

**SCHOOL UNIFORMS IN
URBAN PUBLIC HIGH SCHOOLS**

by
Virginia Ann Bendel Draa

**Submitted in Partial Fulfillment of the Requirements
For the Degree of
Doctor of Education
in the
Educational Leadership
Program**

**SCHOOL OF GRADUATE STUDIES AND RESEARCH
YOUNGSTOWN STATE UNIVERSITY
November, 2005**

SCHOOL UNIFORMS IN URBAN PUBLIC HIGH SCHOOLS

Virginia Ann Bendel Draa

I hereby release this dissertation to the public. I understand that this dissertation will be made available from the OhioLINK ETD Center and the Maag Library Circulation Desk for public access. I also authorize the University or other individuals to make copies of this dissertation as needed for scholarly research.

Signature:

Virginia Bendel Draa 11/30/2005
Virginia Bendel Draa, Student Date

Approvals:

Charles B. Vergon 11/30/2005
Charles B. Vergon, Dissertation Advisor Date

G. Edirisoorya 11/30/2005
Gunapala Edirisoorya, Committee Member Date

Gordon G. Frissora 30 NOV 05
Gordon G. Frissora, Committee Member Date

Victoria White Kress 11/2005
Victoria White Kress, Committee Member Date

Peter J. Kasvinsky 12/12/05
Peter J. Kasvinsky, Dean of Graduate Studies Date

ABSTRACT

The purpose of this study was to determine whether or not the implementation of a mandatory uniform policy in urban public high schools improved school performance measures at the building level for rates of attendance, graduation, academic proficiency (as measured by school proficiency test pass rates in Reading and Math), and student conduct (as measured by rates of suspensions and expulsions). Sixty-four secondary schools serving students in grades 9-12 in Ohio's eight largest cities were included in this study.

Four comparisons were used to ascertain if the school uniform policy influenced improvements in school performance measures, employing a quantitative, causal-comparative time-series design. These four methods were used to control for other plausible explanations for improvements in school performance measures by grouping schools locally and statewide, and by matching similar schools based on enrollment demographics and administrators' survey responses. Analyses employed ANOVA and t-tests with Cohen's *d* for small sample size.

Through these four comparisons, a pattern emerged that indicated improvement in rates of attendance, graduation, and suspension, but not in academic proficiency or expulsion rates in these schools with uniform policies. It was also determined that schools with uniform policies had higher proportions of economically disadvantaged and minority students than the larger population of urban public high schools. Implementation of a uniform policy in these schools may be effective for improving rates of attendance, graduation, and suspensions. These results may be important considerations for urban public schools seeking alternative means to improve their performance outcomes.

ACKNOWLEDGEMENTS

I want to first thank the members of my dissertation committee for their support and gracious service on my behalf. I especially want to thank Dr. Charles Vergon for his insightful assistance with every aspect of this project. His patience, understanding, good advice, and persistence in requiring precision and accuracy were vital to the successful completion of this work. Drs. Edirisooriya and Frissora were particularly helpful with the statistical analysis, and Dr. Kress's assistance with APA style. I want each of you to know how grateful I am for your encouragement and all of your efforts on my behalf.

I also want to express my gratitude to my husband, Chuck, without your support and encouragement, this effort would never have come to fruition. Thank you for always being there, and for all you have done to fill in the gaps at home throughout my years of schooling, and especially for while I toiled countless hours on this project. You complete me.

My family, colleagues, and friends also need a word of thanks. I especially want to thank my children, Aaron and Natalie, for their understanding and tolerance these past several years, as I know I have not always been there for them the way they needed me to be. Aaron, thank you for checking up on my in the wee hours of the morning. Natalie, thank you for helping me with little details, and for proofreading when my eyes could no longer focus. You are wise and capable beyond your years. To my mother-in-law Emma, and my sister-in-law Elaine – Thank you for catching the balls I was juggling, when I happened to drop one. A word of appreciation also needs to go to my colleagues in the Department of Human Ecology at YSU for their encouragement and understanding these past months while I focused on this paper instead of my many duties in the department. Among those who always cheered me on, or listened patiently when I needed an ear to either explain or complain include: Jean Hassell, Janice Elias, Carol Hawkins, Louise Pavia, Pastor David Bennett, Bill Shrader, Susie Moore, Paula Beiser, Nadine Hernan, and Roberta Dorsey. I also want to thank Israel Ajayi for his assistance with analyzing and interpreting data, Dominic Leon and Vi Williams for endless trips to the library, Stephanie Cox for assistance with data collection, and David Maravola for technical support.

Lastly, I want to thank my parents, Richard and Mildred Bendel, for teaching me to value education, and for always encouraging me to work toward my dreams. I do not know who I would have become, if you had not given me the confidence to believe I could accomplish anything I wanted. Therefore it is with love and gratitude that I dedicate this work in memory of my mother, Mildred J. Bendel.

TABLE OF CONTENTS

ABSTRACT.....	iii
ACKNOWLEDGEMENTS.....	iv
TABLE OF CONTENTS.....	v
TABLE OF TABLES	vi
CHAPTER I.....	1
INTRODUCTION.....	1
Statement of the Problem.....	1
Background.....	1
Purpose of the Study.....	9
Significance of the Study.....	11
Limitations and Delimitations	13
Definition of Terms	13
CHAPTER II.....	18
REVIEW OF THE LITERATURE.....	18
Clothing, Appearance, and Role Theory	19
School Uniforms and Social Control.....	22
Research on the Effects of School Uniforms.....	33
Summary of the Literature Review.....	48
CHAPTER III	50
METHODOLOGY	50
Design of the Study	50
Population.....	50
Data Collection.....	53
Data Analysis.....	55
CHAPTER IV	65
ANALYSIS OF THE DATA	65
Comparison One	68
Comparison Two	88
Comparison Three	98
Comparison Four	103
Summary of all Four Comparisons.....	
CHAPTER V	155
RESULTS, CONCLUSIONS, AND IMPLICATIONS.....	155
Effectiveness of Uniform Policies on School Performance Measures.....	158
Recommendations for Further Research.....	184
Summary and Conclusions	187
REFERENCES:	192
BIBLIOGRAPHY	201
APPENDIX A	203
APPENDIX B.....	206
APPENDIX C.....	215
APPENDIX D	224

TABLE OF TABLES

TABLE 1 – SCHOOL DEMOGRAPHICS FOR ALL SCHOOLS..... 67

TABLE 2 – COMPARISON 1 – SCHOOL U1 71

TABLE 3 – COMPARISON 1 – SCHOOL U2..... 73

TABLE 4 – COMPARISON 1 – SCHOOL U3..... 75

TABLE 5 – COMPARISON 1 – SCHOOL U4..... 77

TABLE 6 – COMPARISON 1 – SCHOOL U5..... 80

TABLE 7 – COMPARISON 1 – SCHOOL U6..... 82

TABLE 8 – COMPARISON 1 – SUMMARY OF ALL SIX SCHOOLS 84

TABLE 9 – COMPARISON 1 – AGGREGATED FOR ALL SIX SCHOOLS 86

TABLE 10 – COMPARISON 2 – SCHOOL U1’S DISTRICT 90

TABLE 10 – COMPARISON 2 – SCHOOL U5’S DISTRICT 93

TABLE 12 – COMPARISON 2 – SCHOOL U6’S DISTRICT 95

TABLE 13 – COMPARISON 2 – SUMMARY 97

TABLE 14 – COMPARISON 3 – ALL SCHOOLS..... 101

TABLE 15 – COMPARISON 4 – SCHOOL U2 AND MATCHED SCHOOL DEMOGRAPHICS 109

TABLE 16 – COMPARISON 4 – SCHOOL U2 COMPARISON WITH MATCHED SCHOOL 112

TABLE 17 – COMPARISON 4 – SCHOOL U3 AND MATCHED SCHOOL DEMOGRAPHICS 116

TABLE 18 – COMPARISON 4 – SCHOOL U3 COMPARISON WITH MATCHED SCHOOL 118

TABLE 19 – COMPARISON 4 – SCHOOL U4 AND MATCHED SCHOOL DEMOGRAPHICS 123

TABLE 20 – COMPARISON 4 – SCHOOL U4 COMPARISON WITH MATCHED SCHOOL 125

TABLE 21 – COMPARISON 4 – SCHOOL U5 AND MATCHED SCHOOL DEMOGRAPHICS 129

TABLE 22 – COMPARISON 4 – SCHOOL U5 COMPARISON WITH MATCHED SCHOOL 131

TABLE 23 – COMPARISON 4 – SCHOOL U6 AND MATCHED SCHOOL DEMOGRAPHICS 135

TABLE 24 – COMPARISON 4 – SCHOOL U6 COMPARISON WITH MATCHED SCHOOL 138

TABLE 25 – COMPARISON 4 – SCHOOL U1 AND MATCHED SCHOOL DEMOGRAPHICS 143

TABLE 26 – COMPARISON 4 – SCHOOL U1 COMPARISON WITH MATCHED SCHOOL 146

TABLE 27 – COMPARISON 4 – SUMMARY 149

TABLE 28 – SUMMARY OF ALL COMPARISONS 151

TABLE 29 – SUMMARY OF ALL COMPARISONS FOR ATTENDANCE 157

TABLE 30 – SUMMARY OF ALL COMPARISONS FOR GRADUATION..... 165

TABLE 31 – SUMMARY OF ALL COMPARISONS FOR ACADEMIC PROF. IN READING..... 170

TABLE 32 – SUMMARY OF ALL COMPARISONS FOR ACADEMIC PROF. IN MATH..... 172

TABLE 33 – SUMMARY OF ALL COMPARISONS FOR SUSPENSIONS..... 176

TABLE 34 – SUMMARY OF ALL COMPARISONS FOR EXPULSIONS..... 181

CHAPTER I

INTRODUCTION

Statement of the Problem

School uniform policies in the public schools have been the subject of discourse as part of the larger debate on educational reform in recent years. Many school districts across the United States have implemented student conduct policies that include strict dress codes and voluntary or mandatory school uniforms. Proponents of such policies allude to the benefits of student uniforms on specific behavioral and academic outcomes. Specifically, proponents credit uniform policies with improving: school climate, school crime and gang violence, attendance, and academic performance (Kohn, 1998; Stanley, 1996; Thomas, 1994). Critics of such policies disclaim the reported benefits of school uniforms on several grounds. First of all, critics note that much of the evidence is anecdotal in nature or else is based on surveys of perceptions of school officials and community representatives (Brunsma, 2004; Brunsma & Rockquemore, 1998; Pailokas & Rist, 1996a; Seigal, 1996). Moreover, critics charge that actual changes in behavioral and academic outcomes are suspect because the studies do not account for the effects of other reform measures instituted simultaneously with school uniforms, which though less visible, may be more responsible for reported improvements in student behavior and academic performance (Brunsma & Rockquemore, 1998; Murray, 2002).

Background

The school reform movement began in 1983 when President Ronald Reagan appointed the National Commission on Excellence in Education (NCEE). Under the

Supervision of the Department of Education, the commission studied K-16 public education and issued many recommendations focusing on improving student academic performance in secondary education. In A Nation at Risk (NCEE, 1983),

“Excellence is defined in three ways. For the learner, it means performing on the boundary of individual ability in ways that test and push back personal limits in the school and the workplace. For schools, it means that high expectations and goals are set for learners, and every way possible is attempted to assist students to reach them. Excellence in society means that its people respond to the challenges of a rapidly changing world, and adopt policies which enable its people (including students) to be equipped with the knowledge and skills necessary to achieve excellence (p. 12-13).

The Commission also advocated diversity in the education system, stating that:

All, regardless of race, class or economic status, are entitled to a fair chance and to the tools for developing their individual powers of mind and spirit to the utmost. This promise means that all children by virtue of their own efforts, competently guided, can hope to attain the mature and informed judgment needed to secure gainful employment, and to manage their own lives, thereby serving not only their own interest, but also the progress of society itself (p.8).

Advocating a commitment to equity and high quality schooling, the Commission urged the implementation of several reforms that would ultimately have profound impact on our society and economy. Recommendations included: creating policies to reduce student absenteeism, removing administrative burdens and related intrusions from the classroom teacher to facilitate teaching and learning, and maintaining discipline through

the development of firm and fair codes of student conduct which are consistently enforced (NCEE, 1983).

The Role of the Federal Government in Education Reform

The Reagan administration, while acknowledging the Commission's work, did not promise financial assistance to the schools to promote reform. Instead the administration adopted a bully pulpit strategy (Dressed for survival, 1994) for encouraging state leadership in educational reform. However, *A Nation at Risk* (NCEE, 1983) set in motion many reforms in American public education. Beginning shortly after its issuance, state legislatures embarked on a series of measures to improve the educational outcomes for children.

Within a year of the Commission's report, the Education Commission of the States (1984) counted 275 state-level task forces working toward a common goal of excellence in education. All aspects of public education, from textbooks to teacher compensation to graduation requirements, were under scrutiny. Governors in all 50 states delivered messages to their legislatures and populace that were themed on "excellence in education" and encouraged reform centered on accountability practices at all levels of the educational system (USDE, 1984). Since those earlier days, wave after wave of education reforms have been introduced into the nation's schools with the goals of higher academic outcomes and a prepared work force. Excellence in education as well as accountability have been advocated by not only governors and state legislators, but also the Presidents of the United States (Bush, 1990; Clinton, 1996; Reagan, 1983) and the United States Congress (H. Con. Res., 1983; S. 1141, 1991, Excellence in Education Act, 2001).

For the most part, the states adopted their own reform measures, but reported them to the U.S. Department of Education (USDE). There were no real unifying national guidelines for schools' accountability to the states and states to the federal government for all schools and all students until Congress passed the No Child Left Behind (NCLB) Act of 2001, signed it into law by President George W. Bush in January 2002. This legislation called for sweeping reform and accountability measures in all public schools in all states. Included in the NCLB enactments is the requirement that all students will perform at a "proficient level by 2012 (Simpson, LaCava, & Graner, 2004). The expressed goal of the NCLB is to "ensure that all children have a fair, equal, and significant opportunity to obtain a high quality education, and reach, at a minimum, proficiency on challenging state academic assessments (NCLB, 2001) Schools and districts must show adequate yearly progress (NCLB, 2001) on academic proficiency tests and other performance measures that will determine a school district's accountability. Information on such performance measures not only reported as aggregated data for the district and individual school buildings, but also must be disaggregated for various subsets of the populations including those characterized by Disability, Limited English Proficiency (LEP), Economic Disadvantage, Gender, and Ethnicity. Schools that do not demonstrate evidence of adequate yearly progress (AYP) over several years for each subset of the student population for each performance measure face consequences and corrective measures. These may include changes in staffing, transferring students to other schools which do meet the standards, providing tutorial services for students who do not meet the standards on various tests, or reconstruction of the school as a charter school (NCLB, 2001).

Educational Reforms in Ohio

As part of a national report on educational reform initiatives in the various states, the Ohio Commission on Excellence in Education submitted a list of proposed reforms to the National Commission on Education in the States that included learning outcomes, educational equality, delivery systems, and learning conditions (USDE, 1984). Among a lengthy list of educational reforms enacted in Ohio throughout the 1980's and 1990's, was legislation and regulations with the intent and purpose of reforming and increasing accountability in Ohio's public schools. In 1983, the Ohio Board of Education (OBE) developed minimum standards for grades K-12 with a requirement for competency-based education programs - - a first step toward a system of education that emphasizes performance over process (Ohio School Boards Association, 2000). In 1987, the Ohio General Assembly passed House Bill 231, which required a statewide 9th grade criterion referenced proficiency-test program in writing, mathematics, reading and citizenship (Ohio Legislative Service, 1989; O.R.C. § 9.44.1, 1989; Ohio School Boards Association, 2000).

Continuing Reforms in Academic Proficiency

Reform legislation continued in 1989 when the legislature passed Ohio Senate Bill 140 (Ohio Legislative Service, 1989). This legislation required the OBE to hold schools and school districts accountable for students' "success in achieving basic educational objectives. Schools and districts would be labeled as either "excellent or "deficient depending on pupil performance outcomes. S.B. 140 also required the adoption of compatible state and local competency-based education programs in language arts, composition, and mathematics (Ohio School Boards Association, 2000). Another

accountability provision of S.B. 140 were the requirements that the OBE adopt rules for a statewide Education Management Information System (EMIS), require school districts to collect and report data for the system to Ohio Department of Education (ODE) annually, which the ODE would compile into annual reports (Ohio Legislative Service, 1989).

In the early 1990's, the OBE responded to S.B. 140 and formulated school performance measures, or standards, based on school district and building continuous improvement plans (O.A.C. 3301-56-01, 1990). The Ohio legislature, under Amended House Bills 55 (passed 1992) and 152 (passed in 1993), eliminated the required use of norm-referenced achievement tests, however, they expanded the use of criterion-referenced proficiency testing from a ninth grade level test to tests for grades four, six and twelve, including citizenship and science for all testing grades (Ohio School Boards Association, 2000). In 1997, Amended Substitute House Bill 55 extended standards-based school accountability measures by creating a set of school performance standards and ratings and requiring school districts to report school performance to their communities by means of an annual school and district report card called the Local Report Card (LRC) (Ohio School Boards Association, 2000). In 2002, EMIS reporting and the format of the LRC were modified to conform to the guidelines of No Child Left Behind (ODE, 2002).

Reforms in School Safety and Student Conduct

While national and state legislative actions for school reform in the 1980's and early 1990's focused primarily on upgrading academic quality, more recent reforms have addressed a broader array of problems. Serious crime and violence in public schools have increased dramatically in recent years (Holloman, LaPoint, Alleyne, Palmer, & Sanders-

Phillips, 1998; Starr, 2000). According to a 1994 survey conducted by the National School Boards Association, 82% of the responding school districts reported an increase in school violence in the previous five years, and 35% reported that violence in the schools had increased significantly. Survey respondents “most frequently cited student-to-student assaults (78%), weapons (like guns and knives) in schools (61%), student-to-teacher violence (28%), racial/ethnic violence (28%), and gang-related incidents (24%) (Blumberg, Dowling, Horton, Majestic, Schartz, Shaw, & Smith, 1995, p. vii). The school districts identified the “primary causes of school violence as: changing family situations (77%), media violence (60%), alcohol/drugs (45%), access to guns (43%), and poverty (40%) (Blumberg et.al. 1995, p. vii). In 1996 more than 100,000 students carried weapons to school each day (Pailokas & Rist, 1996a).

School Uniforms as the Answer to School Problems

In 1996, the Long Beach Unified School District (LBUSD) in California garnered national media attention when it became the first large school district in the nation to require all of its students, grades kindergarten through eighth grade, to wear uniforms. Reportedly, as a result of the adoption of this policy, there were dramatic decreases in school violence, including assaults and batteries, decreases in school crime and suspensions, while there were improvements in attendance and standardized test scores for all grades (Stanley, 1996).

In his 1996 State of the Union Address, President William Jefferson Clinton voiced support for school uniforms. Mr. Clinton stated, “if it means that teenagers will stop killing each other over designer jackets, then our public schools should be able to require their students to wear school uniforms (Clinton, 1996). Using the presidential

“bully pulpit, Clinton called upon school leaders to make uniforms an important part of their efforts to improve schools. He also directed the USDE to distribute the *Manual on School Uniforms* to the nation’s 16,000 school districts (Murray, 2002; Pailokas & Rist, 1996; Starr, 2000). Featured prominently in the manual was information and quotes by officials from LBUSD (USDE, 1996).

The Ohio legislature, along with many other states, responded to the Clinton request by passing legislation to address a number of problems related to school violence and discipline (Stanley, 1996). In 1996, State Senator Scott Nein introduced Senate Bill 279 (Ohio Legislative Service, 1996b) to the 121st Ohio General Assembly, authorizing local boards of education to adopt certain policies related to student conduct, dress and discipline. The bill acknowledged in part that “in order to promote a safe and healthy school setting and enhance the educational environment, a code of conduct or discipline policy may include a reasonable dress code or may establish a school uniform to be worn by the students attending one or more district schools (Ohio Legislative Service, 1996b). That same year, Ohio Representative Randy Gardner introduced House Bill 601 (Ohio Legislative Service, 1996a). The Gardner bill passed unanimously through the House two days after Senate Bill. 279 was introduced in the Senate. When House Bill 601 reached the Senate committee, the text of Senate Bill 279 was incorporated into House Bill 601 (Ohio Legislative Service 1996a, Gardner, R., personal communication, 2002), known as the Alternative Disciplinary Schools bill, which passed both houses in late May of 1996, and was signed into law on July 30, 1996 (Ohio Legislative Service, 1996b). The law expressly states:

In order to promote a safe and healthy school setting and enhance the educational environment, a code of conduct or discipline policy adopted by a board of education may include a reasonable dress code, or may establish school uniform to be worn by the students attending one or more district schools. Any such dress code or uniform policy shall be included in the code of conduct or discipline policy only if all of the following conditions are met: (A) Any specific uniform selected for a school shall be determined by the district board after affording ample opportunity for principal, staff, and parents to offer suggestions and comments. (B) No specific uniform shall be required in any school until the parents of the students in the school have been given six months notice. (C) No specific uniform shall be required in any school unless the board includes in the policy adopted under this section a procedure to assist parents of economically disadvantaged students to obtain uniforms. This procedure may include using school district funds or funds from other sources to provide this assistance. (D) Any policy requiring uniforms shall provide exceptions for students participating in a nationally recognized youth organization that establishes its own uniforms, on those days that such organization has a scheduled function. (O.R.C. § 3313.66.5, 1996).

The law, which became effective October 29, 1996, permitted Ohio schools to adopt mandatory uniform policies beginning in the late spring of the 1996-97 school year.

Purpose of the Study

The purpose of this study is to examine the effects of school uniforms on selected measures of secondary school performance in Ohio's eight largest urban school districts. Specifically, it attempts to ascertain what effects, if any, the implementation of mandatory school uniform policies have on school performance indicators including attendance rates, graduation rates, academic proficiency, and rates of student suspension and expulsion in urban public high schools in Ohio within the context of other school reforms and improvements at the building, local, state and national levels.

Relying on data secured annually through EMIS for these eight districts and the secondary schools operating within them, school performance measures were analyzed over time and compared for those secondary schools that have implemented school uniform policies and those that have not, utilizing multiple modes of comparisons. One comparison matches pairs of schools, one with a uniform policy and one without. The match itself is based on similar demographic characteristics of the student population and school improvement strategies so that the impact of uniform policies on school performance outcomes is isolated. To facilitate the matched comparisons, school building administrators in each of the secondary schools in the eight urban school districts were requested to complete a Survey of School Improvement Strategies Measures. A detailed explanation of the methods to be employed, including the districts that comprise the study, the data sources, the multiple comparisons, and the types of data analyses and statistical tests utilized can be found in Chapter III.

The data collected will be used to answer the following research questions:

1. Do school uniform policies improve School Attendance as measured by Ohio Department of Education EMIS reports on school attendance rates?
2. Do school uniform policies improve school Graduation rates as measured by Ohio Department of Education EMIS reports?
3. Do school uniform policies improve school Academic Proficiency as measured by school proficiency test passage rates on Reading and Math Proficiency tests for grades 9 and 12?
4. Do school uniform policies improve Student Conduct as measured by the number of school suspensions per 100 students or expulsions per 100 students as reported by school districts data management and ODE web site reports?

