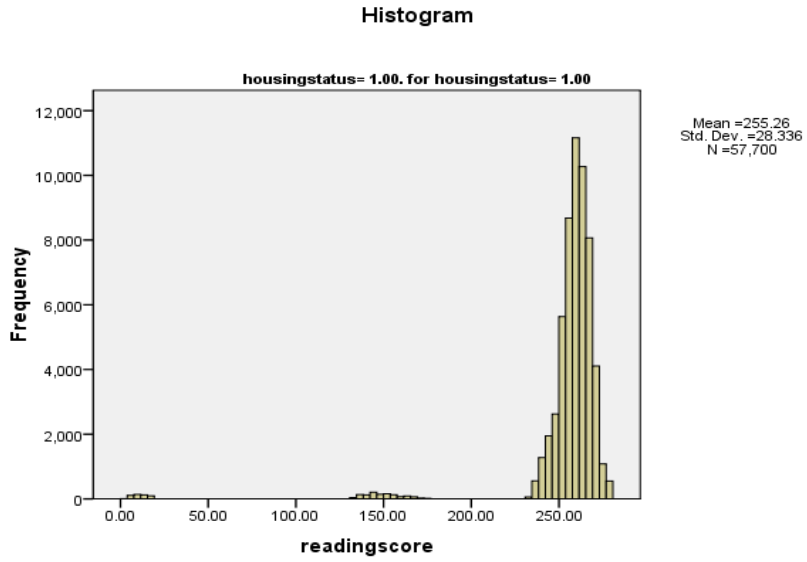


Figure A1. Normally housed (2006) status and reading scores.

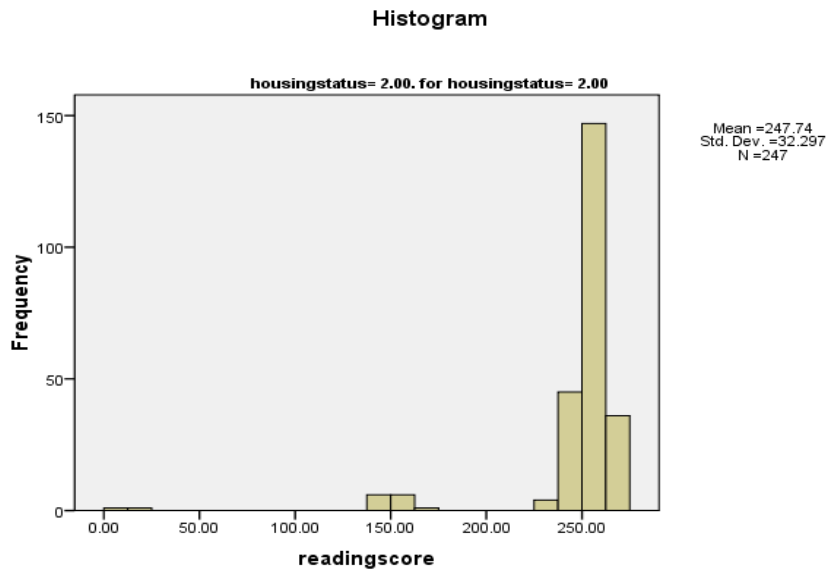


Figure A2. Homeless (2006) status and reading scores.

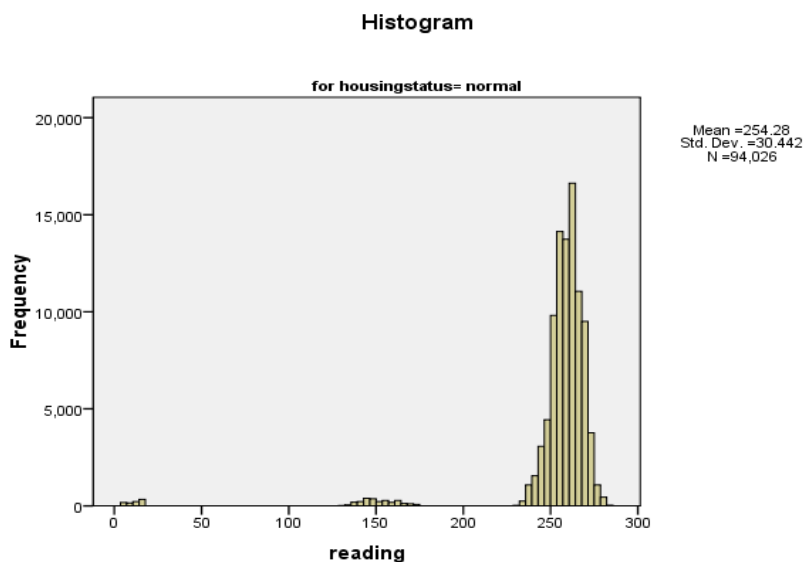


Figure A3. Normally housed (2007) status and reading scores.