Significance of the Study

Since the 1994-95 Long Beach Unified School District (LBUSD) initiative, much has been written and published about the benefits and detriments of school uniform policies. The considerable discourse on the advantages and disadvantages of school uniforms is still inconclusive. There have been many anecdotal reports from teachers, parents and administrators stating that violence and negative student behaviors are decreased, while attendance and academic achievement tests scores are increased. A large majority of LBUSD school personnel believed that requiring students to wear uniforms lowered the incidence of discipline problems and violent behaviors (Pailokas & Rist, 1996) and had a positive impact on school climate and learning (Murray, 1997). Yet, the empirical evidence supporting claims that school uniforms improve schools and their performance outcomes remain limited (Brunsma, 2004; Brunsma & Rockquemore, 1998; Holloman, et. al., 1998; Kohn, 1998; Murray, 1997; Pailokas & Rist, 1996b; Seigal,

1996; Starr, 2000; White, 2000). This study examines the effect of school uniform policies on the urban high schools in Ohio that have adopted such policies. The information generated through this study may prove useful to school districts, particularly urban districts in Ohio where school uniform policies may be under consideration as a solution to their particular school problems.

The study may have special significance because of its rigorous design. This study assembles and analyzes empirical data regarding student conduct and academic performance rather than reporting perceptions as most of the previous studies have done (Cohn, 1996; DeMitchell, Fossey, & Cobb, 2000; Murray, 1997; Stanley, 1996; Thomas, 1994). It employs a longitudinal study design of greater duration than most preexisting research (Brunnsma, 2004; Brunsma & Rockquemore, 1996; Murray, 1997; Stanley, 1996). It examines results in multiple schools and school districts rather than just the results in a single or small number of schools or school districts (Murray, 1997; Pate, 1998; Stanley, 1996). It employs a quasi-experimental design, comparing changes in behavior and performance within school buildings before and after policy implementation. Additionally the study compares schools with mandatory uniform policies to schools without mandatory uniform policies over the same period of time, something lacking in virtually all previously published research on the topic (Brunnsma, 2004; Brunsma & Rockquemore, 1996; Pailokas & Rist, 1996a; Seigal, 1996). Additionally, unlike prior research, the design of this study includes a component intended to determine the presence of other school reform measures, programs and strategies, instituted simultaneously with the implementation of school uniform policies. This will assist in controlling for rival alternative explanations for changes between

schools with or without mandatory uniform policies (Creswell, 1994; Lempert, 1966). Finally, this research is unique in that it examines the impact of school uniform policies in secondary schools, particularly those with high school grades (9-12), the age group in which many of the school problems related to adolescent clothing behaviors occurs, as contrasted to the elementary and middle school focus of several of the prior empirical studies (Brunnsma, 2004; DeMitchell, Fossey & Cobb, 2000; Holloman, et.al., 1998; Thomas, 1994).

Limitations and Delimitations

There are some limitations on this study: (1) If data, as reported by the state department of education, the school districts, or the individual school buildings, is inaccurate or fails to conform to state established definitions, it may be difficult to establish differences and similarities; (2) If school personnel are untruthful or inaccurate in their responses on the Survey of School Improvement Strategies regarding other reform initiatives, it may be difficult to determine the effectiveness of school uniform policies; (3) If other unforeseen factors in or near the school environment are present for a time, such as a drug house near the school, a change in school leadership or faculty, or a change in the make up of the student population due to redrawing district boundaries, then measuring the effectiveness of the policy may be affected.

The delimitations of this study are: (1) It is focused on urban high schools in the eight largest urban school districts in Ohio from 1994-95 through 2001-02; (2) Indicators of policy outcomes in this study are only those school performance measures of student attendance, academic proficiency, and conduct

Definition of Terms

For purposes of clarification in this study:

“High School” refers to a comprehensive academic school that includes grades 9, 10, 11, and/or 12. “High School” does not include Career/Technical high schools, which may enroll students from several high schools throughout one or more school districts.

“Implementation Year,” “Policy Implementation Year,” or “Uniform Policy Implementation Year,” refers to the year that the Ohio high schools in this study implemented the requirement that students wear uniforms to school.

“Mandatory uniform policy,” or “School uniform policy,” refers to a written policy adopted by the governing body of a school district requiring students to wear a prescribed set of clothing, or permitting the individual school to adopt a dress code which requires a prescribed set of clothing, during the regular school day.

“Performance Measures” in Ohio refer to several assessment measurements reported to and collected by the ODE for purposes of comparing school performance from school to school, district to district, and year to year. During the years included in the study, the school report card included Attendance rates, Graduation rates, and Academic Proficiency test pass rates.

“School uniform” refers to a prescribed set of clothing that the governing body of the school requires students to wear during the regular school day. For each of the schools in this study where a uniform was mandatory, the clothing consisted of: white or light colored shirts or blouses with collars and buttons; black or dark blue dress slacks or skirts, belts worn at the waist, shirts and blouses tucked in at the waist, and plain dress shoes. No visible labels or logos are permitted on clothing.

Demographic Indicators

“Demographic indicators are used to compare schools in this study. These demographic indicator labels are consistent with the one used on Ohio Local Report Cards (ODE, 2002) and the NCLB (2001)

“Disability or “Disabled indicates students below age 22 who have disabilities that meet the criteria of IDEA and who are receiving special educational and related services in accordance with an Individualized Educational Plan. These disabilities include multiple disabilities, deaf-blindness, hearing impairments, visual impairments, orthopedic impairments, emotional disturbances (SBH), mental retardations, (DH), specific learning disabilities, autism, traumatic brain injury (TBI), and other health related handicaps.

“Economically disadvantaged, or Economic disadvantage, refers to students who are known to be eligible to receive free or reduced price lunch (which means that student family income is at or below 185% of the federal poverty level) or that the students or their guardians are known to be recipients of public assistance.

“Gender indicates whether students are male or female.

“Limited English proficient or “LEP identifies students whose primary language is not English.

Ethnicity Indicators

“Ethnicity categories refer to the racial/ethnic group to which the students belong or with which the students identify:

“American Indian identifies persons having origins in any of the original people of North America and Alaska and who maintain cultural identifications though tribal affiliation or community recognition.

“Asian” identifies persons having origins in any of the original people of the Far East, South East Asia or the Pacific Islands, or Indian subcontinent, including China, India, Japan, Korea, Indonesia, the Philippines, and Samoa.

“Black” identifies non-Hispanic persons having origins in any of the black racial groups of Africa.

“Hispanic” identifies persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race.

“Minority” refers to all non-White Ethnic groups.

“Multi-racial” identifies persons who have origins in two or more of the above options.

“White” identifies non-Hispanic persons who have origins in any of the original people of Europe, North Africa or the Middle East.

Dependent Variables

“Non-uniform Schools” refers to schools included in this study that did not implement a school uniform policy.

“Uniform Schools” refers to schools that adopted and implemented a school uniform policy.

Independent Variables

“Academic proficiency” refers to the percent of the students enrolled in grades nine through twelve that have passed the ninth or twelfth grade proficiency tests in Reading and Math. These proficiency pass rates are referred to as: “Reading 9,” “Reading 12,” “Math 9,” and “Math 12.”

“Attendance rates are measured by the average daily percent of the school enrollment that is in attendance as reported to EMIS.

“Graduation rates refers to the rate of students completing high school with a high school diploma, and is determined through a complex formula established by the EMIS system that considers student attrition from freshmen entering the school building four years prior to the graduation year.

Student conduct

“Student Conduct refers to student behavior and conformity to school rules. Student conduct is measured by the rate of suspensions and/or expulsions per 100 enrolled students as reported to EMIS. A decrease in suspensions or expulsions indicates an improvement in student conduct.

“Expulsions refers to the number of students removed from school for more than 10 consecutive days per 100 students enrolled.

“Suspensions refers to the number of students removed from 1 to 10 days in a given year per 100 students enrolled.

Summary

This chapter set forth the concerns regarding the effectiveness of school uniform policies in general, and in urban public high schools more specifically. The discourse regarding uniform policies within the larger framework of laws and policies intended to reform schools makes them higher achieving and safer places. The significance of this study was explained, limitations of the study were delineated, and terms were defined. Chapter II will review the literature relevant to this study of school uniform policies.

CHAPTER II

REVIEW OF THE LITERATURE

Considerable controversy has surrounded the implementation of school uniform policies in public schools. Such policies have garnered much support from school personnel and community stakeholders alike. Those individuals and special interest groups who oppose school uniform policies also have compelling arguments, questioning the advisability or presumed benefits associated with such policies. School districts that consider such policies need to understand the validity of each proponent's arguments, and more importantly consider the question: Do school uniforms make a difference (Caruso, 1996)?

Although much has been reported in the popular press about school uniforms, there are very few studies that even attempt to empirically test the relationship between mandatory school uniforms and school performance measures. (Holloman et al., 1998; Kohn, 1998; Murray, 1997; Pailokas & Rist, 1996a; Pailokas & Rist, 1996b; Seigal, 1996; Starr, 1998; White, 2000). There exists, however, a theoretical basis related to the social psychology of clothing and appearance that supports uniformity of dress as an influence on individual and group behaviors. This literature review will explore: (1) Theories on the social-psychology of clothing and appearance, (2) School uniforms and social control, and (3) Research examining the effects of school uniforms based on either the perception of key stakeholders or an analysis of empirical indicators of school performance including academic and behavioral outcomes.

Clothing, Appearance, and Role Theory

One theory of clothing and appearance that serves as a basis for the study of school uniforms is role theory. Role theory is related to the use of appearance in the pattern of attitudes and actions taken by an individual in social situations (Mead, 1934; Sarbin, 1954). The specific role that a person plays at any given moment depends upon the situation and upon the person's self-concept. According to role theory, clothing may influence the self-concept and make the role easier to play, possibly determining whether or not a particular role is to be played at all (Goffman, 1959; Kaiser, 1998; Sarbin, 1954; Thomas & Biddle, 1966). Clothing plays a dual role in social interactions. Clothing affects the actions of the wearer, in part determining the role he or she plays in a social situation. Clothing also plays an important part for the perceiver who forms impressions of the wearer and potentially shapes responses to the wearer. Clothing is a simple way to identify the role of individuals within a social context (Damhorst, 1995; Kaiser, 1998; Roach, 1969).

Dress is socially meaningful, serving as a tool for social survival and providing a means for significant social interaction. There exists for everyone a group force that influences clothing choices. In fact, most individuals are willing to jeopardize their own individuality to some degree for the security that comes with identifying with a group. Security is derived from identifying with other group members and gaining their acceptance and approval, a behavior particularly evident among adolescents (Damhorst, 1998; Kaiser, 1998; Roach, 1969).

Body decoration and adornment enable individuals to define themselves. Along with dress, it sets the individual apart, making him or her noticeable and distinguishable

from others. Clothing, as a means of body decoration, also performs this function. The survival of the individual human being depends on his or her survival as a biological organism, as a psychic entity and as a socially acceptable being (Kaiser, 1998; Roach, 1969).

An appreciation of adolescent development and their clothing behavior is central to the study of school uniforms. One of the developmental tasks of this age group is to experiment with clothing and appearance as part of identity formation (Kommer, 1999). Goffman (1959) called clothing and adornment practices “identity kits” which adolescents use to assume various roles within their peer group. This practice includes conformity to group expectations (Kaiser, 1998). Adolescents work at self-presentation, presenting a total “program” or package of clothing, accessories, gestures, and posture to their peers for review in social situations. If the peer group approves, it reinforces the individual’s program and validates his or her self-image. If the reviews are negative, they challenge the individual’s program and changes are made until he or she obtains positive reviews and validation (Goffman, 1959; Kaiser, 1998; Roach, 1969).

A limited degree of preoccupation with clothing, appearance, and related experimentation, is generally accepted as normal adolescent behavior (Holloman et al., 1998; Kommer, 1999; Roach, 1969). The adolescent is a member of a smaller peer society within which most of his or her social interactions occur. This smaller social group maintains limited connections with outside adult society. Therefore, peer approval is more necessary for social survival than is adult approval. Consequently, dressing in ways that ensure social comfort in the presence of peers may contribute significantly to social survival (Kaiser, 1998; Kommer, 1999; Roach, 1969). Styles of adolescent dress

also serve to separate youth from the adult world, signifying their social separation from and economic interdependence on adult society. However, the extent to which adolescent clothing styles remains different from adult clothing styles inspires adult confusion, comment, and conflict within both the home and the schoolhouse (Roach, 1969).

Dress related problems among youth involve the socialization agents in the home, workplace, community, and also in the schools (Holloman et al., 1998). Attendance, attention to instruction and grades suffer when appearance is overemphasized (LaPoint, Holloman & Alleyne, 1993).

One of the major clothing behavior problems of adolescence is the peer pressure on youth to dress fashionably in specific clothing styles, displaying certain labels or expensive brands (Murray, 2002). The rampant consumerism and materialism that is exemplified by contemporary adolescent clothing behaviors are also reflected in several age-related social problems: anger that may lead to violence; sexual activity that may lead to promiscuity, pregnancy, and sexually transmitted diseases; poor academic achievement; suicide and homicide (Holloman et al., 1998).

Youth product manufacturers and marketers have recognized the power that they have to control the adolescent market. Utilizing the media of youth popular culture -- television, movies, popular music, sports, and the streets as marketing tools -- adolescent oriented product manufacturers join the list of the home, the family, the peer group, and the school as the major socializing agents of young people (Holloman et al., 1998; LaPoint et al., 1993).

Recent clothing trends and marketing that targets this age group has created several problems. The rise in popularity of high-priced, name-brand, status-label clothing,

the use of celebrity endorsements to sell clothing and accessory products to the youth market, and the adoption of certain clothing styles by street gangs, have turned the adolescent social environment, particularly the schoolhouse, into a socially dangerous and highly competitive place (Holloman, 1995; Kommer, 1999).

The emphasis on fashion and the high costs of outfitting school children in brand label and status clothing impact on the family budget (Stanley, 1996). Students whose families cannot afford expensive status brand clothing and accessories often create problems in the home as they try to manipulate parents to purchase clothing items for them. Some students will work long hours to obtain money to purchase clothing. Students often delay the purchase of school supplies because they were saving money for clothing and accessories (Caruso, 1996; Holloman et al., 1998). Students may skip school because they do not have and cannot afford the clothing they think they need to be accepted by their peers (Caruso, 1996; Holloman et al., 1998). Other youths will engage in illegal activities to obtain money for clothes, or simply steal the clothing they want in order obtain a fashionable wardrobe (Holloman, 1995; Holloman et al., 1998; LaPoint et al., 1993). There have been numerous reports of school-age children who have robbed and even killed for the status-label apparel and shoes of their victims (Caruso, 1996; Grapes, 2000; Hoffman, 1996; Holloman, 1995).

School Uniforms and Social Control

Proponents of school uniforms make several convincing arguments about the positive effects of school uniforms on the school as an organization. As schools explore ways to unite the students within to work toward common goals, and to enhance the environment in which students work and socialize, the schools argue that uniforms are

worn by workers in many other work environments to foster unity and commitment to a common goal (Joseph & Alex, 1979).

Joseph and Alex (1979) attempted to describe the components of the uniform that may be used to solve the problems of organizational control: differentiation between members and nonmembers, articulation of individual status sets, immediate recognition and validation of the uniformed status, creation of uniformed positions as key statuses, and identification of insiders or outsiders.

The uniform designates a group. One's dress indicates membership in the group. Because of its identification within the group, the uniform assumes the properties of a totemic emblem and embodies the attributes of a group. In a sense, the uniform becomes the group. The uniform provides the symbol of a group toward which the public may demonstrate its attitudes (Joseph & Alex, 1972, p. 720).

Uniforms legitimize the roles in a given situation by certifying membership and role (Joseph & Alex, 1979; Stanley, 1996). The uniform is a symbolic statement that an individual will adhere to group norms and standardized roles. Furthermore, the uniform acts as a guarantee that an upper level in the organization will control the members and, in turn, the members will conform (Joseph & Alex, 1979). Uniform wearers tend to internalize the norms of the group, assuring organizational efficiency. Even if not fully internalized, the wearer in uniform is subject to external constraint by peers, and outsiders aware of the norms to which the wearer is expected to adhere (Joseph & Alex, 1979).

Within the schoolhouse, conflicts over appropriate appearance are frequent. The school exists as a self-contained society for students. Since students represent many kinds of backgrounds, the stage is set for problematic behaviors (Holloman et al., 1998). Administrators usually attempt to ease some of the tensions, social problems and appearance related issues within the school by encouraging conformity in dress. Standardization of apparel is a means of imposing conformity on a group (Joseph & Alex, 1972, Joseph & Alex, 1979). The implied hope is that a degree of uniformity of appearance will reduce some of the distractions of differences and serve as a means of social control (Kommer, 1999; Roach, 1969).

The mission of most public schools continues to expressly include efforts to provide a healthy and safe environment that nurtures the academic, social, and overall development of youth. Problems related to student dress and appearances are a threat to these efforts (Cohn, 1996). The establishment of dress codes and uniform policies serves as an attempt by schools to function as a socializing agent for appropriate school attire and may act as a control on problematic adolescent clothing behaviors (Holloman et al., 1998; Kommer, 1999). The debate over and questions related to requiring school uniforms as a means of promoting the mission of public schools continues.

Since the youth clothing market is primarily profit-driven, rather than oriented toward the well-being of adolescents and their families and environments, schools need to be aware of its force and influence, and act to manage some of the influences of youth-oriented marketing for the good of the school community (Holloman et al., 1998; LaPoint, et al., 1993). At the very least, schools must develop strategies to address the many problems related to appearance (Holloman et al., 1998).

Preoccupation with clothing and appearance detracts from the business of schooling and learning (Kommer, 1999; Roach, 1969). School has become a daily fashion show, and children who do not dress in the requisite styles are often ridiculed or ostracized. Mandatory school uniform policies counter status pressure by peers to imitate a certain style of dress (Caruso, 1996). If there are no logos and no labels, then there is no pressure (Stanley, 1996). Uniforms may improve classroom behavior because they encourage students to live up to the group standard. Teachers have reported that there is a decrease in classroom discipline after implementation of school uniform policies and that they do not spend time looking for dress code violations and reporting them. As a result, they are able to devote more time to instruction (Caruso, 1996).

School is a social environment, and for adolescents one of the primary places where social relationships are formed. Some of those relationships may be based on sexual attractiveness and interest. Clothing further serves as a means to promote sexual attractiveness by stimulating sexual interest. At the high school level, sexual interest is at its peak. Adolescent sexual behaviors, among other appearance related behaviors, may detract from the learning process. Uniformity of dress may be one means of controlling sexual urges and is often a motivation for schools to attempt to control and regulate student appearance (Roach, 1969).

Because school has become an arena for the display of the latest fashions and status label clothing, crime and violence proliferate, as there are some who will commit crimes to get what they want. Competition over appearance results in taunts, fights, thefts, and even murder. Students whose families cannot afford to buy them the status label clothing may rob and steal to get what they want (Caruso, 1996).

Many school dress policies were developed specifically to control the proliferation of the gang clothing style that emerged from the urban culture and found its way into the school social culture (Volokh & Snell, 1997). Gang attire can cause members of rival gangs to be openly hostile to each other, creating an atmosphere of intimidation or disruption. Accidentally wearing the wrong colors or clothing symbols can put a child's life at risk (Stanley, 1996). "Supporters often argue that doing away with gang-related clothing will reduce fighting over real or imagined slights between students, at the same time making the classrooms more business like, based on an assumption that students often act the way they are dressed (Dressed for Survival, 1994, A32).

Parents and community members want public schools that are safe, orderly, and academically focused. According to Cohn (1996), a public school without a primary emphasis on student safety is fraudulent in seeking any other improvement no matter how lofty or noble the purpose may be.

In the late 1990's several incidents of attacks on students and school personnel by troubled adolescents garnered national attention. The most horrific of these events was the Columbine shootings in Colorado (Ogle & Eckman, 2002). Two socially ostracized young men carried automatic weapons into their school building during the lunch periods and opened fire in the cafeteria and library - - places where most of the students gathered during the lunch periods. In the aftermath of the attack, as the media and school officials searched for reasons behind the shootings, attention was drawn to the clothing choices of both of these young men and their small circle of friends. Naming themselves the "trench coat mafia, the group wore black trench coats over black clothing, stereo-typical of the

“Goth clothing style (Grapes, 2000; Ogle & Eckman, 2002). Since the young men had been able to hide their weapons under their trench coats, concerns about students smuggling weapons into school inside loose fitting clothing spread across the nation (Volokh & Snell, 1997), fueled the arguments for proponents of school uniform policies, and became the impetus many schools used to push for mandatory uniform policies (Grapes, 2000).

The ongoing discourse over the implementation of uniform policies and dress codes in public schools reveal some underlying values of schools, families and the community. This debate is also driven by issues associated with the value of individualism, and the privileges, prerogatives, and prerequisites of key stakeholders in issues of adolescent dress; issues that compete for primacy. Conflicting values include, among others: (1) The needs and desires of youth to express their identity through dress and adornment practices and choices versus the responsibilities of schools to ensure that student health and safety needs are met; (2) The prerogatives and prerequisites of educational policymakers to determine school policy versus the role of various human rights organizations, such as the American Civil Liberties Union, to protect the rights of students to look and dress as they desire; (3) The prerogatives and prerequisites of parents to socialize their children in accordance with their own family values, which may conflict or compete with policies adopted by schools and/or school districts; and (4) The prerogatives and prerequisites of clothing and accessory manufacturers, retailers, advertisers, media, and celebrity endorsers to make, sell, and market to children and adolescents goods that may be incompatible in nature or use with the goals of the schools (Holloman et al., 1998; LaPoint et al., 1993).

Since 1996 when the national movement to clothe public schools students in uniforms began, much has been written by both those who are in favor of school uniform policies and those who are opposed to them. In a random survey of 240 principals, the majority of principals did not favor the implementation of mandatory uniforms, but middle school principals were more supportive of school uniforms than high school principals were. Urban school principals were more supportive than were principals in rural and suburban schools (DeMitchell, Fossey, & Cobb, 2000). Before implementing a school uniform policy, schools need to be able to justify the rationale for such an action (Isaacson, 1998). There are arguments both in favor of and in opposition to school uniform policies that deserve consideration. Next, some of the most common arguments are reviewed; first those in favor of school uniforms, then those in opposition to such policies.

Arguments in Favor of School Uniforms

Many legislators, educators, and parents who favor school uniform policies believe that uniforms can increase student safety (Starr, 1998). Because gang identity may be related to certain colors, articles of clothing and ways of wearing clothing and accessories, uniforms may minimize overt symbols of gang activity (Holloman, 1995; Kommer, 1999; Starr, 1998). Because fights and assaults are often associated with dress related problems, requiring students to wear uniforms ensures and promotes a safe school by reducing student-on-student violence (Murray, 2002). Uniforms also help school officials identify those who do not belong on school property (Starr, 1998). Furthermore, if students are dressed in uniforms, there may be a decrease in acts of crime and violence caused by disputes regarding expensive clothing (Starr, 1998).

Supporters also argue that school uniforms set the tone for serious study (Isaacson, 1998; Kommer, 1999), improve attendance (Caruso, 1996; Isaacson, 1998), and improve student behavior and attitudes in school (Starr, 1998). Some students claim that it is easier to come to school when the competitive aspect of fashionable clothing is removed (Caruso, 1996; Kommer, 1999). Since school uniforms mean that all students are dressed the same, they may reduce some of the distractions in the classroom (Murray, 2002; Starr, 1998), thereby enhancing the learning environment (Kommer, 1999; Starr, 1998).

According to Joseph and Alex (1979), uniforms certify the legitimacy of the organization [school] and its members [students] (Joseph & Alex, 1979). Because school uniforms serve as a symbol or representation of the school as an organization within the community (Joseph, 1986; Joseph & Alex, 1979; LaPoint et al., 1993; Stanley, 1996), the school's image within the local community may be enhanced (LaPoint et al., 1993; Stanley, 1996; Starr, 1998).

School uniforms may promote a feeling of "oneness" among students (LaPoint et al., 1993), enhance school spirit and pride (Murray, 2002; Starr, 1998), and help erase cultural and economic differences among students (Isaacson, 1998) thereby promoting unity with diversity.

Some supporters believe that if students learn how to dress appropriately for school, they will later on know how to dress appropriately for the workplace (LaPoint, 1997). In some school communities, parents and local businesses work with the school to design, produce, and sell, for a small profit, unique styles of school uniform clothing and accessories that reduce the student's desire for expensive status label

clothing (Holloman et al., 1998). At the very least, school uniforms reduce families' expenditures for school clothes (Cohn, 1996; Kommer, 1999; Stanley, 1996).

Arguments in Opposition to School Uniforms

Opponents of school uniform policies argue that uniforms are a simplistic approach to solving the larger problems plaguing schools and society. Some opponents stress the legal and financial issues associated with mandatory school uniform policies, and question the effectiveness of such policies (Brunsma & Rockquemore, 1998). Critics also accuse schools of taking a simplistic approach to school violence, one that infringes on students' civil liberties and perhaps may smack of racism since uniform policies single out gang inspired clothing that emerged from the urban culture (Dressed for Survival, 1994, A32).

School uniform policies are viewed as restrictions of students' first amendment rights to freedom of expression in appearance (Caruso, 1996; Isaacson, 1998; LaPoint et al., 1993; Murray, 2002). Such restrictions interfere with young peoples' need to engage in the normal developmental tasks of identity experimentation using clothing or other bodily adornment (Caruso, 1996; Isaacson, 1998; LaPoint, 1997; Murray, 2002).

While some parents argue that uniforms save money, adversaries argue that their children still need clothes after school, on weekends, and during the summer months (Thomas, 1994). Furthermore, such policies may be an intrusion into the private lives of students and parents and their freedom to choose school clothing that they can afford or that expresses their own values (LaPoint et al., 1993, Murray, 2002).

Some view uniforms as tools of administrative power and social control (Caruso, 1996; Isaacson, 1998; Seigal, 1996). Others argue that school uniforms interfere with

students' ability to make choices and internalize personal values. Pailokas & Rist (1996a) contend that students need to learn to make choices and decisions "...based on internal values, rather than functioning with arbitrary rules that set limits for them. Only then can they [students] learn to think for themselves and develop self-discipline (p. 3). Kohn (1998) points out that the more substantial argument is that young people do not learn much of value in an environment where they are excluded from the decision-making process.

Opponents further argue that although children should wear appropriate clothes to school, there is no reason why they should wear identical ones. The attempt to eliminate the gap between the haves and have-nots with school uniforms may be fruitless because students will continue to differentiate themselves from others according to their dress, but in a less obtrusive manner. Students may separate each other by the type of neckties or shirts that are worn based on popularity or expense of the item. They may also add subtle accessories to their uniforms that will continue the separation of students (Caruso, 1996). Even with uniforms, students know who is rich and who is poor, since uniform policies usually do not regulate jewelry, shoes, coats, backpacks, and bikes (Isaacson, 1998; Seigal, 1996).

A related problem may be that uniforms may undermine efforts under way in many schools to understand and appreciate diversity (Stanley, 1996). Uniform policies offer a piecemeal approach to issues of racial and economic injustice (Caruso, 1996; Isaacson, 1998; Siegal, 1996).

Adult perceptions regarding student behavior after school uniforms have been adopted may reflect adult responses to the wearing of uniforms, rather than actual

changes in student behavior (Stanley, 1996). Perhaps uniforms do not make real improvements in school; perhaps the uniform supporters just think that they do.

It is possible that adult perceptions regarding student behavior, and even some adult responses to student behavior, such as imposing school suspensions or other forms of discipline, may reflect adult responses to the wearing of uniforms, rather than actual changes in [student] behavior. If youth are wearing uniforms instead of fashions that may cause adults to perceive them as potentially dangerous, such as those commonly associated with youths involved in gangs and crime, their behaviors may also be perceived as less threatening. This may explain some of the positive perceptions regarding student behavior reported by adults [in settings where school uniforms have been adopted]. Adults may also refrain from imposing stringent disciplinary actions, such as suspensions, because they are interpreting behaviors differently when students are wearing uniforms (Stanley, 1996, p. 433)

Opponents also argue that student dress serves as a barometer of what is going on with individual students and can signal problems such as drugs, gang membership or sexual abuse. Uniforms would eliminate a warning system that helps teachers and administrators identify and rescue students who need help (Pailokas & Rist, 1996). A related argument against uniforms in elementary schools is that because violence involving gangs is generally at the high school level, uniforms in the younger grades are a moot point (Thomas, 1994).

Due to reports of dramatic improvements in student conduct and the related decline in school violence in the Long Beach Unified Schools (Caruso, 1996; Cohn, 1996), much excitement was generated about the potential of school uniform policies to reduce student-on-student violence in schools. However, the enthusiasm over school uniforms may lead educators and stakeholders to perceive the initial evidence of violence reduction as permanent. If uniforms are in fact a simplistic approach, and the underlying problems persist, violence may resurface despite the presence of uniforms. Without other measures in place to deal with a resurgence in violence, schools may not be equipped to handle a problem they thought they had solved. Along with the euphoria of early positive results may have come a tendency to overstate possible benefits and overlook potential costs (Pailokas & Rist, 1996b). Seigal (1996) argues that the debate over school uniforms is a diversion. He argues that we need to be very cynical about political leaders who promote uniforms in the face of crumbling school buildings, overcrowded classrooms, and dwindling educational funds.

Research on the Effects of School Uniforms

In the 1990's, when national attention was drawn to a myriad of school issues, reports in the media heralded school uniform policies as the solution to a host of problems (Dressed for Survival, 1994; Gowen, 1996; Hatfield, 1992). Some recommendations were based on the results reported for one or a few schools (Behling, 1994; Behling, 1995; West, Tidwell, Bomba, & Elmore, 1999), one variable (Murray, 1997), or one district (Stanley, 1996), and then only over a short duration. Nevertheless, school uniforms were seen by some as the salvation for problem schools in problem communities (Caruso, 1996; Cohn, 1996). Many of the early studies on school uniforms

were based on the perceptions of school personnel and students, and involved small samples of individuals or schools (Behling & Williams, 1991; Behling, 1994; Behling, 1995; Parr & Halperini, 1978; Stevenson & Chunn, 1989; Wilson, 1999).

A few studies tested the relationships between school uniforms and other factors including student performance outcomes (Murray, 1997; Pate, 1999). Very few studies of multiple schools (Pate, 1999; Stanley, 1996) or large numbers of students (Brunsma, 2004; Brunsma & Rockquemore, 1998) have been conducted. Since the early flurry of research activity when school uniform policies were a novelty among public schools, little research has since been done. There still exist few empirical studies to support the arguments that requiring students to wear uniforms actually improves the school's performance and environment, or the students' performance and environment or the performance behavior of students (Brunsma, 2004; Murray, 2002; Pailokas & Rist, 1996a; Seigal, 1996).

The Long Beach Unified School District Initiative

The empirical research on school uniforms that does exist was spurred by the initiative in the Long Beach Unified School District (LBUSD). In 1994, LBUSD became the first school district in the United States to require all students in grades K-8 to wear uniforms. Stanley (1996) studied the implementation of the mandatory uniform policy in LBUSD over a period of three years. She reported that in the first year of implementation results indicated substantial reductions in suspensions, and considerable decreases in crimes, including assault with a deadly weapon, fighting, sexual offenses, robbery, extortion, possession of chemical substances, possession of weapons or look-alikes, and

vandalism. Stanley's study included surveys of adult stakeholders and students and school reports of various data before and after the implementation of the uniform policy.

School administrators perceived that uniforms had a positive influence on student behavior. All adult school personnel perceived a safer school environment.

Administrators and teachers perceived improved behavior, increased cooperation, improved student attitude, increased work ethic, fewer playground conflicts, fewer dress code violations, and increased student courtesy. Parents similarly reported positive perceptions. They felt that with the uniform policy students realized that they were going to school to learn. Middle school students, however, did not perceive uniforms as reducing fights, helping them fit in, or helping them feel a part of the schools. They did not feel safer going to school. However, elementary students did feel that uniforms made them feel a part of the school, and safer going to and coming from school. "School data on classroom disruptions, playground violence, suspensions, and dress code violations support the link between school uniforms and school safety (Stanley, 1996, p. 433), although Stanley (1996) suggests that caution should be used in interpreting such data.

The Long Beach School District was the focus of other studies as well. Cohn (1996) reported large changes in student behavior in the first year of the required uniforms in the Long Beach Unified School District (LBUSD). During the 1993-94 school year, the Long Beach school board approved several policies aimed at improving attendance, academic achievement, and student safety. Included in the reforms was a mandatory school uniform policy for all 57,500 elementary and middle school students in the district, with a target starting date of September 1994 (Cohn, 1996; Thomas, 1994). During the 1994-95 school year, student suspensions dropped 32%, school crime dropped

36%, and there were 51% fewer fights. Vandalism decreased 18%, contributing to an annual savings of \$100,000 in repair costs. Overall, in the first year LBUSD experienced 36% fewer incidents of crime in the kindergarten through eight grades. Suspensions in the elementary and middle schools dropped significantly, and although uniforms were not required at the high school level, suspensions for grades 9-12 dropped 9%. In follow-up information sessions with the school community, the audience vocally supported the extension of the mandatory uniform policy to the district's high schools (Cohn, 1996).

Officials of the LBUSD maintain that they have seen large increases in attendance and test scores, as well as decreases in crime and discipline problems among their students (Caruso, 1996). According to district teachers, uniforms have fostered a better classroom and learning environment by curbing gang tension and polarization associated with name brand clothing. They have reportedly observed that uniforms level the playing field between the haves and the have-nots (Caruso, 1996).

A number of these studies assume, either explicitly or implicitly, that uniforms are the sole factor causing change in numerous behavioral and academic outcomes (Brunsma & Rockquemore, 1998). However, Pailokas and Rist (1996a) argue that without a careful assessment of data over time, and the elimination of competing explanations for why the reductions have taken place, the data from Long Beach and other schools are suspect. Even though the reports from Long Beach paint a rosy picture, it is impossible to give all the credit to the school uniform policy. When the LBUSD introduced its uniform policy, it also took other steps to improve student behavior, such as increasing the number of teachers patrolling the hallways (Seigal, 1996). These other factors may be intertwined with and responsible for the declines in problem behaviors.

Pailokas and Rist (1996a, 1996b) argue that the “Hawthorne effect” also may be at work in the LBUSD, as well as in other schools that show dramatic change at the time of the introduction of school uniform policies. When a group of people is treated in a special way, they may behave differently because of the treatment. When attention is drawn to a problem and it is made more visible, there may be an immediate change. Perhaps the attention to the problems of violence and school distractions in the Long Beach Schools increased parental involvement in the schools and in their children’s lives; yet, the more visible change, the school uniform policy, has garnered the credit. It should also be noted that the Long Beach data reports on the effects of school uniforms in grades kindergarten through eighth grade. The realities of violence and other problems in LBUSD high schools are not addressed with any other data from the Long Beach schools.

Studies of Perceptions Related to School Uniforms

A few studies in addition to those focusing on the LBUSD experience address the perceptions of parents, school personnel and students. Perceptual studies have value in explaining the actual and perceived influences of school uniforms and other clothing, and flow out of social-psychology research methodology (Kaiser, 1998).

In a study of fourth graders in one urban school, West et al. (1999) found that the majority of parents (56%) favored school uniforms. Perceptions of the majority of parents indicated that uniforms improved the learning environment, promoted school spirit, and discouraged violence. Most also agreed that uniforms cost less than most other types of clothing.

A series of studies on appearance perceptions by Behling (1994, 1995) and Behling and Williams (1991) tested the theory of the “halo effect” in which non-observed

character traits are assigned to an individual based on nothing more than the clothing and appearance of an individual (Behling & Williams, 1991; Kaiser, 1998). In the 1994 study, Behling tested the theory in urban schools with minority populations. Subjects were shown pictures of models dressed in various styles. Two styles of dress were viewed favorably by the subjects: the contemporary style of dress that they referred to as “cool and a style of dress popularly described as “preppie. Models dressed in the preppy style of a plain shirt and pants (for males) or skirt (for females) were perceived as being more intelligent and as having more academic potential. In the 1995 study, Behling used pictures of male and female models (four each) dressed in two uniform styles, typical adolescent clothing, and jeans and sweatshirts. Similarities and differences in both private and public schools and among students and teachers were compared. Behling (1994; 1995) concluded in both studies that clothing could produce a “Halo effect wherein students’ perceptions of each other may be influenced by the clothing that they wear. In the 1991 study, Behling and Williams also tested the “Halo effect using the same types of pictures on both high school student and teacher perceptions of behavior, scholastic ability, and potential for academic success. Models dressed in jeans and sweatshirts received the most negative reviews, and males dressed in casual clothing were perceived as more likely to cause behavior problems according to both students and teachers. Models in uniforms were perceived by teachers and students to be well behaved, academically oriented, with higher intellectual ability. Their research (Behling & Williams, 1991; Behling, 1994; Behling, 1995) found that students who wear school uniforms seem to be perceived by their peer group as more attractive than those wearing the usual student attire. They are perceived as having more leadership ability, as being

more accomplished at a task, and more intelligent (Murray, 2002). While perceptions matter, they may or may not be borne out by actual data that seek to measure changes in school performance measures.

Empirical Studies of Uniform Policy Outcomes

There are several types of studies that attempt to assess school or students' outcomes associated with the implementation of school uniform policies. These include studies of single schools, studies of multiples schools that have implemented uniform policies, and one study that used a control or comparison school in an effort to isolate outcomes that might be attributable to the adoption of such a policy. In addition to these school-focused studies, a few researchers have used large national data sets to attempt to discern differences in student outcomes associated with different types of schools, school policies or performance characteristics. These studies are reviewed in turn in this section of the literature review.

Hoeffler-Riddick and Lassiter (1996) reported on the implementation of a mandatory school uniform policy in a middle school in Norfolk, Virginia. Students' responses on a self-esteem instrument were compared with students' records. First year findings indicated that students benefited by enhanced self-image, improved academic performance, and increased school participation. The schools also reported a decline in discipline infractions, improved attendance, and improved instructional climate. However, when Hoeffler-Riddick (1999) analyzed grade point averages, attendance, and disciplinary report data from a group of ninth grade students who had attended the middle during the last year without uniforms (sixth grade) and the first two years following the implementation of the policy (seventh and eighth grade), a different pattern of results

emerged. Findings revealed that although the first year after the policy implementation showed a significant decline in discipline problems (office referrals, rule violations, and out-of-school suspensions), the trend reversed itself in the second year, and all categories of discipline problems increased to levels higher than the year before uniforms were required. Furthermore, over the three-year period, there was a continued decline in attendance, as well as grade point average and self-esteem (Hoeffler-Riddick, 1999).

In another study of implementation of a uniform policy in an elementary school, this one in Arizona, Williams-Davidson (1996) examined processes, problems, and critical elements that surrounded the enforcement of a voluntary student uniform policy in an urban elementary school over a fifteen-month period. She concluded that how a situation is framed varied greatly between proponents of school uniforms and those opposed to the policy. She further concluded that there were no effects of uniforms that could not be traced to other procedural, curricular, policy or other changes occurring in the school building that coincided with the implementation of the school uniform policy (Williams-Davidson, 1996).

In another study of school uniforms at the elementary level, Murphy (1997) followed the implementation of a uniform policy using a mixed methodology of in-depth case study analysis, and descriptive pre-uniform policy and post-uniform policy statistics. Discipline referrals, academic achievement on standardized tests, and surveys of the perceptions of parents, school staff, and students were used. Murphy (1997) found that standardized test scores did increase after policy implementation, but she links such increases to consistency in the academic programs and good test preparation, and not to the uniform policy. While student conduct showed an improvement, Murphy (1997)

attributes this to the introduction of a school-wide “problem-solving curriculum. She concluded that a school uniform policy should be part of a larger comprehensive plan that includes measures that focus on academic success, such as providing all students with a strong curriculum, high standards for academic performance and behavior, and providing staff with professional development opportunities. She concluded that school success may be related to other factors in the building: a positive and efficiently managed and secure facility with consistent rules and procedures and an inclusive environment for building decision-making. Murphy (1997) further concluded that community factors also were important for the school improvement process and should include: counseling services that coordinate community resources, social services to assist students and their families in need, and instructional support coordinating parental and community involvement (Murphy, 1997).

A limited number of studies employ what might be characterized as a control group. Murray (1997) studied the impact of school uniforms on school climate, comparing two middle schools in a South Carolina school district, one that had implemented school uniforms and another that had not. Using the National Association of Secondary Principals survey on school climate, Murray (1997) compared and found that middle school students in the uniformed school rated the school climate in their building significantly higher than those who attended school in a building with no mandatory school uniform policy.

Several researchers have examined the effects of school uniform policies in a group of schools. Pate (1999) studied six middle schools and 80 elementary schools in two predominately rural school districts in South Florida which had adopted mandatory

school uniform policies. She examined discipline infractions and academic achievement the year prior to and the year in which the school uniform policy was implemented across districts. Using t-tests, Pate (1999) observed that at the elementary school level, a dramatic improvement in academic achievement was noted in the initial year of the policy implementation. School discipline infractions and out of school suspensions also showed a statistically significant decrease at the elementary school level. Middle school students however, did not show a significant decrease in discipline infractions (Pate, 1999).

Stevenson and Chunn (1991) examined the impact of school uniforms on school climate and educational attainment in Washington, D.C. schools, where uniform policies had been in place in some schools since 1989. Surveys were conducted with parents, teachers, principals, and school staff. All indicated that they believed uniforms had a positive impact on school climate. A review of statistical data, however, indicated no significant change in overall attendance or educational attainment after uniform policies were implemented in these schools.

In a study of 21 middle schools and seven high schools that had implemented uniform policies in Texas, Stevenson (1999) examined the impact of uniform policies on discipline incidents, student attendance, fights, weapons possession incidents, assault/battery, and vandalism, as well as the number of suspensions, expulsion rates, and school crimes. All schools in the study were public and largely minority (10.6% white). Using t-tests and citing no other descriptive statistics or controls, Stevenson (1999) found: a 12% increase in school discipline incidents, no significant decrease in fights, weapon possessions, or the number of suspensions. There were no differences before and

after policy implementation for incidents of assault and battery or in total school crimes. There was a slight improvement in attendance and a significant decrease in expulsions. There were no controls for school characteristics or mitigating circumstances within the schools during the time of the study, which may have offered alternative explanations for the improvements in attendance and expulsions.

A study that examined student self-esteem, academic attainment, and attendance, utilizing two demographically similar urban schools, one with a uniform policy and one without, was conducted by Gregory (1998). Using the four dimensional Cooperative Self-Esteem Inventory, Gregory found that students who attended the school with the uniform policy had higher school-academic self esteem. No effects were found for the non-academic aspects of self-esteem. Using Analysis of Variance (ANOVA), Gregory (1998), however, did find significant differences in absences (decreased at the uniform school) and achievement test (increases) in math and language arts.

Besides these studies focusing on specific school buildings and districts, a few studies have utilized national student data sets. Barton, Coley and Wenglensky (1998) and Brunnsma and Rockquemore (1998) utilized the National Educational Longitudinal Study of 1988 (NELS:88) in their separate studies. Barton et al. (1998) did not set out to study school uniform policy effectiveness, but rather tested for the effects of ten policies for discipline and security within schools, school uniforms being one of the ten policies. This study, sponsored by the Educational Testing Service, concluded that there was no correlation between uniforms and achievement or school discipline in any school sector: public, parochial or private. For this study, the twelfth grade student reported responses from NELS:88 for its data set which includes over 4,500 students were used. Brunnsma

and Rockquemore (1998) used the tenth student grade student responses, and Brunσμα (2004) used the eighth grade student and principal responses from the same data set. The data set contains a collection of student reported data from a nationally representative sample of students and their schools, representing all school sectors that were in eighth grade in 1988. Follow-up data was obtained for the same set of students every two years, through their tenth and twelfth grade years. Using multiple regression techniques with the NELS:88 for tenth grade pupils, Brunσμα and Rockquemore (1998) tested a variety of sectors (i.e. students who attended public, private, or parochial schools; in urban, rural, or suburban communities) for the variable of school uniforms. Since the sample of student data was collected prior to the expansion of the school uniform movement of the 1990's, only a small portion of tenth graders in the sample were required to wear uniforms to public schools. When uniformed students were compared to the larger, non-uniformed group, Brunσμα and Rockquemore (1998) concluded that there was no significant difference in attendance, or school related behaviors, and a slightly negative difference in academic achievement. After concluding that school uniforms do not change student school-related behaviors and academic achievement, Brunσμα and Rockquemore (1998) suggested that introducing uniforms may be useful in schools that are making a shift in various policies and procedures in the building or district. They theorized that school uniforms may be a dramatic sign of change in the institution's fundamental way of doing business, and are therefore helpful in accomplishing the organization's goals. However, they stressed that schools should not employ such a policy if they are looking for a miracle cure for the problems that exist within their buildings (Brunσμα & Rockquemore, 1998; Brunσμα & Rockquemore, 2003).

The Brunnsma and Rockquemore (1998) study was strongly criticized by Bodine (2003) who questioned their findings of a slightly negative effect for academic achievement among students who wore uniforms, but within their sector analysis of weighted comparisons of standardized achievement tests, only parochial and private schools were included in the standardized achievement tests comparisons. Brunnsma and Rockquemore (2003) defended their data analysis, stating that “the number of public high schools that had uniform policies in 1990 was negligible (Brunnsma & Rockquemore, 2003, p.73). After offering responses to Bodine’s (2003) critique of their methodology, reporting and analysis Brunnsma and Rockquemore (2003) concluded that education “policy makers who are interested in raising academic achievement should not count on school uniforms to deliver an academic miracle (p.76).

The most extensive report on school uniforms research is Brunnsma’s (2004) book *The School Uniform Movement and What It Tells Us About American Education: A Symbolic Crusade*. Once again using multiple regression for the analysis and national data sets from NCES, Brunnsma replicated his earlier work (Brunnsma & Rockquemore, 1998) using the same data set, NELS:88 for high schools, and a newer data set collected by NCES for elementary schools, the Early Childhood Longitudinal Study (ECLS).

The ECLS began with a study of kindergarteners in 1997 and collected data on the same set of students the following two years of elementary school (1998-1999 through 1999-2000). Data were collected on individual students and on their schools as well. This data set is significant for elementary schools because by 1998-99, 19.5% of American elementary schools had uniform policies (11.5% of public elementary schools),

and by 1999-2000, the number of schools had increased to 26.7%, with an increase to 15.5% of public elementary schools (Brunsma, 2004).

In his examination of uniforms in elementary schools, Brunsma (2004), who writes that he is often called upon to testify on behalf of uniform opponents in lawsuits, found positive and significant correlations for students who wore uniforms with their enrollment in urban schools with high minority enrollment, and with students on free and reduced lunch. These findings indicate that implementation of school uniforms are more likely to occur in urban schools with high enrollments of minority and economically disadvantaged students. Brunsma (2004) also reported significant negative correlations with school uniforms for socioeconomic status, use of metal detectors and security guards, percent of students performing at grade level in reading and math, and parental involvement levels. These findings seem to indicate that public schools with uniform policies are more likely to be schools with high levels of poverty, crime, poor academic performance, and uninvolved parents. In comparisons of school principals' responses, there were negative correlations with school uniforms for school safety climate and educational climate, indicating that administrators of uniform schools felt that their buildings had problems with safety and the overall educational environment (Brunsma, 2004).

In further analysis of the ECLS data, Brunsma (2004) concluded that uniform policies have no affect on kindergartener's reading readiness scores, mathematical aptitude, or general knowledge. However, "uniforms do have a small, significant positive effect on first graders' reading and general knowledge scores (p. 127). When school level analysis was complete, Brunsma (2004) stated that "elementary schools that have

mandatory school uniform policies are not significantly different from those without such policies regarding the percentage of their student body that achieves the reading/verbal or mathematics goals (p. 135).