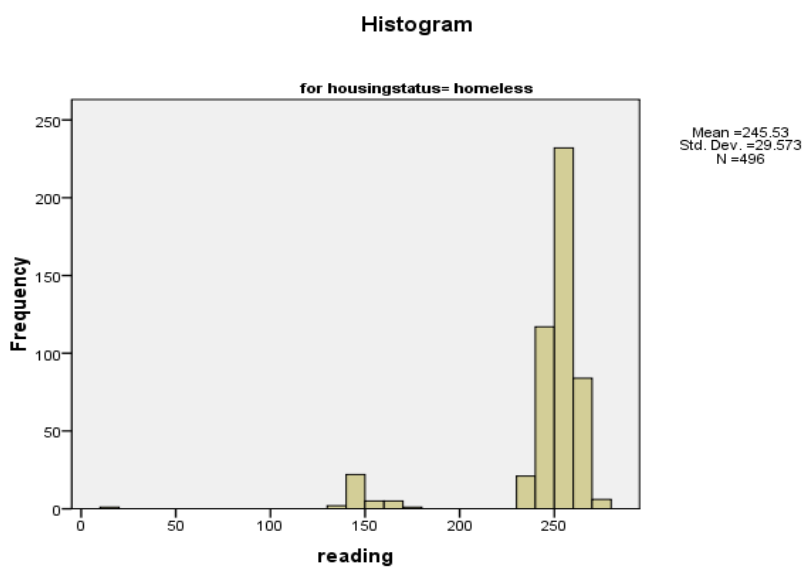


Figure A4. Homeless (2007) status and reading scores.

APPENDIX B: HOUSING STATUS AND MATHEMATICS SCORES

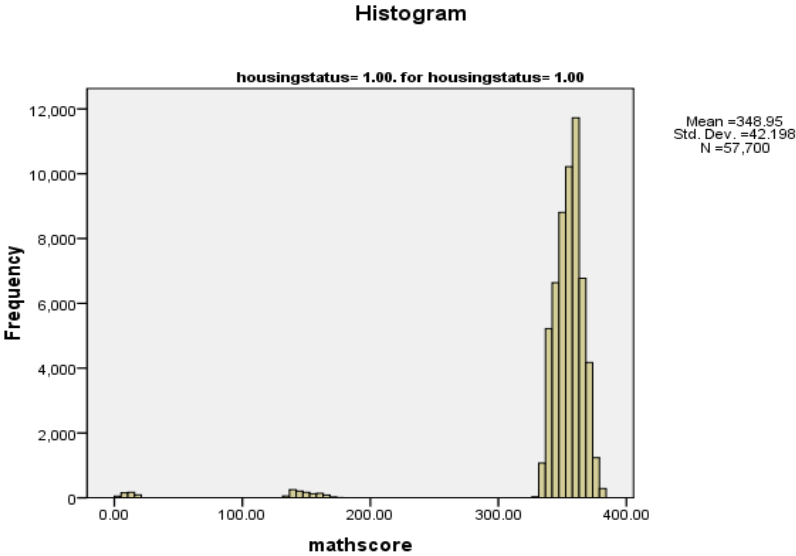


Figure B1. Normally housed (2006) status and math scores.

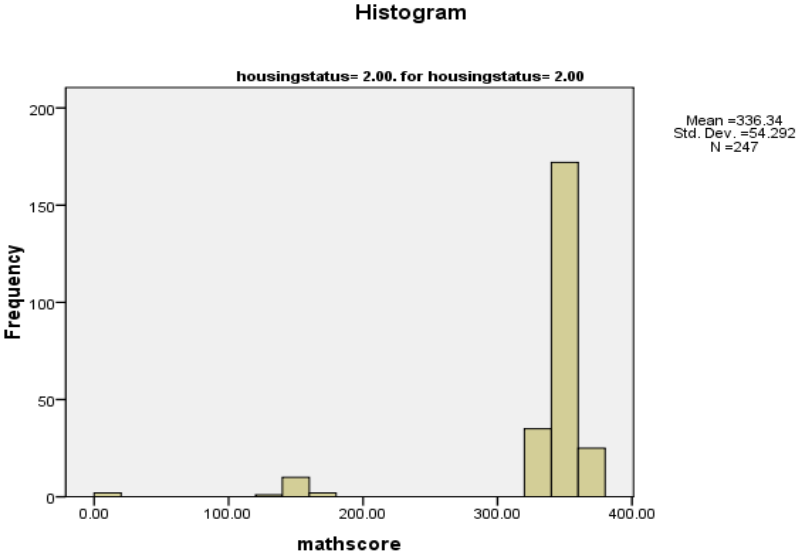


Figure B2. Homeless (2006) status and math scores.

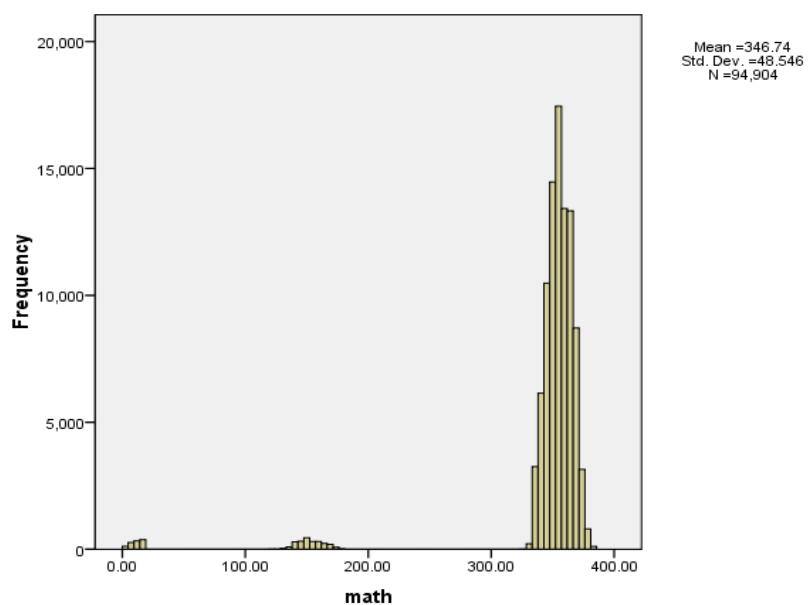


Figure B3. Normally housed (2007) status and math scores.

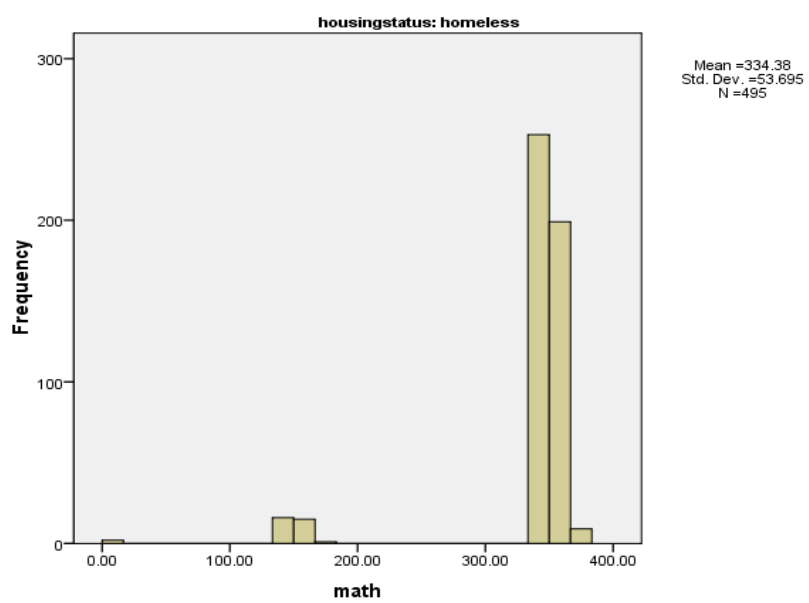


Figure B4. Homeless (2007) status and math scores.

CURRICULUM VITAE

GEORGE ELTON HENDRICKS

EMPLOYMENT

- 2006-Present Methodist University, Social Work Department Chair
Associate Professor of Social Work
- 2001-2006 Methodist College, Adjunct Instructor of Social Work
- 1994-2006 Cumberland County Schools, School Social Worker

EDUCATION

- 2010 Walden University, Ph.D. in Human Services
- 2002 University of San Diego, Postgraduate coursework
- 2001 Fayetteville State University, Postgraduate coursework
- 2000 East Carolina University, Master's in Social Work
- 1994 East Carolina University, Bachelor of Science in Social Work, Cum Laude
Baccalaureate speaker (selected by classmates)
- 1990-1991 Methodist College, Undergraduate studies in the liberal arts

PUBLIC APPOINTMENTS

- 2008-Present St. Andrew's United Methodist Church, Board of Trustees
- 2007-Present Board Member, Myrover Reese Fellowship Home (substance abuse
halfway house)
- 2006-Present Board Member, Cumberland County Department of Social Services

RECOGNITIONS

- 2010 Walden Winter Research Symposium- Poster presentation, Dallas, Texas
- 2007 REACH Grant - One of 35 national recipients in a research program in
social work education

- 2006 Who's Who Among American College Teachers (2006 class)
- 2004-2005 Cumberland County Schools Social Worker of the Year
- 2000 Developed the Faye Huckabee Award (Cumberland County School Social Worker of the Year)

Phi Kappa Phi Honor Society

Phi Alpha Social Work Honor Society

Chi Delta Chi Honor Society

Kappa Delta Pi Education Honor Society

Sigma Omega Chi

LEADERSHIP RESPONSIBILITIES

- 2007-2008 Council on Social Work Education Accreditation Process Director, Methodist University
- 2007-2008 North Carolina Department of Public Instruction School Social Work Accreditation Process Director, Methodist University
- 2007-2008 North Carolina Department of Public Instruction School Social Work Site Visitor