For his book, Brunnsma (2004) also re-examined the impact of school uniforms on secondary school student performance, this time using data on those who were eighth graders in 1988. Brunnsma, utilizing regression analyses, concluded: that “School uniform policies do not significantly alter eighth grade student’s perceptions of their school’s safety climate (p. 109), [and that] “...school uniforms have a significant negative effect on principal’s perceptions of the safety climate of their schools (p. 110), “...uniforms negatively affect aggregate student and principal perceptions of safety climate of their schools (p. 111). When examining eighth grade standardized achievement, Brunnsma (2004) concluded that “...school uniforms do not significantly affect eighth grade student composite achievement levels [and that] “...uniforms do not have an impact on academic achievement among eighth graders in any subject matter (p. 123-124). At the school level, he concluded that “there are no effects of school uniform policies on eighth grade aggregate reading, mathematics, science or history achievement (p.134) However, Brunnsma (2004) goes on to say that “bivariate correlations do not imply causation [and that] “...one needs to control for other factors that these students bring to their educational experience (p. 125) that impact on the experience of schooling and education outcomes for the student and the school as a whole (Brunnsma 2004).

When turning his analysis to tenth graders, Brunnsma (2004) examined tenth grade reading, math, science, and history achievements separately and concluded that there was “a negative effect for school uniforms on student level reading achievement ...that

“school uniform policies do not have an effect on science or history achievement among tenth graders (p. 121), and that school uniform policies “do not have positive effects on tenth grade student math aptitude and uniform policies offer no significant contribution to the other subjects (p. 120). When school level effects were considered for uniform policies, Brunnsma concluded that “uniform policies have a significant negative effect on aggregate tenth grade achievement (p. 131), and that “high schools with uniform policies score significantly lower than schools without such policies on aggregate tenth grade reading scores (p. 131), ... and math scores (p. 132), and that “there is a negative effect of school uniform policies for aggregate science and history achievement in tenth grade (132). When schools were examined for effects on school level outcomes, Brunnsma determined that “school uniform policies do not have any significant effect on aggregate measures of academic preparedness, pro school attitudes or peer pro school attitudes p. 133). It must be noted, however, that for the eighth and tenth grade inquiries, the actual number of public school tenth grade students who wore uniforms was very small (38 students out of over 4,500).

In his concluding comments, Brunnsma (2004) expressed concerns that the trend to adopt and implement school uniform policies is occurring mostly in urban schools with high proportions of minority and economically disadvantaged students, which may imply that this is a movement that reproduces a “racist and classist social structure (p. 188) at a time when there is a need to “eradicate those differences (p. 188).

Summary of the Literature Review

While there has been considerable discourse on the phenomenon of school uniforms in public schools, and a few empirical studies of the effectiveness of school

uniforms in public schools, there have been inherent weaknesses in most attempts to discover positive outcomes in the schools that can be attributed to school uniform policies. Most of these studies have been relatively small (Gregory, 1998; Hoeffler-Riddick & Lassiter, 1996; Murray, 1997; Murphy, 1997; Stevenson, 1999; West, et al., 1999). Most have studied performance at the individual student level, and have not examined the outcomes at the school building level (Brunsma & Rockquemore, 1998; Gregory, 1998; Hoeffler-Riddick & Lassiter, 1996; Murray, 1997; Murphy, 1997, Stevenson, 1999). Most have not studied schools for a long enough duration to determine if a trend has emerged that can be attributed to the presence of a school uniform policy in the school or a set of schools (Gregory, 1998; Hoeffler-Riddick & Lassiter, 1996; Murphy 1997; Murray, 1997; Pate, 1999; Stanley, 1996; Stevenson, 1999) or have not used data that was collected after the 1996 school uniform movement began (Barton et al., 1998; Brunsma & Rockquemore, 1998; Brunsma, 2004; West et al., 1999). While Stevenson (1999) and Murray (1997) made attempts to compare similar schools by using non-uniform schools as controls, most studies have not accounted for any other mitigating circumstances within the school or the community, or accounted for the introduction of, or changes in, other policies, initiatives, or strategies aimed at improving school performance measures, as recommended by Pailakos and Rist (1996a). Furthermore, while a larger proportion of these studies attempted to examine academic outcomes and student performance, none of the studies of high school students examined graduation rates. The methodology of this study, which seeks to overcome some of the weaknesses inherent in previous studies, is described in Chapter III.

CHAPTER III

METHODOLOGY

Design of the Study

The intended purpose of this research study was to ascertain what impact, if any, the adoption of a school uniform policy in an urban high school had on several School Performance Measures which served as the dependent variables. These School Performance Measures included rates of Student (1) Attendance, (2) Graduation, (3) Academic Proficiency, and (4) Student Conduct as defined in Chapter 1. The independent variable for each comparison in this study was the presence or absence of an implemented mandatory school uniform policy in the school building.

Four variations of times-series design were used in this study to examine the impact of school uniform policies in urban public high schools in Ohio. According to Lempert (1966):

A legal [policy] impact study represents an attempt to ascertain how a particular law [policy] affects the conduct and attitudes of those individuals, groups or other relevant units within the jurisdiction, or location, where that policy is in force...

Such a study involves the comparison between actual behavior patterns within the jurisdictions having the law [policy] in question and the behavior patterns which would have existed in those same jurisdictions had the law [policy] never been enacted (p. 111).

Since such a comparison could not actually be created as an experiment, this study employed a causal comparative multiple time-series design utilizing a within groups comparison of data over time (before 1995-96 through 2001-02) and a between

groups comparison of data over the same period. Four comparisons were made using the Time-Series Design:

(1) Comparison One - Same School Comparison over Time - an interrupted time series design that compared each of the same schools over time, before and after the policy was enacted (Creswell, 1994; Lempert, 1966);

(2) Comparison Two- Intra-district Comparison - a “control group interrupted time-series design (Creswell, 1994, p.133), which compared each of the schools that had the policy with those schools that did not have the policy within the same school district during the same periods of time;

(3) Comparison Three - Statewide Comparison - combined the first two approaches, merging all schools in the state that had the policy [experimental group] and comparing them with all schools in the state that did not have the policy [control group] (Box, Jenkins, & Reinsel, 1994; Lempert, 1966);

(4) Comparison Four – Matched School Comparisons - utilized a time series design, and a carefully matched “control (Creswell, 1994) school for each of the schools with a uniform policy to control for plausible and rival hypotheses (Lempert, 1966). For purposes of Comparison Four, school administrators were surveyed regarding school improvement strategies other than school uniforms that were implemented in the urban high school buildings during the years included in the study.

Pailokas and Rist (1996a, 1996b), recommend that to empirically study and understand the effectiveness of school uniform policies, three strategies should be employed: (1) use of trend data within the school or district to determine if changes are true changes, (2) comparison of uniformed schools (experimental group) with non-

uniformed schools (control group) on various outcomes, and (3) adequate measurement of and control for intervening variables and processes for statistical analysis to determine cause and effect relationships. Through the methods employed in the four comparisons in this study, these three requirements are all met.

Population

The population for this study was high schools in urban school districts in Ohio. These included high schools in the eight urban school districts in Ohio identified by ODE as the “Big Eight” (ODE, 2003). These eight urban school districts include: Akron, Canton, Cincinnati, Cleveland, Columbus, Dayton, Toledo, and Youngstown. These districts operate 70 comprehensive high schools serving students in grades nine or ten through twelve. In four of these eight urban districts, one or more high schools adopted a mandatory school uniform policy. A total of six high schools across these four districts adopted uniform policies during the period studied. The other 64 high schools in these eight districts operated without a school uniform policy. High schools were determined to have school uniform policies from information obtained on the respective school’s web sites or via electronic or telephone communication with the school or district initiated by the researcher in February 2003. In one school district, all three high schools required students to dress in a school uniform. In the other three districts, there was a single high school with a mandatory uniform policy that was adopted between 1996 and 1998. All six schools implemented the mandatory uniform policy at the beginning of the 1997-98 school year.

This research study was approved by the researcher’s dissertation committee at Youngstown State University (See Appendix A) and by the University’s Human

Subject's Review panel (See Appendix A) in October, 2003. Data collection began in December 2003 and continued for 13 months.

Data Collection

Data were collected from three primary sources: (1) the Ohio Educational Management Information System (EMIS), (2) archival records of each of the eight school districts, and (3) a survey of school building administrators.

Collection of Data for the Performance Measures

Most of the quantitative data that was used in this study was collected by the individual schools and districts, and reported to ODE as part of the school's annual EMIS report. Most of the data were then compiled and published by ODE, and was accessible and downloadable in a variety of ways through the department's interactive Local Report Card (LRC) web site (ODE, 2004). The data that were not accessible from the LRC web site were requested in writing from that data management officer of each of the eight school districts.

The EMIS data utilized for this study included: school attendance rates, school graduation rates, and school proficiency test pass rates for reading and math for Grades nine and twelve. Reports of these data to the EMIS system began in the 1994-95 school year. Data collection for this study began with the 1994-95 school year and ended with the 2001-02 school year to ensure comparability over time since the ninth grade proficiency test was replaced by a tenth grade Ohio Graduation Test the following year. Usable data for most of the years included in this study were found and recorded for 64 high schools in the Big Eight school districts. For charts listing the data of all schools for all the years included in this study see Appendix B.

A different procedure was utilized to obtain data on student conduct. Reports of district suspensions and expulsions in the Big Eight school districts were made to ODE beginning in the mid 1990's, although the numbers were not publicly reported for individual school buildings within districts until 2000. A copy of early expulsion data by school building for all of the Big Eight schools was made available to the researcher by one district EMIS administrator. Therefore, expulsion data for all schools in the study is complete. School districts maintained records on suspensions for most of the years of the study and furnished the data upon written request; however, suspension data for some school districts for 1994-95 and 1995-96 was not available and consequently was not included in the analysis for those schools and districts (See Appendix C).

Data for all high schools from the Ohio Big Eight districts were recorded by year and by variable on electronic spreadsheets using the Microsoft Excel[®] program (See Appendices B and C). Once data were in a usable format in the spreadsheets, they were imported into the SPSS[®] program for analysis.

Collection of School Demographic Data

The purpose of collecting building level demographic data was to permit the matching of individual Uniform schools with Non-uniform schools on the basis of similar demographic characteristics commonly believed to influence school performance measures such as those being used in this study. Demographic data were collected for the following categories: (1) Disability, (2) Economic Disadvantage, (3) Limited English Proficiency, (4) Gender, and (5) Ethnicity. These data were first reported by ODE on the Local School Report Cards in 2000-01, and the 2001 interactive Local Report Card was the source of this demographic data (ODE, 2004). Demographic data for

all high schools from the Ohio Big Eight Districts was recorded on electronic spreadsheets using the Microsoft Excel[®] program (See Appendix D).

Collection of School Improvement Strategies Data

In addition to the data on school performance measures and school demographics, information was gathered regarding other school improvement strategies that were implemented by the school buildings included in the study. High school principals in each of the eight school districts were identified and an electronic communication was sent to each requesting them to link to a secure web site via the Internet and complete an electronic Survey of School Improvement Strategies. The survey elicited information pertaining to (1) building level implementation of and rationale for the school uniform policies; and (2) other kinds of school improvement strategies implemented during the time period studied (See Appendix E).

The purpose of the survey was to permit the matching of individual Uniform schools with Non-uniform schools on the basis of similarities of adopted school improvement strategies other than school uniforms. Inquiry was made into a number of specific strategies implemented within the schools during the years of the study. The list of school improvement strategies was derived from a review of effective school strategies recommended by several influential sources including governmental departments (ODE, 2001; ODE, 2003; USDE, 2003), professional associations (OSBA, 2000), and research centers (Volkh and Snell, 1997; Carnegie, 2003). school improvement strategies were grouped into four clusters: Policy measures, Security measures, Curriculum measures, and Student Support Services measures.

The survey instructed administrators to indicate which of 37 school improvement strategies had been implemented in their schools and when each strategy was implemented. The survey instrument was “field tested” by four current and former school building administrators who were not included in the study. Once published to the survey website, the same field testers were sent an email communication asking them to link to the web site and assess the effectiveness and ease of use of the electronic survey tool. They then reported back to the researcher on adjustments that should be made on the survey and website.

An initial email request was sent to 70 school building administrators on May 20, 2004. Ten school building administrators responded within a 10 day period. A follow-up email request was sent May 30, 2004. A faxed reminder was sent to the schools the same day. Eight more school leaders responded. On June 14, 2004, a third email reminder was sent to the remaining 46 school principals and a letter with a printed copy of the survey and stamped return envelope was mailed to those buildings. Seventeen completed surveys were received by mail; five mailed surveys were returned blank. From the completed survey responses, it was determined that six of the schools should be eliminated from the study because they did not meet the definition of a comprehensive high school during a portion of the time period being studied. Out of thirty-five completed responses, a total of twenty nine schools, or 42% of the schools that were sent the survey provided usable data for this study. Mailed survey responses were entered on the survey website. The web site recorded and tallied all survey responses by school, which were then downloaded by the researcher as an Excel spreadsheet and subsequently scored for use in the matching process for Comparison Four.

Data Analysis

Lempert (1966), Box et al. (1994), and Creswell (1994) identify several ways to analyze time-series designs. This investigation analyzed individual variables over time, from the period prior to policy implementation through the period following policy implementation in the four different ways or comparisons which were previously described. The time series design, which was utilized in this study, controls “for maturation, regression and certain selection and interaction effects (Lempert, 1966, p.127). Data analysis for each of the four comparisons used the microcomputer program “Statistical Package for the Social Sciences (SPSS).

Analysis for Comparison One – Same School Comparison Over Time

Each individual high school with an implemented school uniform policy (Schools U1, U2, U3, U4, and U5) was examined for changes in School Performance Measures over time. School performance scores for each year before the uniform policy implementation year (1994-95 through 1996-97) were compared with building scores for each year during and after the uniform policy was implemented (1997-98 through 2001-02). For each school, m =measurement of school performance for each year, M =the mean for each variable:

$$M_{Before} = (m_{1995} + m_{1996} + m_{1997})/number\ of\ years$$

$$M_{After} = (m_{1998} + m_{1999} + m_{2000} + m_{2001} + m_{2002})/number\ of\ years$$

School U6 discontinued its policy before 2001-2002, and also did not enroll high school students until 1995-96; therefore, its comparison was for the years without a policy compared to the years with a policy.

$$M_{Before} = (m_{1996} + m_{1997})/number\ of\ years$$

$$M_{After} = (m_{1998} + m_{1999} + m_{2000}) / \text{number of years}$$

Because there were only two groups of data, and the statistical analysis was for repeated measures before and after a treatment (implementation of a school uniform policy), t-tests were used. However, because there were only six to eight measurements for each variable, for each school, the sample size was small; therefore, the reliance on t-tests is open to question (Gravetter & Wallnau, 2004). In order to compensate for this, *effect size* analysis was conducted in addition to t-tests. Gravetter and Wallnau (2004) recommend that Cohen's *d* be used to measure effect size. In this comparison, Cohen's *d* is determined by the mean difference ($M_{difference}$) divided by the pooled standard deviation (SD_{pooled}) plus the number of years inclusive in the measurement (n):

$$M_{difference} = M_{After} - M_{Before}$$

$$SD_{pooled} = \frac{(SD_{Before} n_{Before}) + (SD_{After} n_{After})}{n_{Before} + n_{After}}$$

$$\text{Cohen's } d = \frac{M_{difference}}{SD_{pooled}}$$

The resulting value for Cohen's *d* effect size indicates the following levels of policy effectiveness:

- < 0.2 = not effective,
- 0.2-0.8 = moderately effective,
- > 0.8 = highly effective.

Because Comparison One lacks a control population, which may jeopardize its validity (Box et al., 1994), to increase the validity of the comparison for the quasi-experimental school(s), three other comparisons were conducted.

Analysis of Comparison Two – Intra-District Comparison

To reduce and control for regression, and because some school districts promote common school improvement strategies, but often allow for building-level policy implementation decisions, it is important to examine the differences in schools within the same school district where some schools adopted a uniform policy and some did not. In three districts, each school with a mandatory uniform policy (Schools U1, U5 and U6) was compared with the other high schools within the same district that had no uniform policy during the time period of the study. For each of the schools in School U1, U5 and School U6's districts, the change in mean (M_{Change}) for each School Performance Measure for each school needed to be determined:

$$M_{Change} = M_{After} - M_{Before}$$

To compare the change in means (M_{Change}) in Comparison Two, Single-Factor Analysis of Variance (ANOVA) was used to compare each School Performance Measure of the Uniform School in each of the three districts (the School District for School U1, the School District for School U5, and the School District for School U6) with each School Performance Measure of the Non-uniform Schools within the same district.

Analysis for Comparison Three – Statewide Cross-district Comparison

To compensate for the flaws in regression that may exist in Comparisons One and Two, and because Comparison Two did not include three of the Uniform schools, a third comparison examined a group of four schools with uniform policies (Uniform Schools U1, U2, U3, and U4) with 58 high schools that had no uniform policy (Non-uniform schools) from the Big Eight school districts. Lempert (1966) considers this design “ ‘par excellence’ because if a group of units with the policy can be compared with a group of

similar units without the policy during the same period of time, then the investigator can attribute subsequent changes over time to the policy with a high degree of certainty (p.130). The change in mean (M_{Change}) for each School Performance Measure for each school was subjected to the Analysis of Variance (ANOVA) test.

$$M_{Change} = M_{After} - M_{Before}$$

Analysis for Comparison Four - Matched School Comparisons

Following Comparisons Two and Three, a similar comparison of change (M_{Change}) was used to compare each of the Uniform Schools (Treatment Group) with matched Non-uniform schools (Control Group). In this comparison, Non-uniform schools were matched to Uniform schools with similar Demographic Characteristics and with similar School Improvement Strategies as established via the survey of school administrators. The purpose of this matched school comparison was to establish “quasi-control schools for the Uniform Schools.

Scoring of Survey Responses

For each of the four clusters of school improvement strategies (Policy measures, Security measures, Curriculum measures, and Student Support Services measures), schools received scores for each cluster of strategies initiated Before the uniform policy implementation year (1994-1997), During the uniform implementation year (1997-98), and After the uniform policy implementation year (1999-2002). The indexed numbers were determined by first assigning the numerical value of 1 to each adopted strategy, then adding the numbers as a separate sum for before, during, and after, and dividing each sum by the number of possible strategies. The indexed scores for each cluster were less than

1.0. A fourth score was assigned for the Total of the three scores (Before + During + After = Total). The Total score for each category was determined by adding the indexed scores for Before, During and After. Total scores were less than or equal to 1.0. Schools were sorted as previously described but this time on the basis of improvement strategy scores rather than school demographics. The Non-uniform school that was matched to the Uniform school was the school that showed a match in the most clusters for During and After the policy implementation year and for Total scores. All other schools were not considered.

School Match Process

A six-step process was used for matching Uniform Schools with Non-uniform Schools based on the categories of demographic data (Student Enrollment, Disabled students, Limited English Proficient students, Economically Disadvantaged students, Gender, and Ethnicity). Demographic data for each school was entered onto an electronic spreadsheet which was copied multiple times and labeled for each demographic characteristic. On each spreadsheet, Non-uniform schools were color coded for the demographic variable, and sorted in ascending order by the proportion of school enrollment for that student demographic. The rows of data for the five Non-uniform schools that were ordinally immediately above, and the five Non-uniform schools that were ordinally immediately below each of the Uniform schools were copied to a separate spreadsheet for the Uniform school. Each Uniform school's spreadsheet was then sorted by school number. The Non-uniform schools that were considered a possible match to the Uniform school were those schools that showed a match in three or more categories. To be identified as the closest match for one of the Uniform Schools, the Non-uniform

School had to match as closely as possible on School Enrollment, and the proportions of students who were Disabled, Economic Disadvantaged, and who were from each Ethnic group (as identified on local school report cards), as determined by the procedure above. A similar process was used to match the schools based on the scores on the Survey of School Improvement Strategies. The best match was the Non-uniform school with the highest number of matches in each temporal period. In Chapter IV where the matched school comparisons are analyzed, a more close-grained and qualitative review is made of the similarity of the school improvement measures employed at selected matched Uniform and Non-Uniform schools.

The matched school was the one school that matched in the most categories of demographics and clusters for survey responses. Once the sorting process was completed and possible school matches were determined for each Uniform school, one Non-uniform school was selected for individual comparison for each of the six Uniform Schools. Because of the common district-wide policies and processes, the influences of local culture, and other community similarities present within any given school district that may impact on school performance measures, for each of the Uniform Schools U1, U5, and U6, a Non-uniform school match from within the same district was identified. Schools U2, U3, and U4 are in the same district which enforces a mandatory school uniform policy in grades K-12. The matched school for each of these schools was the one Non-uniform school outside of the school district that matched the Uniform School most closely for student demographics and survey scores.

Because each Uniform School was being compared with each of its matched Non-uniform Schools, paired sample t-tests were used to make statistical comparisons. For

each of the school match analyses, the change in Mean (M_{Change}) for each school for each performance measure was used. For each School U1, U2, U3, U4, U5, and U6 and their matched schools:

$$M_{Change} = M_{After} - M_{Before}$$

Since each analysis was for only two schools with few observations, the sample size is considered “small” and Cohen’s d analysis was also used to determine *effect size*, using the difference in mean change (M_{Change}) between Uniform mean change (UM_{Change}) and Non-uniform mean change (NUM_{Change}) divided by pooled Standard Deviations (SD_{pooled}), where USD indicated standard deviation for Uniform School Performance Measures, $NUSD$ indicated standard deviation for Non-uniform School Performance Measures, Un indicates the number of years of measurements for the uniform schools and NUn indicates the number of years of measurements for the non-uniform schools:

Therefore for every school match, the following formulas were used:

$$M_{difference} = UM_{Change} - NUM_{Change}$$

$$SD_{pooled} = \frac{(USD_{before}/Un_{before}) + (USD_{after}/Un_{after}) + (NUSD_{before}/NUn_{before}) + (NUSD_{after}/NUn_{after})}{Un_{before} + Un_{after} + NUn_{before} + NUn_{after}}$$

The formula used to determine the effect size for the uniform policy was:

$$\text{Cohen's } d = \frac{M_{difference}}{SD_{pooled}}$$

The resulting values for Cohen’s d effect size identify the following levels of policy effectiveness:

- < 0.2 = Not effective,
- $0.2-0.8$ = Moderately effective,
- >0.8 = Highly effective.

In Chapter III, the four methods of comparison using an interrupted time-series design were described along with statistical analyses employed with respect to each. The importance of each comparison in controlling for other plausible and rival hypotheses, explaining changes in school performance measures was also specified. Analysis of data for each comparison for each school or set of schools is explained in Chapter IV.

CHAPTER IV

ANALYSIS OF THE DATA

Secondary schools with uniform policies (Uniform Schools) in Ohio's eight large urban districts were compared with secondary schools without uniform policies in these same school districts (Non-uniform Schools) in four different ways. These comparisons are presented in this chapter.

- Comparison One - Uniform Schools were examined over time, comparing School Performance Measures from before policy implementation with the same measures after policy implementation;
- Comparison Two – School Performance Measures at Uniform Schools in given school districts were compared with the same measures of the Non-uniform high schools within the same district.;
- Comparison Three - School Performance Measures for all Uniform Schools in the eight urban districts were compared with those of all of the Non-uniform Schools in this group of districts;
- Comparison Four – Each Uniform School was matched with a Non-uniform School based on similarities in school demographics and other school improvement initiatives that were undertaken during the period being studied.

Each uniform school in this study has demographic qualities that are shared by most of the other school buildings included in this study. These demographics are described in Table 1. A report released jointly by the Urban Institute, the Civil Rights Institute, and the Harvard Civil Rights Project, (Orfield, Losen, Wald, and Swanson, 2004) detailed several risk factors that are present in urban schools. They determined that

enrollment levels of certain student demographic indicators that are higher than the national average impact on student performance and conduct and ultimately on their graduation from high school. These indicators are:

- Disability – Low – less than 13%, High – more than 13%
- Economically Disadvantaged – Low – less than 38% , High – more than 38%
- Limited English Proficiency – Low – less than 9%, High – more than 9%
- Ethnic composition - Majority White or Majority (more than 50%) Minority.

These enrollment levels are used to describe the schools in this study, particularly the school buildings identified in Comparisons One and Four. An examination of Table 1 reveals that there appear to be high proportions of disabled, economically disadvantaged, and minority students in this universe of secondary schools that comprise this study.

Among the uniform schools, these risk factors are present in even higher concentrations. Such risk factors are reflected in low attendance rates, poor academic performance, problematic student conduct resulting in high rates for out of school suspensions and expulsions, and comparatively low graduation rates.

TABLE 1

Comparison of school student enrollment demographics, indicating mean enrollments for uniform schools, non-uniform schools, and all schools statewide, and all survey responder schools

		<i>Schools with Uniform Policy</i>	<i>All Schools</i>		<i>Responder Schools</i>	
	<i>N=</i>	<i>6</i>	<i>All Schools 64</i>	<i>Schools with no uniform policy 58</i>	<i>All Schools 25</i>	<i>Schools with no uniform policy 19</i>
Disabled	(%)	14.2	14.8	14.8	15.2	15.5
Limited English Proficient	(%)	2.5	2.5	2.5	3.3	3.5
Economically Disadvantaged	(%)	52.1	37.6	36.2	39.7	34.7
Female	(%)	52.1	51.6	51.5	51.5	51.2
Male	(%)	47.9	48.4	48.5	48.5	48.8
Asian	(%)	0.3	1.4	1.5	1.3	1.6
Black	(%)	72.8	63.4	62.5	59.6	55.4
Hispanic	(%)	5.4	3.1	2.9	4.5	4.2
American Indian	(%)	0.4	0.2	0.2	0.3	0.2
Multi-Racial	(%)	0.5	0.7	0.7	0.7	0.8
Total Minority	(%)	78.8	68.2	67.1	65.6	61.4
White	(%)	20.7	31.1	32.2	33.7	37.8
Mean Enrollment		718.0	742.9	1126.4	1048.9	1134.6

Comparison One – Same School Comparison over Time

This analysis involves comparing School Performance Measures in the years prior to implementing a school uniform policy with performance levels of the same measures after policy implementation for each high school that implemented a uniform policy. Six high schools implemented a uniform policy during the years included in the study, (1994-95 through 2001-02). All six schools implemented the uniform policy during the 1997-98 school year.

Available data permit longitudinal or time series comparisons on all School Performance Measures for four of these six Uniform Schools. For two other Uniform Schools similar comparisons were made for those performance measures for which data were available. For each school, a table reports the mean rates for Attendance, Graduation, Academic Proficiency (Reading and Math), and Student Conduct (Suspensions and Expulsions) for the period before implementation (1994-95 through 1996-97) compared to the respective mean rates for the period after the policy was implemented (1997-98 through 2001-2002). A summary table reports the results for all six schools (Table 7) and a table of aggregated data analysis for all six schools (Table 8) is included in this comparison.

To compare each performance measure for the years preceding the implementation of the school policy with the measurements for the years following policy implementation, t-tests for repeated measurements were used. Due to the limited number of measurements for each variable, Cohen's *d* was used to measure the mean difference in terms of its relationship to the standard deviations for each performance

measure over time. This statistic serves to measure effect size which standardizes the measuring of mean differences in terms of the standard deviation. It results in an assessment, in this comparison, of the relationship between the means before and after relative to the standard deviations of the measurements for each year, thus, accounting for gains and losses for each measurement for each year of the study. The uniform policy, for purposes of this analysis, was considered “highly effective” if *effect size* was greater than 0.8, “moderately effective” if effect size was greater than 0.2 but less than 0.8, and “not effective” if the effect size was less than 0.2.

For purposes of Comparison One, it is assumed, as in most of the previously published studies, that the uniform policy represents the only significant change in school policies within each school between the pre-implementation period and the post-implementation period.

Time Series Analysis for School U1

School U1 is a mid-size high school among the schools in the study, serving an average of 877 students in grades 9 to 12 during the years of the study. Its school district is in one of largest urban districts in Ohio (average enrollment of 59,700 students) and is among the 100 largest school districts in the nation. It serves a predominately Black student population (97.5%) and is characterized by a high enrollment of economically disadvantaged students (58.4 %) and a high incidence of students with disabilities (14.7%). The uniform policy was implemented in 1997-98 school year and remained in effect through out the 2001-2002 school year. Additional demographic data on School U1 is displayed in Appendix E.

Table 2 indicates that for the various School Performance Measures, the uniform policy was not effective for Attendance or Graduation. For Academic Proficiency in Reading, the policy was highly effective for Reading 9 but not effective for Reading 12. The policy was moderately effective for Math 9 and 12. For Student Conduct, U1's school district reported incomplete data on out of school suspensions for the years 1995 and 1996 for all of the schools in its district. When the five years after policy implementation were compared with the suspension rate for 1997, the policy was not effective. However, the policy was moderately effective for Expulsions.

Data analysis indicates that the school uniform policy may have been effective for improvements in Academic Proficiency in Reading 9, Math 9, and Math 12, and Student Conduct in Expulsions at School U1.

Table 2

<u>Variables:</u>			<u>Mean</u>	<u>S.D.</u>	<u>df</u>	<u>t</u>	<u>N</u>	<u>Pooled S.D.</u>	<u>Effect Size</u>	
<u>Attendance</u>	(%)	before policy	81.6	13.9	2	0.4	3	6.84	-0.44	
		after policy	78.6	2.6						5
<u>Graduation</u>	(%)	before policy	64.5	5.4	5	0.1	2	7.09	-0.12	
		after policy	63.6	7.8						5
<u>Academic Proficiency</u>	<u>Reading 9</u>	(%)	before policy	58.5	0.3	4	-2.0	3	4.57	1.4 ***
			after policy	64.9	7.1					
	<u>Reading 12</u>	(%)	before policy	52.0	1.3	3	2.4	2	5.58	-1.7
			after policy	42.5	7.7					
	<u>Math 9</u>	(%)	before policy	24.0	5.2	6	-0.7	3	8.56	0.55 **
			after policy	28.7	10.6					
<u>Math 12</u>	(%)	before policy	22.0	0.6	4	-0.3	2	6.06	0.33 **	
		after policy	24.0	8.8						4
<u>Student Conduct</u>	<u>Suspensions</u>	<u>per 100 students</u>	before policy	30.8	0.0	4	-0.9	1	14.48	-1.2
			after policy	48.0	17.4					
<u>Student Conduct</u>	<u>Expulsions</u>	<u>per 100 students</u>	before policy	1.0	0.0	5	0.5	1	0.32	0.48 **
			after policy	0.9	0.5					
								6.84		

** moderately effective, *** highly effective

Time Series Analyses for Schools U2

School U2 served an average of 977 students enrolled in grades 9 to 12 in the one of the smaller school districts (average enrollment of 8,800 students) among the “Big 8. The only majority White school (55.6%) in this study, it has a relatively high enrollment of disabled students (12.6%) and a high enrollment of students who were economically disadvantaged (44.1%). The uniform policy was implemented in 1997-98 school year and remained in effect after the 2001-2002 school year. Additional demographic data for School U2 is displayed in Appendix E.

Table 3 indicates that for the various School Performance Measures, the uniform policy was highly effective for Attendance and not effective for Graduation. For Academic Proficiency, the policy was not effective for Reading 9 and Reading 12, but moderately effective for Math 9 and highly effective for Math 12. For Student Conduct, the policy was highly effective for both Suspensions and Expulsions.

This data analysis indicates that the uniform policy was effective for Math 9 and Math 12, Suspensions and Expulsions; therefore, the uniform policy contributed improvement in Academic Proficiency in Math and in Student Conduct.

Table 3

Comparison of School Performance Measures at School U2

<u>Variables:</u>			<u>Mean</u>	<u>S.D.</u>	<u>df</u>	<u>t</u>	<u>N</u>	<u>Pooled S.D.</u>	<u>Effect Size</u>	
<u>Attendance</u>	(%)	before policy	87.9	0.4	6	-2.0	3	0.72	1.6	***
		after policy	89.1	0.9						
<u>Graduation</u>	(%)	before policy	74.2	0.2	5	0.2	2	5.68	-0.2	
		after policy	72.9	7.9						5
<u>Academic Proficiency</u>	Reading 9 (%)	before policy	91.2	0.8	6	1.5	3	2.23	-0.56	
		after policy	88.4	3.1						5
<u>Academic Proficiency</u>	Reading12 (%)	before policy	68.5	7.0	4	0.7	2	6.92	-0.54	
		after policy	64.5	6.9						4
<u>Academic Proficiency</u>	Math9 (%)	before policy	59.9	3.6	6	-0.7	3	7.44	0.58	**
		after policy	64.2	9.7						
<u>Academic Proficiency</u>	Math12 (%)	before policy	33.4	11.7	4	-1.3	2	9.87	1.08	***
		after policy	44.1	8.9						
<u>Student Conduct</u>	Suspensions per 100 students	before policy	106.6	9.5	5	2.5*	2	18.31	2.4	***
		after policy	63.4	21.8						
<u>Student Conduct</u>	Expulsions per 100 students	before policy	1.4	0.0	5	2.0	2	0.21	2.1	***
		after policy	0.9	0.3						
								0.72		

** moderately effective, *** highly effective

Time Series Analysis for School U3

School U3 is a mid-size high school with an average enrollment of 1007 in one of the smaller school districts (average enrollment of 8,800 students) in the “Big 8. The building has a high enrollment of Disabled students (22.3%), a high enrollment of Economically Disadvantaged students (74.9%), and a high Minority enrollment (91.7%). For further demographics information on School U3, see Appendix E.

Table 4 shows that for the School Performance Measures, the uniform policy was moderately effective for Attendance and highly effective for Graduation. For Academic Proficiency the policy was not effective for Reading 9 or Reading 12. However the policy was highly effective for Math 9 and moderately effective for Math 12. For Student Conduct the policy was highly effective for both Suspensions and Expulsions. This data analysis indicates that the uniform policy was effective for Academic Proficiency in Math and for Student Conduct.

Table 4
 Comparison of School Performance Measures at School U3

<u>Variables:</u>			<u>Mean</u>	<u>S.D.</u>	<u>df</u>	<u>t</u>	<u>N</u>	<u>Pooled S.D.</u>	<u>Effect Size</u>		
<u>Attendance</u>	(%)	before policy	83.5	1.2	6.0	-1.0	3	2.91	0.8	**	
		after policy	85.8	4.0							5
<u>Graduation</u>	(%)	before policy	37.4	10.7	5.0	-2.3	2	9.01	1.9	***	
		after policy	54.3	8.4							5
<u>Academic Proficiency</u>	Reading 9	(%)	before policy	67.5	2.2	6.0	1.1	3	4.09	-0.8	
			after policy	63.9	5.2						
	Reading12	(%)	before policy	52.0	1.8	4.0	2.5	2	4.6	-2.5	
			after policy	40.6	6.0						
	Math9	(%)	before policy	17.3	5.6	6.0	-1.5	3	4.8	1.1	***
			after policy	22.7	4.4						
Math12	(%)	before policy	21.8	10.3	4.0	-0.5	2	7.4	0.44	**	
		after policy	25.1	6.0							4
<u>Student Conduct</u>	Suspensions	per 100 students	before policy	208.1	3.9	5.0	6.4	2	18.7	6.3	***
			after policy	90.3	24.7						
	Expulsions	per 100 students	before policy	2.0	0.1	5.0	1.4	2	0.5	1.3	***
			after policy	1.4	0.6						

** moderately effective, *** highly effective

Time Series Analysis for School U4

School U4 is a mid- size high school serving an average of 910 students in one of the smaller school districts ((average enrollment of 8,800 students) in the “Big 8. The building has a high enrollment of disabled students (17.6%), economically disadvantaged students (58.3%), and minority students (83.6%). For further demographics information on School U4, see Appendix E.

Table 5 indicates that at School U4 the uniform policy was highly effective for Attendance and moderately effective for Graduation. For Academic Proficiency, the policy was not effective for Reading 9, Reading 12, and Math 9 but highly effective for Math 12. For Student Conduct, the policy was highly effective for both Suspensions and Expulsions. As indicated in Appendix B, there was an extraordinary drop in Suspensions between 1996-97, the year before policy implementation, and 1997-98, the year of policy implementation. This lower level of suspensions persisted throughout later years of the study. Data for the numbers of Suspensions and Expulsions were hand-counted by the researcher for each student from monthly discipline reports and is an accurate of accounting of all suspensions and expulsions.

In this analysis there are indications that the uniform policy was apparently effective in improving Attendance, Graduation, and Academic Proficiency in Math 12. It also may have had some effect in improving Student Conduct.

Table 5

Comparison of School Performance at School U4

<i>Variables:</i>			<i>Mean</i>	<i>S.D.</i>	<i>df</i>	<i>t</i>	<i>N</i>	<i>Pooled S.D.</i>	<i>Effect Size</i>	
<u>Attendance</u>	(%)	before policy	84.8	1.9	6	-1.9	3	1.59	1.35	***
		after policy	86.9	1.4						
<u>Graduation</u>	(%)	before policy	52.7	4.3	5	-0.5	2	9.27	0.5	**
		after policy	57.3	11.3						
<u>Academic Proficiency</u>	Reading 9 (%)	before policy	79.5	5.4	6	3.2	3	3.55	-2.5	
		after policy	70.8	2.5						
<u>Academic Proficiency</u>	Reading 12 (%)	before policy	57.95	2.5	4	0.0	2	6.28	-0.02	
		after policy	57.9	8.2						
<u>Academic Proficiency</u>	Math 9 (%)	before policy	38.03	1.4	6	6.8	3	1.99	-5.1	
		after policy	27.8	2.3						
<u>Academic Proficiency</u>	Math 12 (%)	before policy	26.4	2.2	4	-1.3	2	6.84	1.3	***
		after policy	35.2	9.2						
<u>Student Conduct</u>	Suspensions per 100 students	before policy	324.7	24.9	5	18.4	2	18.94	15.04	***
		after policy	39.8	16.6						
<u>Student Conduct</u>	Expulsions per 100 students	before policy	4.0	0.4	5	3.7	2	0.74	3.41	***
		after policy	1.5	0.9						
							1.59			

** moderately effective, *** highly effective

Time Series Analysis for School U5

School U5 is in one of the smaller school districts (average enrollment of 16,710 students) among the “Big 8” in Ohio. The average enrollment in School U5 during the study was 1007 students. It was at one time a vocational school which enrolled students from the other high schools in the district. For the years 1994-95 and 1995-96, student test scores and graduation rates were reported on the report cards for the sending schools, not at School U5. In 1996-97 the school became a comprehensive grade 9-12 Career focused high school. A mandatory school uniform policy was implemented the following year (1997-98). The first graduating class did not graduate from School U5 until the 1998-99 school year. The school district has no data reports for Suspensions before the 1997-98 school year.

The incidence of Disabled students at School U6 is high (16.1%) The school also has a high minority enrollment (83.5%). This was the one school in the study with an unbalanced gender enrollment (60.2% female, 39.8% male). For further demographic information for School U5, see Appendix E.

Data analysis as displayed in Table 6 indicates that the uniform policy was not effective for Attendance. No analysis could be completed for Graduation because there were no measurements before 1997-98 for Graduation. However, the mean for Graduation after policy implementation was 84%, which is the sixth highest graduation rate among all schools in the study (see Appendix B). For Academic Proficiency, the uniform policy was not effective for Reading 9 and Reading 12. The policy was moderately effective for Math 9 and highly effective for Math 12. For Student Conduct, there were no measurements from before the uniform policy was implemented for

Suspensions; however, the mean after the policy implementation for Suspensions was the sixth lowest among all the schools in the study (See Appendix B). For expulsions the policy was highly effective.

In this analysis there are indications that the uniform policy may have been effective in improving Academic Proficiency in Math 12, and Student Conduct in Expulsions.

Table 6

Comparison of School Performance Measures at School U5 from 1994-95 through 2001-02

<u>Variables:</u>		<u>Mean</u>	<u>S.D.</u>	<u>df</u>	<u>t</u>	<u>N</u>	<u>Pooled S.D.</u>	<u>Effect Size</u>
<u>Attendance</u>	(%)	before policy	80.8	3.5	6	3	3.8	-2.0
		after policy	73.4	4.0				
<u>Graduation</u>	(%)	before policy	~~~~	~~~~	~~~~	2	~~~~	~~~~
		after policy	84.0	13.1				
<u>Reading 9</u>	(%)	before policy	69.5	7.3	6	3	9.7	-0.03
		after policy	69.2	11.2				
<u>Reading12</u>	(%)	before policy	45.4	8.4	4	2	11.5	-0.38
		after policy	40.9	13.1				
<u>Academic Proficiency</u>								
<u>Math9</u>	(%)	before policy	31.7	0.3	6	3	7.8	0.3 **
		after policy	34.0	12.4				
<u>Math12</u>	(%)	before policy	11.1	4.7	4	2	10.4	1.7 ***
		after policy	29.0	13.2				
<u>Suspensions</u>	per 100 students	before policy	~~~~	~~~~	~~~~	2	~~~~	~~~~
		after policy	6.0	6.6				
<u>Student Conduct</u>								
<u>Expulsions</u>	per 100 students	before policy	1.4	0.0	5	2	0.2	2.0 ***
		after policy	0.9	0.3				
							3.7	

** moderately effective, *** highly effective, ~~~ No data

Time Series Analysis for School U6

School U6 is a small school in one of the largest school districts in Ohio (average enrollment of 62,500 students); in fact, this district is the 40th largest school district in the nation. School U6 enrolls students in grades 4 through 12, with an average enrollment of students in grades 9-12 of 116 students during the years of the study. Among the high school population in this building, there is a high enrollment of economically disadvantaged students (97.8%) and a high minority enrollment (only 25.1% White). For further information on school demographics for School U6, see Appendix E.

Although the school implemented a uniform policy in the 1997-98 year, the policy was rescinded at the beginning of the 2000-2001 school year. There is no reported graduation rate for the school before 1998-99 and there is no reported proficiency test passing rates for Reading 12 and Math 12 for any year. Mean rates for School Performance Measures (see Table 6) were calculated for the years before a uniform policy (1996-97) and for the years with a uniform policy (1997-98 through 1999-2000).

Table 7 summarizes the data analysis for School U6. The uniform policy tested as highly effective for Attendance. In Academic Proficiency, the uniform policy was not effective for either Reading 9 or Math 9. The policy was not effective for Student Conduct for both Suspensions and Expulsions.

The data analysis indicates that the school uniform policy may be effective for Attendance. It should also be noted that none of the schools in U6's school district reported any expulsions to the ODE until the 1997-98 year.

Table 7

Comparison of School Performance Measures at School U6

<u>Variables:</u>			<u>Mean</u>	<u>S.D.</u>	<u>df</u>	<u>t</u>	<u>N</u>	<u>Pooled S.D.</u>	<u>Effect Size</u>	
<u>Attendance</u>	(%)	before policy	78.2	4.8	4	-1.2	3	8.1	1.0	***
		after policy	86.9	11.4			5			
<u>Graduation</u>	(%)	before policy	~	~	~	~	~	~	~	
		after policy	58.4	11.8			5			
<u>Academic Proficiency</u>	(%)	before policy	71.3	10.7	4	0.8	3	17.7	0.02	
		after policy	60.9	18.8			5			
<u>Math 9</u>	(%)	before policy	28.9	3.3	4	2.1	3	6.2	0.3	
		after policy	19.4	7.1			5			
<u>Suspensions</u>	per 100 students	before policy	1.5	0.7	3	-0.6	2	2.2	-0.1	
		after policy	1.8	0.2			5			
<u>Student Conduct</u>	per 100 students	before policy	0.0	0.0	2	-1.0	2	3.0	-0.04	
		after policy	0.2	0.4			5			
								8.1		

*** highly effective

Analysis of All Six Uniform Schools

Although each school in the study may have differences that could influence School Performance, they also have some commonalities, including a mandatory school uniform policy. Table 8 summarizes effectiveness on all Performance Measures for all six Uniform Schools.

For the performance measure Attendance, the uniform policy was moderately effective for School U3, highly effective for Schools U2, U4, and U6, but not effective at schools U1 and U5. For Graduation the policy was moderately effective at School U4, highly effective at Schools U3, but not effective at Schools U1 and U2. No test for graduation was conducted at Schools U5 or U6 because of incomplete data. It should be noted however, that the graduation rate at both of these schools was higher than for other schools within their own districts. Based on the results of this summary, the uniform policy may have had a positive effect in this group of schools for Attendance and Graduation.

There was some consistency in effectiveness for improvements in Academic Proficiency in Math, but not in Reading. For Reading 9, the analysis indicated that the policy was highly effective at School U1. The policy was not effective at any school for Reading 12. The policy was moderately effective for Math 9 at Schools U1 and U2, and highly effective at Schools U3. For Math 12, the policy was moderately effective at Schools U1 and U3, and highly effective at Schools U2, U4, and U5. Based on the results of this summary, the school uniform policy may have been ineffective for improving Academic Proficiency in Reading but may have had a positive effect on Academic Proficiency in Math.

In examining the effectiveness of the school uniform policy for Student Conduct, it was highly effective for Suspensions at three schools (U2, U3, and U4) and moderately effective at two schools (U1 and U6). The policy was moderately effective at one school (U1), and highly effective for Expulsions at four schools (U2, U3, U4, and U5). Based on the results of this summary, the school uniform policy may be effective for improving Student Conduct.

Table 8

Comparison One - Summary of Findings School by School				
<i>Variable:</i>	<i>Attendance</i>	<i>Graduation</i>	<i>Student Conduct</i>	
<i>School(s):</i>			<i>Suspensions</i>	<i>Expulsions</i>
<i>U1</i>	not effective	not effective	not effective	moderately effective
<i>U2</i>	highly effective	not effective	highly effective	highly effective
<i>U3</i>	moderately effective	highly effective	highly effective	highly effective
<i>U4</i>	highly effective	moderately effective	highly effective	highly effective
<i>U5</i>	not effective	~~~~~	~~~~~	highly effective
<i>U6</i>	highly effective	~~~~~	not effective	not effective

<i>Variable:</i>	<i>Academic Proficiency</i>			
<i>School(s):</i>	<i>Reading 9</i>	<i>Reading 12</i>	<i>Math 9</i>	<i>Math 12</i>
<i>U1</i>	highly effective	not effective	moderately effective	moderately effective
<i>U2</i>	not effective	not effective	moderately effective	highly effective
<i>U3</i>	not effective	not effective	highly effective	moderately effective
<i>U4</i>	not effective	not effective	not effective	highly effective
<i>U5</i>	not effective	not effective	moderately effective	highly effective
<i>U6</i>	not effective	~~~~~	not effective	~~~~~

Aggregated Analysis for all Six Uniform Schools

One final analysis was completed for Comparison One. Independent sample t-tests were used to determine if there were any differences in School Performance Measures for the aggregated group of all six schools. Table 9 displays the results of this analysis. Because the Suspension rates were extraordinarily high for some years at School U4, its data was not included in the t-test for Suspensions.

When all schools were compared, there were no significant differences before and after the uniform policies implemented for Attendance, Graduation, or Academic Proficiency in Reading 9, Reading 12, Math 9, or Math 12. However, the Means were higher with the school uniform policy for Graduation, Reading 9, Math 9, and Math 12. There were significant differences in Suspensions ($p=0.005$) and Expulsions ($p=0.026$). In this analysis it was found that the uniform policies at these six schools appear to have contributed to improvements in Student Conduct in the Uniform schools included in this study.

Table 9

<u>Comparison of School Performance Measures aggregated for all 6 Uniform schools</u>							
<u>Variables:</u>	<u>N=6</u>		<u>Mean</u>	<u>S.D.</u>	<u>df</u>	<u>t</u>	
<u>Attendance</u>	(%)	without policy	84.7	6.8	44.00	1.27	
		with policy	82.1	6.4	31.86		
<u>Graduation</u>	(%)	without policy	47.8	25.8	39.00	-0.93	
		with policy	56.2	26.2	20.92		
<u>Academic Proficiency</u>	Reading 9	(%)	without policy	71.1	14.0	44.00	-0.10
			with policy	71.5	10.5	26.56	
	Reading12	(%)	without policy	55.6	9.5	28.00	1.32
			with policy	49.4	12.5	19.99	
	Math9	(%)	without policy	31.7	15.8	44.00	-0.60
			with policy	34.7	16.0	33.95	
Math12	(%)	without policy	23.9	9.5	28.00	-1.53	
		with policy	30.6	11.7	18.66		
<u>Student Conduct</u>	Suspensions	per 100 students	without policy	94.8	127.6	35.00	3.89*
			with policy	45.3	34.6	8.38	
<u>Student Conduct</u>	Expulsions	per 100 students	without policy	1.8	1.3	35.00	2.33*
			with policy	1.1	0.6	10.24	

*p<.05

Comparison One Conclusions

Comparison One compared School Performance Measures at six individual schools with uniforms over a time period of from six to eight years. During that time a mandatory school uniform policy was implemented in each of the six buildings. To analyze the yearly results of various performance measures within each school an aggregated analysis of the six Uniform schools, t-tests and Cohen's *d* were used. If the assumption is made that all other factors influencing school performance remained the same, including school reform initiatives at the building level and environmental factors in the district, state and beyond, it appears that there were improvements in Attendance rates, Math proficiency test pass rates, Suspension rates, and Expulsion rates. This suggests that the school uniform policy may have contributed to improvements in Attendance, Academic proficiency in Math, and Student Conduct. However, this conclusion is subject to the caution that this comparison does not account for numerous other possible explanations for the improvements reported.

Comparison Two – Intra-district Comparison

There were three districts among the eight urban districts in the state where some high schools had implemented school uniform policies while others had not. This comparison examines how Uniform high schools compared to Non-uniform high schools within the same school district on various School Performance Measures. The mean change for each performance measure for each of these schools (U1, U5, and U6) was compared with mean change for the other high schools within their own school district using ANOVA (Analysis of Variance). This intra-district comparison may be considered particularly important because the buildings being compared share a common set of school district goals and priorities, and district-level policies and procedures, as well as a similar organizational culture and levels of resources.

Intra-district analysis for School U1

School U1 serves a population of students substantially representative of the rest of its district in student population demographics. All have a high incidence of disability (14.5% at School U1 v. 12.9% mean for other schools, respectively), a low incidence of Limited English Proficient students (5.6% v. 4.7%), and low enrollment of economically disadvantaged students (18.3% v. 20.6%). Its primary difference lies in Ethnicity (98.6% minority v. 78.8% minority); School U1 serves the highest proportion of Black students (96.8%) in the school district and has the lowest enrollment of White students (1.4%). For additional demographic information, see Appendix E.

Analysis of Variance (ANOVA) was used to compare the difference in the mean change in School Performance Measures between school U1 and all other high schools (N=16) in the same district for the years before and the years after policy implementation.

There were no significant differences in mean change for any School Performance Measures between school U1 and the other 16 schools enrolling high school students in the district over this time period. However, for Attendance, Reading 9, Reading 12, Math 9, Suspensions, and Expulsions, the mean changes were greater in the non-uniform schools than those registered at School U1. The mean changes were larger at School U1 for Graduation, and Math 12 (see Table 10). No evidence of policy effectiveness identified for this analysis.

TABLE 10

Analysis of Variance of mean change for School Performance Measures for all schools in School U1 district

<i>Variable</i>		<i>School U1 (with policy)</i>	<i>Schools with No Uniform Policy</i>	<i>All schools</i>	<i>Analysis</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>
<u>Attendance</u>	Mean	-4.2	-2.4	-2.5	Between Groups	2.8	1	2.8	0.96
	S.D.		1.71	1.71	Within Groups	43.9	15	2.9	
	N	1	16	17	Total	46.7	16		
<u>Graduation</u>	Mean	12.5	4.8	5.3	Between Groups	54.8	1	54.8	0.99
	S.D.		9.1	9.0	Within Groups	1234.9	15	82.3	
	N	1			Total	1289.6	16		
<u>Academic Proficiency</u>									
9th grade Reading Test	Mean	2.3	4.0	3.9	Between Groups	2.5	1	2.5	0.67
	S.D.		4.2	4.1	Within Groups	265.0	15	17.7	
	N	1	16	17	Total	267.5	16		
12th grade Reading Test	Mean	-7.0	-5.7	-5.8	Between Groups	1.6	1	1.6	0.05
	S.D.		5.8	5.6	Within Groups	498.1	15	33.2	
	N	1	16	17	Total	499.6	16		
9th grade Math Test	Mean	-2.5	9.8	9.1	Between Groups	141.9	1	141.9	0.69
	S.D.		14.3	14.2	Within Groups	3077.5	15	205.2	
	N	1	16	17	Total	3219.4	16		
12th grade Math Test	Mean	5.7	3.8	3.9	Between Groups	3.2	1	3.2	0.17
	S.D.		4.4	4.3	Within Groups	289.4	15	19.3	
	N	1	16	17	Total	292.6	16		
<u>Student Conduct</u>									
Suspensions	Mean	22.3	54.6	52.7	Between Groups	983.4	1	983.4	1.62
	S.D.		24.6	25.1	Within Groups	9081.1	15	605.4	
	N	1	16	17	Total	10064.5	16		
Expulsions	Mean	1.2	0.6	0.7	Between Groups	0.3	1	0.3	3.22
	S.D.		0.3	0.3	Within Groups	1.2	15	0.1	
	N	1	16	17	Total	1.5	16		

Intra-district analysis for School U5

School U5 is one of 5 buildings serving high school students within its district (See Appendix E). A sixth secondary school building with a focus on fine and performing arts opened in 2000 and consequently is not included in this study.

School U5 serves a population of students substantially representative of the rest of its district in terms of demographics. All have a high enrollment of disabled students (16.1% v. 18.1%), moderately low enrollment of economically disadvantaged students (21.2% v.22.9%), and have a high proportion of minority students (82.5% minority v. 82.1% minority), with Black students being the largest proportion of the student body (82% Black at School U5 v. 80% for the district). There were differences for Limited English Proficiency (a low of 0.2% v a high of 9.7%), and gender, (60.2% female v. 52.0% female). For further demographic information in School U5's district, see Appendix E.

Analysis of Variance (ANOVA) was used to compare the mean change for School Performance Measures from the years before uniform policy implementation and years following policy implementation for all schools enrolling high school students (N=4) in the same districts as School U5. The results of this analysis are presented in Table 11. Significant differences were found for Attendance ($p=0.021$), and Math 9 ($p=0.035$), however the mean change for Attendance and Math 9 at School U5 were negative numbers indicating a regression in those School Performance Measures over time. Attendance and Math scores at the Non-uniform Schools improved. There was a lack of data for Graduation for the early years of the study at School U5; therefore, no comparison for Graduation could be done.

Although there is no significant difference between U5 and the Non-uniform Schools for the mean change in Reading, 9 and 12, the mean change for Reading 9 was a negative number for School U5, while the change for the Non-uniform Schools was positive. The mean change for Reading 12, however, for the Non-uniform Schools was lower than for School U5. The mean change for Math 12 is negative for the Non-uniform Schools, but a positive number for School U5.

There was a lack of data for Suspensions for the years before the uniform policy was implemented in School U5, therefore, a mean change for Suspensions for School U5 and the other four schools in the district could not be calculated. The mean change for Expulsions was 0.0 for both U5 and the other four schools in the district. There was no evidence of policy effectiveness for any of the variables identified by this analysis

TABLE 11
Analysis of Variance of mean change in School Performance Measures for all schools in School U5 district

<i>Variable</i>		<i>Schools with</i>			<i>Analysis</i>	<i>SS</i>	<i>Df</i>	<i>MS</i>	<i>F</i>
		<i>School U5 (with policy)</i>	<i>No Uniform Policy</i>	<i>All schools</i>					
<u>Attendance</u>	Mean	-9.7	3.2	0.6	Between Groups	132.8	1	132.8	21.6 *
	S.D.	~~	2.5	6.1	Within Groups	18.4	3	6.1	
	N	1	4	5	Total	151.2	4		
<u>Graduation</u>	Mean	~~	-19.4	~~	Between Groups	~~	~~	~~	~~
	S.D.	~~	8.0	~~	Within Groups	~~	~~	~~	
	N	1	4	~~	Total	~~	~~		
<u>Academic Proficiency</u>									
9th grade									
Reading Test	Mean	-3.7	1.9	0.8	Between Groups	25.2	1	25.2	5.8
	S.D.	~~	2.1	3.1	Within Groups	13.0	3	4.3	
	N	1	4	5	Total	38.2	4		
12th grade									
Reading Test	Mean	-7.0	-10.2	-9.6	Between Groups	8.0	1	8.0	0.0
	S.D.	~~	13.1	11.4	Within Groups	514.9	3	171.6	
	N	1	4	5	Total	522.9	4		
9th grade									
Math Test	Mean	-2.9	2.7	1.6	Between Groups	25.2	1	25.2	13.4 *
	S.D.	~~	1.4	2.8	Within Groups	5.6	3	1.9	
	N	1	4	5	Total	30.8	4		
12th grade									
Math Test	Mean	11.3	-3.1	-0.3	Between Groups	167.3	1	167.3	1.5
	S.D.	~~	10.5	11.2	Within Groups	330.9	3	110.3	
	N	1	4	5	Total	498.3	4		
<u>Student Conduct</u>									
Suspensions									
Mean	Mean	~~	35.0	~~	Between Groups	~~	~~	~~	~~
	S.D.	~~	20.2	~~	Within Groups	~~	~~	~~	
	N	1	4	~~	Total	~~	~~		
Expulsions									
Mean	Mean	0.0	0.0	0.0	Between Groups	0.0	1	0.0	.
	S.D.	~~	0.0	0.0	Within Groups	0.0	3	0.0	
	N	1	4	5	Total	0.0	4		

p<05

Intra-district analysis for School U6

School U6 is one of 13 school buildings serving high school students within its district. It is similar to other buildings within its district in Limited English Proficiency (4.4% v. 3.1%) and gender (50.9% female v. 52.2% female) School U6 differs from the other buildings in its district due to a lower incidence of disabled students (2.2% v. 13.4%0, and higher proportion of economically disadvantaged students (97.8% v. 79.2%). Although there is high minority enrollment for both groups (74.9% minority at school U6, v. 85.7% minority for the rest of the district), the proportion of Blacks (57.8% v. 76.8%) was lower, and the proportion of Hispanics (14.9% v. 7.0%) was higher at School U6 than the mean for the group of other schools in the district. For further demographic information in School U1's district, see Appendix E.

Analysis of Variance (ANOVA) was used to compare the difference in the means from the years with uniform policy implementation with the means of the years without the policy implementation for all Non-uniform Schools enrolling high school students (N=12) in the same district as School U6 (N=1) These results are presented in Table 12. Significant differences were found for Attendance ($p=0.028$). The mean change in Attendance was significantly higher at School U6 than in the Non-uniform Schools. While not a significant difference, the mean change in Suspensions was a slightly negative number for School U6, but it was a larger negative number for the 12 Non-uniform Schools in the district. As a result of this comparison, it is possible that the presence of a school uniform policy may have improved Attendance at School U6.

TABLE 12

Analysis of Variance of the mean change in School Performance Measures for all schools in School U6 district

<i>Variable</i>	<i>School with Policy</i>	<i>Schools without Policy</i>	<i>All schools</i>	<i>Analysis</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>
<u>Attendance</u>								
Mean	14.2	5.2	5.9	Between Groups	74.8	1	74.8	6.391*
S.D.	~~	3.4	4.1	Within Groups	128.8	11	11.7	
N	1	12	13	Total	203.6	12		
<u>Graduation</u>								
Mean	~~	-3.4	~~	Between Groups	~~	~~	~~	~~
S.D.	~~	6.5	~~	Within Groups	~~	~~	~~	
N	1	12	~~	Total	~~	~~		
<u>Academic Proficiency</u>								
9th grade Reading Test								
Mean	5.02	8.2	8.0	Between Groups	9.6	1	9.6	0.255
S.D.	~~	6.1	5.9	Within Groups	413.6	11	37.6	
N	1	12	13	Total	423.2	12		
9th grade Math Test								
Mean	-1.6	7.3	6.7	Between Groups	73.0	1	73.0	3.172
S.D.	~~	4.8	5.2	Within Groups	253.3	11	23.0	
N	1	12	13	Total	326.3	12		
<u>Student Conduct</u>								
Suspensions								
Mean	-0.02	-6.1	-5.6	Between Groups	34.2	1	34.2	0.197
S.D.	~~	13.2	12.7	Within Groups	1912.5	11	173.9	
N	1	12	13	Total	1946.7	12		
Expulsions								
Mean	0	0.0	0.0	Between Groups	0.0	1	0.0	0.077
S.D.	~~	0.1	0.0	Within Groups	0.0	11	0.0	
N	1	12	13	Total	0.0	12		

*p<.05

Summary of Comparison Two

Because one set of variables that may affect school performance measures are those associated with the broader organizational context, specifically changes in school district policies and priorities, as well as system wide school improvement initiatives, Comparison Two serves to control for those types of changes over time, and their effect on buildings in the district, including those that have adopted uniform policies as well as those that have not. Thus, Comparison Two serves to help evaluate the effect of such system-level modifications on the changes in performance measures. If all school buildings in the district show similar changes in performance measures over time, these changes cannot be readily attributed to the adoption of a uniform policy in the building where such a policy was implemented. In the data analysis for Comparison Two, three schools with uniform policies were compared with the other schools that did not have school uniform policies within their respective districts. The results of these comparisons are summarized in Table 13. In all three schools, there were no significant differences that would indicate that the school uniform policy was effective in improving Academic Proficiency in either Reading or Math, or Student Conduct as measured by the number of Expulsions. Graduation could only be compared in one school district, where there was no significant difference. Suspensions could only be compared in two of the buildings, where there was no significant difference. With respect to attendance in one school district, there was no significant difference, while in another school district there was a significant change in the rate in Attendance but attendance declined in the Uniform school. In a third school (U6) a significant difference in Attendance was confirmed. Since there was a significant difference in favor of the Uniform school only in School U6's

district, and only for one performance measure (Attendance), the results of this analysis suggest that the uniform policy does not appear to be effective when these uniform schools are compared with the other schools within their district.

Table 13

Summary of Comparison Two - Uniform Schools compared with Non-uniform schools within the same districts

	<i>School U1</i>	<i>School U5</i>	<i>School U6</i>
<u>Attendance</u>	Not Significant	Significant but lower	Significant
<u>Graduation</u>	Not Significant	~~~~	~~~~
<u>Academic Proficiency</u>			
9th grade Reading	Not Significant	Not Significant	Not Significant
9th grade Math	Not Significant	Not Significant	Not Significant
<u>Student Conduct</u>			
Suspensions	Not Significant	~~~~	Not Significant
Expulsions	Not Significant	Not Significant	Not Significant

Even though Comparison One suggests that the uniform policy was effective in making positive changes in several school performance measures over time, such changes are rendered less significant when compared with changes in performance at all other buildings within their respective districts. From this finding, an inference may be drawn that school uniform policies may not be the explanation for the differences rendered over time in the Uniform schools. Of course, differences in those schools, such as student composition, between uniform schools and non-uniform schools in the same district might affect the degree of change recorded in one district or another.

Comparison Three – Inter-district Comparison

While Comparison Two helps to control for school system level variables that might explain changes in School Performance Measures at uniform schools over time, local school buildings and districts are nested together within a broader state system of public schools. Over the last two decades in particular, state level policy making and program mandates have sought to increase student academic performance and impact other facets of school operations that may contribute to higher performance, including attendance, graduation rates, academic proficiency and student conduct. Thus, to the extent that various school improvement strategies have been mandated or encouraged by state policy makers or departments of education, they may also explain changes in performance measures which otherwise might be attributed to the adoption of the school uniform policies at the building level.

For instance, even if positive gains are evident for a uniform school or all uniform schools taken together, if similar gains are evident in other urban secondary schools across the state that have not implemented uniform policies, the gains registered at the uniform buildings cannot be readily attributed to the uniform policy per se. An equally or more plausible interpretation might be that changes in building performance might be attributable to alterations brought about by various state level policies or programs. By contrast, if the universe of secondary schools in urban districts fails to show a gain, or gains of a similar magnitude, whereas the urban uniform schools register substantial gains, it may be reasonable to infer that the gains are associated with the implementation of the uniform policy. Likewise, if there are similar performance measures that decline within the universe of urban schools, but less so in the urban Uniform schools, the

difference may be attributable to the implementation of the uniform policy. An example of a state level variable that may influence school performance measures might be the adoption of a new cut off score for determining passage of state proficiency examinations at the 9th and 12th grade level. If the passing score was increased, we might anticipate that the passage rate might be depressed in a given year or conversely, if the passing score was lowered, there would be an increase in the passage rate. In whichever direction, and whatever schools are affected, it would be presumed that the change would be evident across all the secondary schools in urban districts included in the study. Comparison three controls for those statewide changes in policies and programs that would impact on this group of all urban high schools.

Comparison Three compares four schools with uniform policies with fifty-eight schools statewide that did not adopt a school uniform policy. This comparison examined the mean change in School Performance Measures for these two groups of schools. Uniform Schools U1, U2, U3, and U4 (N=4) were compared with all Non-uniform Schools (N=58). Sixty two schools were included in this analysis. Because of incomplete data, Schools U5 and U6 were not included in this comparison.

Uniform Schools tended to be mid-size in enrollment, and among the four schools included in this analysis, very similar in the size of the student body. The Uniform schools differ from Non-uniform schools in enrollment size (912 v. 1145), the enrollment of Economically Disadvantaged students (52.1% v 36.2%) and Ethnicity, although both groups have high minority enrollments (79.3% minority v. 67.8% minority). Uniform schools had higher proportions of Black students (72.8% v. 62.4%), Hispanic students (5.38% v. 2.9%), and American Indian students (.38% v. 0.23%). Non-uniform schools

had high proportions of Asian students (.1.5% v. 0.3%) and White students (32.2% v. 20.7%). Schools were similar in that both groups had high enrollments of Disabled students (14.2% for Uniform schools, 14.8% for Non-uniform schools, respectively) and low enrollments of Limited English Proficient students (2.5% v. 2.5%). (See Appendix E for more demographic information). It appears that the schools that adopted uniform policies in this population have a higher incidence of poverty and higher minority enrollment than those that did not adopt a uniform policy.

Analysis of Variance (ANOVA) was used to compare the mean change in Attendance, Graduation, Academic Proficiency as measured by Reading 9 and 12, and Math 9 and 12, and Student Conduct as measured by Suspensions and Expulsions for the Uniform Schools (U1, U2, U3, and U4) and all Non-uniform schools (N=58) . School U4 was not included in the data analysis for Suspensions because of its extraordinarily high number for Mean change.

Table 14 presents the results of this analysis. Significant differences were determined for Graduation rates ($p=0.021$), Reading 9 ($p=0.043$), and Suspensions ($p=0.005$). However, the mean change for Reading 9 for Uniform Schools was a negative number (-2.18), indicating a decline in school performance on the Reading 9 proficiency test after policy implementation for the Uniform Schools compared with the Non-uniform schools. The Uniform Schools demonstrated an improvement in higher graduation rates and a decrease in the rates of suspensions and were significantly different from the 58 Non-uniform schools, leading to a finding that such policies support a positive effect on graduation and suspension rates.

TABLE 14

Analysis of Variance of the mean difference in School Performance Measures for all schools statewide

<i>Variable</i>	<i>School with Uniform Policy</i>	<i>Schools with No Uniform Policy</i>	<i>All schools</i>	<i>Analysis</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>
<u>Attendance</u>								
Mean	-0.4	1.5	1.4	Between Groups	14.0	1	14.0	0.916
S.D.	2.5	4.0	3.9	Within Groups	917.0	60	15.3	
N	4	58	62	Total	931.1	61		
<u>Graduation</u>								
Mean	10.9	-4.6	-3.4	Between Groups	111.9	1	1111.9	9.115*
S.D.	7.5	11.3	11.7	Within Groups	7440.6	60	121.9	
N	4	58	62	Total	8552.5	61		
<u>Academic Proficiency</u>								
<u>9th grade Reading Test</u>								
Mean	-2.2	5.3	4.8	Between Groups	208.3	1	208.3	4.26*
S.D.	6.3	7.0	7.2	Within Groups	2933.7	60	48.9	
N	4	58	62	Total	3142.0	61		
<u>12th grade Reading Test</u>								
Mean	-7.7	-7.9	-7.9	Between Groups	0.1	1	0.1	0.00
S.D.	4.4	7.1	6.9	Within Groups	2904.0	60	48.4	
N	4	58	62	Total	2904.1	61		
<u>9th grade Math Test</u>								
Mean	-2.7	5.5	5.0	Between Groups	253.9	1	253.9	3.42
S.D.	4.9	8.8	8.8	Within Groups	4452.7	60	74.2	
N	4	58	62	Total	4706.6	61		
<u>12th grade Math Test</u>								
Mean	5.7	2.9	3.1	Between Groups	30.1	1	30.1	1.08
S.D.	2.6	5.4	5.3	Within Groups	1679.4	60	28.0	
N	4	58	62	Total	1709.6	61		
<u>Student Conduct</u>								
<u>Suspensions</u>								
Mean	-47.9	9.4	6.6	Between Groups	9,366.6	1	9,366.6	8.34*
S.D.	67.7	31.6	35.5	Within Groups	66,234.4	59	1,122.6	
N	3	58	61	Total	75,601.0	60		
<u>Expulsions</u>								
Mean	-0.9	-0.4	-0.5	Between Groups	0.9	1	0.9	0.84
S.D.	1.1	1.0	1.0	Within Groups	63.5	60	1.1	
N	4	58	62	Total	64.3	61		

* p<.05

Summary for Comparison Three

In order to control for statewide changes in school policies and programs that would impact on all of the urban high schools, Comparison Three used ANOVA to test for significant differences between Uniform schools and Non-uniform schools statewide. In this comparison, there were significant improvements for the group of Uniform schools in Graduation rates and Suspensions. Because of the controls for other mitigating and rival hypotheses in this statewide analysis, it appears that the uniform policy may be effective in improving the school performance measures of Graduation rates and Student Conduct for Suspensions. This comparison fails to substantiate the effectiveness of school uniform policies for all other performance measures.

Comparison Four – Matched Schools Comparison

Even if variables that may affect School Performance Measures at the school district and statewide levels can be successfully controlled for through the previous types of comparisons, there are building-specific variables other than the implementation of a school uniform policy that may explain changes in School Performance Measures. One of the common criticisms of school uniform studies is that other less visible school improvements or reforms impact on school performance measures, but uniform policies, because of their high visibility and the attention drawn to the schools because of the nature of such policies, receive the credit for whatever improvements take place within those schools.

In this comparison, attempts were made to control for other kinds of school improvements, thereby attempting to isolate the impact of the school uniform policy. Thus, through Comparison Four, certain plausible explanations for the change in school performance measures can be ruled out, including explanations related to differing demographics of the student populations and the introduction of other school improvement measures, such as selected strategies associated with curriculum reform, security or student support. For example, the uniform policy may be considered effective for academic proficiency if (1) neither of the matched schools have undertaken improvements in curriculum during or after the time period when the uniform policy was implemented, or if (2) similar kinds or numbers of improvements to curriculum were implemented at both schools, but (3) the uniform school showed greater improvements in academic performance measures. Conversely, it may be difficult to conclude that the school uniform policy had a positive effect if (1) gains were similar at both schools, or if

(2) there were more and different curriculum improvements implemented at about the same time at the uniform school that were not implemented at the non-uniform school.

Selection of Matched Non-uniform Schools

Each school with a uniform policy was matched with one school that did not implement a uniform policy during the years of the study. The schools were matched according to reported school demographics: Disability, Limited English Proficiency, Economic Disadvantaged, Gender, and Ethnicity. Schools were also matched on the basis of the nature, pervasiveness and timing of School Improvement Strategies (policy, curricular, security or student supports) using the indexed scores from the School Improvement Survey. Paired samples t-tests were used to eliminate possible matches that showed statistically significant differences in multiple categories.

Statistical Analysis

Once a match was established, each Uniform School was compared with its matched Non-uniform school on the School Performance Measures: Attendance, Graduation Academic Proficiency, and Student Conduct using paired sample t-tests. Cohen's d was used to determine the effect size to compensate for the small sample size. The mean changes in each measurement for each of the School Performance measures for the Uniform schools were compared with mean changes for the same time period for matched Non-uniform Schools. In order to simplify this discussion, the results for Schools U2, U3 and U4, which are in the same school district will be discussed, followed by discussions of the results for Schools U5, and U6, which have some missing data, followed by School U1, which offered some challenges in obtaining a matched school due to its demographic make-up and the timing of other school improvement strategies.

Comparison of School U2 with Matched School

School U2 was matched with School N8. Both schools were largely the same in the demographic make-up of the student population with little dissimilarity. These two schools were also comparable with few differences in the school improvement strategies implemented in both buildings. For complete information on School Demographics and School Improvement Strategies at Schools U2 and N8, consult Table 15.

Comparison of School Demographic Characteristics

The schools were similar in mean enrollment (892 at School U1 v. 822 at School N8 respectively), Disabled students (12.6% v. 19.4%), Economically Disadvantaged students (44.1% v. 27.7%), White students (55.6% v. 59.9%), and Minority students (44.4% v. 40.1%), including Black students (39.3% v. 36.8%). There were no significant differences in the demographics of the student enrollment between these two schools.

Comparison of the Survey of School Improvement Strategies

There were many similarities in scores on the Survey of School Improvement. School U2, however, implemented a somewhat higher number of Policy measures (1.0 at School U2 v. 0.6 at School N8, respectively). Both schools implemented a moderate number of Security measures (0.6 v. 0.6) and a high number of Curriculum measures (0.9 v. 0.8) Scores differed slightly for Student Support measures where School U2 implemented a high number of measures while School N8 implemented a moderate number of same (0.8 v. 0.7). For complete information on School Improvement Survey results, see Appendix E.

Before uniform policy implementation (1994-95 through 1996-97)

In the years prior to the introduction of the uniform policy at School U2, both School U2 and School N8 implemented similar Policy measures. Both implemented attendance incentive policies, in-school suspension programs, and alternative education programs. School U2, which had a high score for school improvement policies, also implemented penalties for attendance, and zero-tolerance policies for both weapons and aggressive behavior. School U8 did not implement any additional strategies.

Both schools implemented a moderate number of Security measures (0.6 v. 0.6). Schools U2 and N8 both implemented the use of metal detectors and security guards, and increased the lighting on the school premises. School U2 installed alarms in classrooms and School N8 increased the presence of police on and around school grounds.

Both schools implemented a moderate number of Curriculum measures (0.5 v. 0.6). Both schools recruited and placed teachers by subject area licensure, aligned curriculum in Reading and in Math, used intensive test preparation and study guides to assist students in passing proficiency tests, increased student access to technology, and included proficiency test remediation classes during the school day. School N8 also made scheduling changes and added after-school proficiency test remediation.

Both schools implemented a moderate number of Student Support measures (0.5 v. 0.7). Both implemented prevention programs for drug and alcohol abuse and sexual assault. School U2 increased counseling services, and added an alternative to gang membership program. School N8 implemented peer mediation and character education programs.

During the uniform policy implementation year (1997-98)

Both Schools had low Policy scores during the uniform policy implementation year (0.1 v. 0.1). The only policy School U2 introduced during that year was the school uniform policy. School N8 introduced attendance penalties. Neither school implemented any other Policy measures. No additional Security measures (0.0 v. 0.0), Curriculum measures (0.0 v. 0.0), or Student Support measures (0.0 v. 0.0) were implemented in the uniform policy implementation year at either school.

After uniform policy implementation (1998-99 through 2001-02)

In the time after the uniform policy implementation year, no additional Policy measures (0.0 v. 0.0) were implemented at either School U2 or School N8. Both Schools also had low scores for Security measures (0.1 v. 0.1). The only security measure implemented at School U2 was the increased presence of police on and around school grounds. School N8 implemented the use of police dogs during the same time period.

School U2 implemented a moderate number of Curriculum measures (0.5) while School N8 implemented a low number (0.2). Both schools implemented academic cluster programs, block scheduling, and additional honors courses. School U3 also reduced class size, made other schedule changes, and added after-school proficiency test remediation. Scores for both schools were low for Student Support measures (0.3 v. 0.0). School U3 implemented peer mediation and character education programs while School N8 added no other programs or services.

While there are substantial similarities between the schools in terms of school improvement strategies implemented, it should be noted that School U2 introduced a number of strategies in the years after implementing the uniform policy. This makes any

changes in performance measures difficult to attribute to any one policy such as the school uniform policy, although to the extent similar strategies other than the uniform policy were also implemented at School U8, it may be inferred that the improvements at School U2 were attributable to the school uniform policy. For more information on School Improvement Strategies, see Table 17 and Appendix E

Table 15

Comparison of School Demographics and School Improvement Strategies for School U2 with Matched School.

		<u>School Number</u>	<u>U2</u>	<u>N8</u>
<i>UNIFORM POLICY</i>			Yes	No
	<u>Mean Enrollment Disabled</u>		892	822
	<u>Limited English Proficient</u>		12.6	19.4
	<u>Economically Disadvantaged</u>		0.2	0.0
	<u>Economically Disadvantaged</u>		44.1	27.7*
<i>SCHOOL DEMOGRAPHICS</i>	<u>Gender</u>	Female	50.3	49.5
		Male	49.7	50.5
	<u>Ethnicity</u>	Asian	0.2	2.3
		Black	39.3	36.8
		Hispanic	3.9	1
		American. Indian	0	0
		Multi-racial	0.9	0
		White	55.6	59.9
	<u>School Policy Measures</u>	Before 1997-98	0.8	0.4
		During 1997-98	0.1	0.1
After 1997-98		0.1	0.1	
<u>Total</u>		<u>1.0</u>	<u>0.6</u>	
Before 1997-98		0.4	0.5	
<u>School Security Measures</u>	During 1997-98	0.1	0.0	
	After 1997-98	0.1	0.1	
	<u>Total</u>	<u>0.6</u>	<u>0.6</u>	
<i>SCHOOL IMPROVEMENT SURVEY RESPONSES</i>	<u>Curriculum Measures</u>	Before 1997-98	0.5	0.6
		During 1997-98	0.0	0.0
		After 1997-98	0.5	0.2
	<u>Total</u>	<u>0.9</u>	<u>0.8</u>	
	<u>Student Support Measures</u>	Before 1997-98	0.5	0.7
		During 1997-98	0.0	0.0
		After 1997-98	0.3	0.0
<u>Total</u>		<u>0.8</u>	<u>0.7</u>	

*significantly different

Table 16 presents the results of comparisons of School Performance Measures for School U2 compared with School N8. While some of the differences in this comparison could be attributed to other school improvements, the overall scores on the Survey of School Improvement were very close for all four categories of improvement strategies. When compared on School Performance Measures, the uniform policy was not effective for Attendance, although both schools showed small gains in Attendance. The uniform policy was also not effective for Graduation, with both schools showing similar declines in graduation rates. When School U2 was compared with School N8 for Academic Proficiency, the uniform policy was highly effective for Reading and Math 9 but not effective for Reading 12, and moderately effective for Math 12. Both schools had declines in Reading 9 and Reading 12, but School N8's declines were more severe than School U2's. School U2 had gains in Math 9, but scores declined at School N8. There were gains for Math 12 for both schools, but at School N8, the increase was much smaller than at School U2. Because of the high volume of Curriculum improvements at School U2, it could be argued that other improvements besides the uniform policy may be responsible for the improvements in academic proficiency. However, no Curriculum measures were introduced at the same time as the uniform policy. The school improvements were very similar for both of these schools so it cannot be argued that other policies or improvements are responsible for these differences.

For Student Conduct, the uniform policy tested as highly effective for both Suspensions and Expulsions with a reduction of 43.2 suspensions per 100 students enrolled at school U2 as contrasted to a reduction of only 15.2 suspensions per 100 students at School U8. Expulsions decreased at School U2 0.6 expulsions per 100

students while at School N8 the rate increased 0.6 expulsions per 100 students. While some of these improvements could be related to the high scores for Policy on the Survey of School Improvement, very few policies that might be expected to affect suspensions or expulsion rates were introduced at the same time or after School U2 introduced the uniform policy.

In this comparison, the uniform policy for School U2 appears to be somewhat effective for Academic Proficiency in Math 9 and 12 with increases in pass rates, and for Reading 9, but only because a lesser decline in Reading 9 pass rates occurred at School U2 than at School N8. The results of these gains in academic proficiency might be explained by the relevant curriculum improvement measures adopted by School U2 after the uniform policy implementation year. The uniform policy also appears to be effective for Student Conduct, and no school improvement strategy aimed at reducing school suspensions was adopted simultaneously or after the uniform policy was implemented.

Table 16
Comparison of Performance Measures at School U2 with Matched School

	(N=2)	<u>School</u>	<u>U2</u>	<u>N8</u>	
<u>ATTENDANCE</u>		Mean Before	87.9	81.6	
		Mean After	89.1	89.2	
		Mean Change	1.2	7.6	
		S.D. (pooled)		1.2	
		Effect size		-5.4	
<u>GRADUATION</u>		Mean Before	74.2	75.0	
		Mean After	72.9	73.3	
		Mean Change	-1.2	-1.7	
		S.D. (pooled)		4.9	
		Effect size		0.1	
<u>ACADEMIC PROFICIENCY</u>	<u>Reading 9</u>	Mean Before	91.2	82.9	
		Mean After	88.4	76.5	
		Mean Change	-2.8	-6.4	
		S.D. (pooled)		3.0	
		Effect size		1.2	***
<u>ACADEMIC PROFICIENCY</u>	<u>Reading 12</u>	Mean Before	68.5	58.9	
		Mean After	64.5	54.2	
		Mean Change	-3.9	-4.6	
		S.D. (pooled)		6.5	
		Effect size		0.1	
<u>ACADEMIC PROFICIENCY</u>	<u>Math 9</u>	Mean Before	59.9	47.0	
		Mean After	64.2	44.8	
		Mean Change	4.3	-2.2	
		S.D. (pooled)		5.6	
		Effect size		1.2	***
<u>ACADEMIC PROFICIENCY</u>	<u>Math 12</u>	Mean Before	33.4	32.3	
		Mean After	44.1	39.7	
		Mean Change	10.7	7.4	
		S.D. (pooled)		8.2	
		Effect size		0.4	**
<u>STUDENT CONDUCT</u>	<u>Suspensions</u>	Mean Before	106.6	97.4	
		Mean After	63.4	82.3	
		Mean Change	43.2	15.1	
		S.D. (pooled)		16.5	
		Effect size		1.7	***
<u>STUDENT CONDUCT</u>	<u>Expulsions</u>	Mean Before	1.4	1.1	
		Mean After	0.7	1.7	
		Mean Change	0.6	-0.6	
		S.D. (pooled)		0.9	
		Effect size		1.4	***

Comparison of School U3 with Matched School

School U3 matched with School N11. Both were substantially similar in the demographic makeup of the student population with only minor variations. They were also substantially comparable in the number and types of school improvement strategies implemented in each school building. For complete information on School Demographics and School Improvement Strategies at Schools U3 and N 11, See Table 17.

Comparison of School Demographic Characteristics

The two schools were similar in enrollment of Disabled students (22.3% at School U3, and 22.0% at School N11, respectively), Economic Disadvantaged students (75% v. 56.4%), and Ethnicity (88.0% Black, 2.9% Hispanic, 0.1% American Indian, 0.7% Multi-racial, and 8.3% White students at School U1 v. 90.5% Black, 0.2% Hispanic, 0.0% American Indian, 1.0% Multi-racial, 8.1% White students at School N11). There was, however, a significant difference in Mean Enrollment (808.3 v. 1340).

Comparison of the Survey of School Improvement Strategies

Both schools introduced a moderately high number of school improvement strategies during the years included in the study. School U3 implemented a higher number of Policy measures (1.0) while School N11 introduced a moderate number of policies (0.6). Both introduced a high number of Security measures (0.8 at both schools), and a moderately high number of Curriculum measures (0.8 at School U3 v. 0.7 at School N11, respectively). There was a small difference in the number of total Student Support measures (a high of 1.0 at School U3 and a moderate number of 0.7 at School N11). For further information School Improvement Strategies at Schools U3 and N11, see Table 17.

Before uniform policy implementation (1994-95 through 1996-97)

In the years before U3 implemented the School Uniform policy, School U3 also implemented a high number of Policy measures (0.8) and School N11 implemented a moderate number of Policy measures (0.4). Both schools implemented zero-tolerance policies for weapons and aggression, and in-school suspensions programs. School U3 also introduced, in addition to the school uniform policy, attendance incentives and penalties, and an alternative education program for serious forms of student misconduct.

Both introduced a moderate number of Security measures (0.5 at School U3 v. 0.6 at School N11, respectively). Both schools introduced metal detectors, security guards and phones or alarms in classrooms. School U3 increased lighting and School N11 installed video surveillance.

Both schools introduced a moderate number of measures to improve Curriculum in the years before the uniform policy was introduced (0.5 v. 0.7). Both schools recruited and placed teachers by licensure area, aligned curriculum in Reading and Math, used intensive proficiency test preparation and study guides, improved student access to technology, and introduced remedial proficiency test courses during the school day. School U3 also added more honors courses while School N11 reduced class size, changed to block scheduling, and added after school proficiency test remediation.

School U3 scored high for Student Support measures (0.8); however School N11 had a moderate score (0.7) for such improvements. Both schools implemented peer mediation programs, prevention programs for drugs, alcohol and sexual assault, and after school recreation programs. School U3 also increased counseling services and started an alternative to gang membership group. School N11 introduced character education.

During the uniform policy implementation year (1997-98)

The year that School U3 implemented the uniform policy, School N11 implemented a policy of penalties for poor attendance. No other Policies were implemented during this time at either school, resulting in identical low scores (0.1 v. 0.1) at both schools. No new improvement strategies were introduced for Security, Curriculum, and Student Support measures, resulting in zero scores (0.0 v. 0.0) for both schools for each of those three sets of improvement measures. Thus, for the critical year of policy implementation at School U3, no school improvement measures, with a single exception, were instituted at either of these paired schools.

After uniform policy implementation (1998-99 through 2001-02)

In the period of time following the uniform policy implementation year, neither school introduced any additional Policy measures, resulting in identical zero scores at both schools (0.0 v. 0.0). Both schools had low score for Security measures (0.3 v. 0.1). School U3 installed video surveillance and increased the police presence in and around the school building. School N11 required students to carry identification tags.

Both schools also had low scores for Curriculum (0.3 v. 0.0). School U3 reduced class size, implemented academic cluster programs, changed to block scheduling, and added after school proficiency test remediation. School N11 did not add any additional curriculum improvements but had instituted some of these improvements prior to the treatment year. Likewise, both schools had low scores for Student Support measures (0.3 v. 0.0). School U3 added a character education program, but School N11 introduced no additional improvements.

Overall, there was substantial similarity in the nature and level of school improvement strategies implemented at the paired schools sites, although the timing of the implementation of some improvements varied in one school or the other.

Table 17
Comparison of School Demographics and School Improvement Strategies for School U3 with Matched School.

	<i>School</i>	<i>U3</i>	<i>N11</i>		
<i>UNIFORM POLICY</i>		Yes	No		
	<i>Mean Enrollment</i>	808.3	1340*		
	<i>Disabled</i>	22.3	22.0		
	<i>Limited English Proficient</i>	0.3	0.2		
	<i>Economically Disadvantaged</i>	75.0	56.4		
<i>SCHOOL DEMOGRAPHICS</i>	<i>Gender</i>	Female	51.0	53.1	
		Male	49.0	46.9	
	<i>Ethnicity</i>	Asian	0.0	0.2	
		Black	88.0	90.5	
		Hispanic	2.9	0.2	
		American. Indian	0.1	0.0	
		Multi-racial	0.7	1.0	
		White	8.3	8.1	
	<i>SCHOOL IMPROVEMENT SURVEY RESPONSES</i>	<i>School Policy Measures</i>	Before 1997-98	0.8	0.4
			During 1997-98	0.1	0.0
After 1997-98			0.1	0.3	
Total		1.0	0.6		
<i>School Security Measures</i>		Before 1997-98	0.4	0.6	
		During 1997-98	0.0	0.0	
		After 1997-98	0.4	0.1	
Total		0.8	0.8		
<i>Curriculum Measures</i>		Before 1997-98	0.5	0.7	
		During 1997-98	0.0	0.0	
	After 1997-98	0.3	0.0		
	Total	0.9	0.7		
	<i>Student Support Measures</i>	Before 1997-98	0.8	0.7	
During 1997-98		0.0	0.0		
After 1997-98		0.2	0.0		
Total	1.0	0.7			

*significantly different

Table 18 summarizes the comparisons of School U3 with School N11 for School Performance Measures. Based on this analysis of the data, the Uniform policy was highly effective for Attendance and for Graduation rates. The policy was not effective for Academic Proficiency Performance Measures: Reading 9, Reading 12, Math 9, and Math 12. Reading 9 actually declined at School U3, but improved at School N11. Reading 12 declined at both schools, but more at School U3. Math 9 and 12 improved at both schools, but there was a greater improvement at School N11 than School U3. Thus, importantly, there appeared to be no evidence to suggest a conclusion that the adoption of a uniform policy at school U3 had beneficial effects on student Academic Proficiency.

For Student Conduct, the uniform policy was highly effective for Suspensions, but ineffective for Expulsions. Expulsions rates improved at both schools, but there was a higher mean before at School N11, and a greater drop in expulsions at that school than at School U3. Based on the results of this analysis, the uniform policy appears to be effective for improving Attendance and Graduation, and may be effective in improving Student Conduct of the type that typically may result in out-of-school suspensions.

Table 18

<u>Comparison of Performance Measures at School U3 with Matched School</u>				
	<i>(N=2)</i>	<i>School</i>	<i>U3</i>	<i>N11</i>
<u>ATTENDANCE</u>		Mean Before	83.5	80.6
		Mean After	85.8	77.1
		Mean Change	2.3	-3.6
		S.D. (pooled)		2.9
		Effect size		2.0 ***
<u>GRADUATION</u>		Mean Before	37.4	94.6
		Mean After	54.3	46.2
		Mean Change	17.0	-48.4
		S.D. (pooled)		11.5
		Effect size		5.7 ***
<u>ACADEMIC PROFICIENCY</u>	<u>Reading 9</u>	Mean Before	67.5	56.6
		Mean After	63.9	69.9
		Mean Change	-3.6	13.3
		S.D. (pooled)		4.1
		Effect size		-4.2
	<u>Reading 12</u>	Mean Before	52.0	49.7
		Mean After	40.6	46.4
		Mean Change	-11.3	-3.3
		S.D. (pooled)		5.9
		Effect size		-1.3
<u>Math 9</u>	Mean Before	17.3	16.4	
	Mean After	22.7	22.3	
	Mean Change	5.4	6.0	
	S.D. (pooled)		3.8	
	Effect size		-0.2	
<u>Math 12</u>	Mean Before	21.8	19.7	
	Mean After	25.1	24.7	
	Mean Change	3.3	5.0	
	S.D. (pooled)		6.1	
	Effect size		-0.3	
<u>STUDENT CONDUCT</u>	<u>Suspensions</u>	Mean Before	208.1	76.8
		Mean After	90.3	47.5
		Mean Change	117.8	29.3
		S.D. (pooled)		17.3
		Effect size		5.1 ***
<u>Expulsions</u>	Mean Before	2.0	9.6	
	Mean After	1.4	6.4	
	Mean Change	0.6	3.2	
	S.D. (pooled)		1.9	
	Effect size		-1.4	

*** highly effective

Comparison of School U4 with Matched School

School U4 was matched with N18. Both schools were alike in several ways but had a small number of differences in the demographic composition of the student population. There were substantial similarities and few variations in the nature, level, and timing of school improvement strategies implemented in both buildings during the period studied. For complete information on School Demographics and School Improvement Strategies at Schools U4 and N18, see Table 19.

Comparison of School Demographic Characteristics

The two schools were comparable in enrollment of Disabled students (17.6% at School U4 v. 12.2% at School N18, respectively), Limited English Proficient students (4.0% v. 7.8%), Economically Disadvantaged students (58.8% v. 42.7%), Black students (72.9% v. 86.0%), Hispanic students (9.2% v. 1.8%), Multi-racial students (0.9% v. 1.5%), and White students (16.4% v. 7.7%). There was a significant difference in mean enrollment, 871 students at School U4 compared to 1506 students at School N18.

Comparison of the Survey of School Improvement Strategies

There were no substantial differences in scores on the survey of School Improvement Strategies. Both schools introduced a high number of improvement strategies during the years of the study. Both instituted a high number of Policy measures (1.0 at School U4 v 1.0 at School N18, respectively), but School U4 implemented fewer Security measures than School N18 (0.6 v. 1.0). Both schools also introduced a high number of Curriculum measures (0.8 v. 0.9) and an identical and moderate number of Student Support Services measures (0.7 v. 0.7). For specific information on the results of

the School Improvement Survey, see Appendix E.

Before uniform policy implementation (1994-95 through 1996-97)

School U4 introduced a moderate number of policies, while School N18 introduced a high number of policies prior to the introduction of the school uniform policy (0.5 v. 0.9). Both School U4 and N18 introduced zero-tolerance policies for weapons and for aggressive behavior, and established in-school suspension and alternative education programs. Additionally, School N18 introduced a strict dress code, attendance incentives, and attendance penalties.

School U4 also introduced a moderate number of Security measures compared to a high number at School N18 (0.6 v. 0.8). Both schools implemented the use of metal detectors and security guards, increased the police presence in and around the school throughout the school day, and installed alarms or phones in the classrooms. School U4 also implemented the use of video surveillance in and around the school building. School N18 also introduced the use of police dogs, and increased the amount of lighting inside and outside the school building.

Both schools implemented a moderate number of Curriculum measures (0.4 v. 0.8) including: recruitment and placement of teachers in their licensed subject area, alignment of the curriculum in Reading and in Math, intensive proficiency test preparation and the use of proficiency test study guides, and proficiency tests remedial courses during the school day. School U4 also added summer remediation programs to assist students with passing proficiency tests. School N18 also reduced class sizes, created academic cluster programs, made scheduling changes, and added more honors courses to the curriculum.

Among the Student Support measures implemented (0.7 v. 0.7), both schools increased counseling services, implemented peer mediation programs, drug/alcohol/sexual assault prevention programs, and character education.

The numbers and types of improvement strategies introduced at School U4 in the years before the uniform policy was introduced appear to be large but similar.

During the uniform policy implementation year (1997-98)

Few additional school improvement strategies were introduced at either school during the uniform policy implementation year. School U4 implemented a moderate number of Policies (0.4) including the Uniform policy and attendance penalties, while School N18 added none (0.0). Security measures introduced during this time were also low (0.0 v. 0.1) School U4 added no additional security measures, while School N18 added video surveillance. The number of Curriculum measures was low as well (0.0 v. 0.2); School U4 introduced no additional curriculum improvements while School N18 increased student access to technology and added a summer remediation program. No additional Student Support Services were introduced at either school (0.0 v. 0.0). The numbers and types of improvements introduced in both schools during the year School U4 introduced the uniform policy appear to be low and similar.

After uniform policy implementation (1998-99 through 2001-02)

Few school improvement strategies were introduced in the years after at either School U4 or N18. No additional Policy measures were introduced at either school (0.0 v. 0.0). School U4 did not introduce any additional Security measures (0.0), while School N18 (0.1) added a requirement that students carry mandatory identification. Among the Curriculum measures introduced after (0.4 v. 0.1), School U4 reduced class size,

implemented academic cluster programs, made scheduling changes, added more honor courses, increased student access to technology, and added an after school remediation program. School N18 lengthened the school day and the school year. No other Student Support Services were introduced at either of these two schools (0.0 v. 0.0). The numbers and types of improvements introduced in both school during the year School U4 introduced the uniform policy appear to be low and similar, with the exception of greater curriculum initiatives at School U4.

Table 19

Comparison of School Demographics and School Improvement Strategies for School U4 with Matched School.

	<u>School</u>	<u>U4</u>	<u>NI8</u>
<i>UNIFORM POLICY</i>		Yes	No
<i>Mean Enrollment</i>		871	1506*
<i>Disabled</i>		17.6	12.2
<i>Limited English Proficient</i>		4.0	7.8
<i>Economically Disadvantaged</i>		58.8	42.7
<i>SCHOOL DEMOGRAPHICS</i>			
<i>Gender</i>	Female	52.0	50.9
	Male	48.0	49.1
<i>Ethnicity</i>	Asian	0.6	3.1
	Black	72.9	86.0
	Hispanic	9.2	1.8
	American Indian	0.0	0.0
	Multi-racial	0.9	1.5
	White	16.4	7.7
<i>School Policy Measures</i>	Before 1997-98	0.5	0.9
	During 1997-98	0.4	0.0
	After 1997-98	0.0	0.0
	Total	0.9	0.9
<i>School Security Measures</i>	Before 1997-98	0.6	0.8
	During 1997-98	0.0	0.1
	After 1997-98	0.0	0.1
	Total	0.6	1.0
<i>SCHOOL IMPROVEMENT SURVEY RESPONSES</i>			
<i>Curriculum Measures</i>	Before 1997-98	0.4	0.6
	During 1997-98	0.0	0.2
	After 1997-98	0.4	0.1
	Total	0.8	0.9
<i>Student Support Measures</i>	Before 1997-98	0.7	0.7
	During 1997-98	0.0	0.0
	After 1997-98	0.0	0.0
	Total	0.7	0.7

*significantly different

When comparing these two schools on School Performance Measures, the uniform policy tested as highly effective for Attendance and highly effective for Graduation. In the comparison for Academic Proficiency, the policy tested as not effective for Reading 9, but highly effective for Reading 12. The policy tested as not effective for Math 9, but highly effective for Math 12. Reading 9 showed a decline at School U4, but an increase in School N18 during the years of the study. Reading 12 declined at both schools, but only slightly at School U4. Math 9 improved at School N18, but deteriorated at School U4. Math 12 improved at School U4, but declined at School N18. For the comparisons of Student Conduct, the policy tested as highly effective for Suspensions, but not effective for Expulsions. School N18 had a mean before expulsion rate that was twice the mean before expulsion rate at School U4. The mean change for both schools, however, was about the same (2.2 v. 2.7). Some of these changes in performance in the area of Academic Proficiency could also be attributed to other Curriculum improvement measures introduced at School U4. There were not appreciable differences, however, in the numbers and kinds of improvement strategies relevant to the areas of Attendance, Graduation, and Student Conduct in which School U4 showed the greater improvements. Therefore, the uniform policy appears to be somewhat effective in contributing to the improvements in Attendance and Graduation, and perhaps in Academic Proficiency, and Student Conduct. See Table 20 for results of this data analysis.

Table 20

Comparison of Performance Measures at School U4 with Matched School.

	(N= 2)	<u>School</u>	<u>U4</u>	<u>NI8</u>
<u>ATTENDANCE</u>		Mean Before	84.8	82.1
		Mean After	86.9	80.0
		Mean Change	2.2	-2.2
		S.D. (pooled)	-	6.9
		Effect size	-	1.3 ***
<u>GRADUATION</u>		Mean Before	52.7	90.2
		Mean After	57.3	52.8
		Mean Change	4.6	-37.4
		S.D. (pooled)		9.5
		Effect size		4.4 ***
<u>ACADEMIC PROFICIENCY</u>	<u>Reading 9</u>	Mean Before	79.5	63.3
		Mean After	70.8	70.2
		Mean Change	-8.7	6.9
		S.D. (pooled)		5.2
		Effect size		-3.0
<u>ACADEMIC PROFICIENCY</u>	<u>Reading 12</u>	Mean Before	58.0	57.2
		Mean After	57.9	52.1
		Mean Change	-0.1	-5.1
		S.D. (pooled)		4.8
		Effect size		1.0 ***
<u>ACADEMIC PROFICIENCY</u>	<u>Math 9</u>	Mean Before	38.0	23.8
		Mean After	27.8	29.1
		Mean Change	-10.2	5.3
		S.D. (pooled)		3.1
		Effect size		-5.0
<u>ACADEMIC PROFICIENCY</u>	<u>Math 12</u>	Mean Before	26.4	28.0
		Mean After	35.2	26.3
		Mean Change	8.8	-1.7
		S.D. (pooled)		6.8
		Effect size		1.54 ***
<u>STUDENT CONDUCT</u>	<u>Suspensions</u>	Mean Before	324.7	60.6
		Mean After	43.0	43.0
		Mean Change	281.7	17.7
		S.D. (pooled)		12.4
		Effect size		21.3 ***
<u>STUDENT CONDUCT</u>	<u>Expulsions</u>	Mean Before	4.0	8.3
		Mean After	1.8	5.7
		Mean Change	2.2	2.7
		S.D. (pooled)		2.3
		Effect size		-0.2

*** highly effective

Comparison of School U5 with Matched School

School U5 was matched with School N54, which is in the same district. Both schools were comparable in the demographics of the student population and in the number of school improvements and the pattern of improvements implemented in both schools with few exceptions. For complete information on School Demographics and School Improvement Strategies at Schools U5 and N54, see Table 21.

Comparison of School Demographic Characteristics

Both schools served similar proportions of students who were Disabled (16.1% at School U5 v. 19.7% at School N54, respectively), Economically Disadvantaged (24% v. 20.8%), and of similar race or ethnic groups (82% Black students, and 17.5% White students v. 86.1% Black students, and 13% White students). There was a statistical difference in mean enrollment (506 v. 1104) however, School U5's enrollment dropped dramatically (see Appendix B). There were no other statistically significant differences in the demographic data between these two schools.

Comparison of the Survey of School Improvement Strategies

There were also substantially more similarities than differences in the number and pattern of School Improvement Strategies implemented during the years included in this study. Both Schools had high total scores (0.8 v. 0.8) for Policy measures, moderate total scores for Curriculum measures (0.7 v. 0.7), and low total scores for Student Support measures (0.3 v. 0.2). School U5 introduced a similar but slightly higher total number of Security measures than School N31 (0.8 v. 0.6). For specific information on the results of the School Improvement Survey, see Appendix E.

Before uniform policy implementation (1994-95 through 1996-97)

In the years before School U5 implemented the uniform policy, both School U5 and N54 implemented the same number of Policy measures including attendance incentives and alternative education programs. School U5 also implemented attendance penalties while School N54 introduced a strict dress code.

School U5 introduced a high number of Security measures compared to a moderate number at School N54 during the years leading up to the adoption of the uniform policy. Both schools used metal detectors and security guards. School U5 also used video surveillance and mandatory identification, increased lighting, and installed phones or alarms in classrooms.

Both schools introduced low numbers of Curriculum measures (0.3 v. 0.3), including some of the same measures, such as academic cluster programs and proficiency test remediation courses during the school day. School U5 recruited and placed teachers by subject area of licensure, and implemented block scheduling and summer proficiency test remediation. School N54 utilized intensive test preparation and study guides to help students pass proficiency tests.

School U5 did not introduce any Student Support measures (0.0) in the years before it implemented a uniform policy, but School N54 introduced a low number (0.3) of such measures, particularly peer mediation, and character education programs.

During the uniform policy implementation year (1997-98)

The only Policy measure introduced at School U5 during the 1997-98 year was the uniform policy. No other policy measures were introduced at either school (0.1 v. 0.0). No other Security measures (0.0 v. 0.0), Curriculum measures (0.0 v. 0.0), or

Student Support measures (0.0 v. 0.0) were introduced during the critical uniform policy implementation year.

After uniform policy implementation (1998-99 through 2001-02)

In the time period following the implementation of the uniform policy at School U5, School U5 implemented a low number of additional Policy measures (0.3) compared with a moderate number at School N54. Both Schools implemented zero-tolerance policies for both weapons and aggression. School N54 also implemented attendance penalties.

School U5 also implemented no new Security measures (0.0) while School N54 implemented a moderate number (0.40 including mandatory identification and increased lighting).

School U5 also implemented fewer Curriculum measures than N54 (0.3 v. 0.4). Both schools aligned the curriculum in Reading and in Math, and increased student access to technology. School U5 also reduced class size and implemented intensive test preparation and study guides to assist students in passing proficiency tests. School N54 began to recruit and place teachers according to subject area of licensure, made schedule changes, and implemented a summer proficiency test remediation program.

School U5 did not introduce any Student Support measures (0.0) after the uniform policy implementation year, but School N54 implemented a moderate number (0.5). School N54 increased counseling services, implemented an alternative to gang membership program, and introduced after school recreational activities.

Thus, if anything, School N54 appears to have instituted more improvement strategies after the year of school uniform policy implementation than did School U5.

This would be particularly significant if the Uniform school demonstrated significantly greater mean changes in performance measures than did School N54.

Table 21
Comparison of School Demographics and School Improvement Strategies for School U5 with Matched School.

		<u>School</u>	<u>U5</u>	<u>N54</u>
<i>UNIFORM POLICY</i>			Yes	No
	<i>Mean Enrollment</i>		506	1104*
	<i>Disabled</i>		16.1	19.7
	<i>Limited English Proficient</i>		0.2	0
	<i>Economically Disadvantaged</i>		24	20.8
	<i>SCHOOL DEMOGRAPHICS</i>	<i>Gender</i>	Female	60.2
Male			39.8	49.1
<i>Ethnicity</i>		Asian	0.2	0.1
		Black	82	86.1
		Hispanic	0.2	0.5
		American Indian	0	0
		Multi-racial	0.1	0.4
		White	17.5	13
			Before 1997-98	0.4
<i>School Policy Measures</i>		During 1997-98	0.1	0.0
		After 1997-98	0.3	0.4
		Total	0.8	0.8
<i>School Security Measures</i>		Before 1997-98	0.8	0.3
	During 1997-98	0.0	0.0	
	After 1997-98	0.0	0.4	
<i>SCHOOL IMPROVEMENT SURVEY RESPONSES</i>	<i>Curriculum Measures</i>	Total	0.8	0.6
		Before 1997-98	0.3	0.3
		During 1997-98	0.0	0.0
	<i>Student Support Measures</i>	After 1997-98	0.3	0.4
		Total	0.7	0.7
		Before 1997-98	0.2	0.0
		During 1997-98	0.0	0.0
	<i>Student Support Measures</i>	After 1997-98	0.2	0.2
		Total	0.3	0.2

*significantly different

The data, as presented in Table 22, indicates that the uniform policy was not effective for Attendance. Attendance declined at School U5, but improved at School N54, which could, in part be due to a policy for penalizing poor attendance at School N54. There was no comparison made for Graduation. The first measurement for Graduation for School U5 was in 1998 however the mean graduation rate was 84% for the years after the uniform policy was implemented, but it was 62% during the same time period at School N54. For Academic Proficiency, the policy was not effective for either Reading or Math 9, but was highly effective for Reading and Math 12.

For Student Conduct, there was no comparison made for Suspensions due to missing data, but the policy showed no effectiveness for Expulsions. Data on Suspension rates were not reported by this school district before 1998. The mean rate of Suspensions per 100 students was 6.0 from 1998 through 2002, but it was 13.4 at School N54 during the same time period. Based on this analysis, the uniform policy may be somewhat effective for Academic proficiency at the 12th grade level. Higher results in academic proficiency for School U5 cannot be readily explained by any other school improvement measure at School U5 not otherwise present at School N54 since it implemented more and similar school improvements with the exception of the uniform policy. Therefore, the uniform policy could possibly be effective for Reading 12 and Math 12.

Table 22

<u>Comparison of Performance Measures at School U5 with Matched School.</u>				
	<i>(N=2)</i>	<i>School</i>	<i>U5</i>	<i>NS4</i>
<u>ATTENDANCE</u>		Mean Before	80.8	76.0
		Mean After	73.4	80.8
		Mean Change	-7.4	4.7
		S.D. (pooled)		2.6
		Effect size		4.73
<u>GRADUATION</u>		Mean Before	~	57.0
		Mean After	84.0	62.0
		Mean Change	~	5.1
		S.D. (pooled)		~
		Effect size		~
<u>Reading 9</u>		Mean Before	69.5	70.6
		Mean After	69.2	74.3
		Mean Change	-0.3	3.7
		S.D. (pooled)		6.9
		Effect size		-0.6
<u>Reading 12</u>		Mean Before	45.4	81.8
		Mean After	40.9	64.7
		Mean Change	-4.4	-17.2
		S.D. (pooled)		14.9
		Effect size		0.9 ***
<u>ACADEMIC PROFICIENCY</u>		Mean Before	31.7	28.3
		Mean After	34.0	30.9
	<u>Math 9)</u>	Mean Change	2.3	2.6
		S.D. (pooled)		5.8
		Effect size		0.0
<u>Math 12</u>		Mean Before	11.1	56.4
		Mean After	29.0	45.6
		Mean Change	17.9	-10.7
		S.D. (pooled)		14.6
		Effect size		2.0 ***
<u>Suspensions</u>		Mean Before	~	~
		Mean After	6.0	13.4
		Mean Change	~	~
		S.D. (pooled)		~
		Effect size		~
<u>STUDENT CONDUCT</u>		Mean Before	0	0
		Mean After	1.1	1.0
	<u>Expulsions</u>	Mean Change	-1.1	-1.0
		S.D. (pooled)		1.7
		Effect size		-0.1

*** highly effective

~ no data

Comparison of School U6 with Matched School

School U6 matched with School N31, which is in the same school district. These schools had greater similarities than differences in the demographics of the student population, and were more comparable than other schools within the same district in the responses and scores on the Survey of School Improvement Strategies. For further details on the similarities and differences between Schools U6 and N31, view Table 23.

Comparison of School Demographic Characteristics

These two schools had the lowest mean enrollments in the school district (119 at School U6 v. 325 at School N31, respectively). There were similarities in Gender (50.9% female v. 53.2% female) and in Economically Disadvantaged students (97.8% v. 93.2%). There was a lower proportion of Disabled students at School U6 (2.2% v. 13%) and lower proportions of Black students (57.8% v. 97.6%), Hispanic students (14.9% v. 0.8%), American Indian students (2.2% v. 0.4%), and White students (25.1% v. 0.1%). There were less disabled and less minority students at School U6 than at School N31. For further information on student enrollment, consult Table 24.

Comparison of the Survey of School Improvement Strategies

The total scores on the Survey of School Improvement were moderate to low at School U6, but high at School N31. The respective scores were 0.6 at School U6 v. 0.9 at School N31 for Policy measures, 0.4 v. 0.8 for Security measures, 0.5 v. 0.8 for Curriculum measures, and 0.0 v. 0.8 for Student Support measures. School U6 did not introduce as many school improvements as School N31. School U6 also did not introduce any other policies or programs during or after the uniform policy implementation year besides the school uniform policy. For specific information on the results of the School

Improvement Survey, see Appendix E.

Before uniform policy implementation (1994-95 through 1996-97)

In the years before School U6 implemented the school uniform policy, School U6 implemented a moderate number of Policy measures (0.5) while School N31 implemented a high number of Policy measures (0.8). Both schools implemented attendance incentives, zero-tolerance policies for weapon and aggression, and alternative education programs. School N31 also implemented attendance penalties and an in-school suspension program.

Both Schools implemented a low number of Security measures (0.1 v. 0.3). Both schools installed phones or alarms in classrooms. School N31 also introduced security guards.

Both schools implemented a moderate number of Curriculum measures (0.5 v. 0.7) before the uniform policy implementation year. Both Schools recruited or placed teachers by subject area licensure, aligned curriculum for Reading and for Math, reduced class size, introduced intensive test preparation and study guides to assist students in passing proficiency tests, lengthened the school day and year, and increased student access to technology. School N31 also added academic cluster programs, honors courses, and proficiency test remediation courses during the school day.

During the uniform policy implementation year (1997-98)

Other than the uniform policy, School U6 did not introduce any additional policy measures (0.1) during the uniform policy implementation year. School N31 did not introduce any additional policies (0.0). Neither school introduced any other Security measures (0.0 v. 0.0), Curriculum measures (0.0 v. 0.0), or Student Support measures (0.0

v. 0.0).

After uniform policy implementation (1998-99 through 2001-02)

Neither school introduced any additional Policy measures (0.0 v. 0.0) after the uniform policy implementation year at School U6. Both schools introduced a moderate number of new Security measures including the use of mandatory identification and increased lighting. School N31 also added video surveillance, and increased the policy presence on and around the school grounds. School U6 did not introduce any additional Curriculum measures (0.0) but School N31 introduced a low number of Curriculum measures (0.1) including block scheduling and after-school proficiency test remediation. School U6 did not introduce any additional Student Support measures (0.0), but School N31 introduced a moderate number of additional Student Support measures (0.5). School N31 implemented an alternative to gang membership program and after school recreational activities. IN brief then, School N31 introduced more improvement measures than School U6, providing a ready explanation for greater improvement at that building than what would be expected at School U6. If, however, School U6 were to show greater gains, the only plausible explanation may be the presence of the school uniform policy.

Table 23
Comparison of School Demographics and School Improvement Strategies for School U6 with Matched School.

		<u>School</u>	<u>U6</u>	<u>N31</u>
<i>UNIFORM POLICY</i>			Yes	No
	<u>Mean Enrollment Disabled</u>		119	325
	<u>Limited English Proficient</u>		2.2	13
	<u>Economically Disadvantaged</u>		4.4	0
<i>SCHOOL DEMOGRAPHICS</i>			97.8	93.2
	<u>Gender</u>	Female	50.9	53.2
		Male	49.1	46.8
		Asian	0	0
		Black	57.8	97.6*
		Hispanic	14.9	0.8
	<u>Ethnicity</u>	American Indian	2.2	0.4
		Multi-racial	0	1.1
		White	25.1	0.1*
		Before 1997-98		
	<u>School Policy Measures</u>		0.5	0.8
		During 1997-98	0.1	0.0
		After 1997-98	0.0	0.0
		Total	0.6	0.8
		Before 1997-98		
	<u>School Security Measures</u>		0.1	0.3
		During 1997-98	0.0	0.0
		After 1997-98	0.3	0.5
		Total	0.4	0.8
<i>SCHOOL IMPROVEMENT SURVEY RESPONSES</i>		Before 1997-98		
	<u>Curriculum Measures</u>		0.5	0.7
		During 1997-98	0.0	0.0
		After 1997-98	0.0	0.1
		Total	0.5	0.9
		Before 1997-98		
	<u>Student Support Measures</u>		0.0	0.3
		During 1997-98	0.0	0.0
		After 1997-98	0.0	0.5
		Total	0.0	0.8

*significantly different

When School Performance Measures at School U6 were compared with those at School N31, the uniform policy was highly effective for Attendance, with a gain of 3.9% as contrasted to 0.3% at School N31. While this might be attributable to the introduction of an attendance incentive policy at School U6, the policy was adopted prior to the year of uniform policy implementation and a similar policy was introduced at School N31, at the same time as at School U6.

In the comparison for Academic Proficiency, the uniform policy was highly effective for both Reading and Math 9, with a 16.6% gain in the Reading passage rate at School N6 contrasted with a decline of 5.6% at School N31. While Math pass age rates experienced a small increase of 0.2%, Math pass rates declined 1.8% at School N31, there were no reported measurements for Reading 12, and Math 12 for School U6 and no reason for this could be found. It was considered that this was because the school did not enroll students until 1996. It is speculated that if grades were added as students matured, no students in the school were eligible to take the 12th grade test while it was still being administered statewide.

For Student Conduct, the uniform policy was highly effective for Suspensions and Expulsions. Although the level of suspensions increased at both School U6 and School N31, it is possible that the difference in school demographics may account for the statistical differences between these two schools.

School N31 introduced more school improvement strategies over all, which should have made more or similar improvements in the school performance measures at School N31. However, School U6 showed greater gains in Attendance, Reading 9, and Math 9, and a lesser decreases in Suspensions and Expulsions for all five performance

measures in two schools where the means before the uniform policy implementation year were equivalent. It appears that in this comparison the uniform policy may have been effective for the School Performance measures: Attendance, Academic Proficiency, and Student Conduct. The results of this analysis are summarized in Table 24.

Table 24

<u>Comparison of Performance Measures at School U6 with Matched School.</u>				
	<i>(N=2)</i>	<i>School</i>	<i>U6</i>	<i>N31</i>
<u>ATTENDANCE</u>		Mean Before	74.3	79.4
		Mean After	78.2	79.7
		Mean Change	3.9	0.3
		S.D. (pooled)	-	3.0
		Effect size	-	1.2 ***
<u>GRADUATION</u>		Mean Before	~~	~~
		Mean After	~~	~~
		Mean Change	~~	~~
		S.D. (pooled)		~~
		Effect size		~~
<u>ACADEMIC PROFICIENCY</u>	<u>Reading 9</u>	Mean Before	57.8	68.5
		Mean After	74.4	62.9
		Mean Change	16.6	-5.6
		S.D. (pooled)		8.0
		Effect size		2.8 ***
<u>STUDENT CONDUCT</u>	<u>Math 9</u>	Mean Before	24.0	22.1
		Mean After	24.3	20.3
		Mean Change	0.2	-1.8
		S.D. (pooled)		5.1
		Effect size		0.4 **
<u>STUDENT CONDUCT</u>	<u>Suspensions</u>	Mean Before	1.1	40.4
		Mean After	1.9	97.9
		Mean Change	-0.8	-57.5
		S.D. (pooled)		4.1
		Effect size		13.7 ***
<u>STUDENT CONDUCT</u>	<u>Expulsions</u>	Mean Before	0.0	0.0
		Mean After	0.3	1.0
		Mean Change	-0.3	-1.0
		S.D. (pooled)		0.3
		Effect size		2.3 ***
*** highly effective		~~ no data		

Comparison of School U1 with Matched School

School U1 matched with School N47, another secondary school within the same district which was somewhat comparable in the demographics of the student population. It was difficult to match a school with School U1 based on its high minority student population and because of its scores on the Survey of School Improvement. School N47 represents the best possible match for School U1. For complete information on School Demographics and School Improvement Strategy scores for School U1 and N47, see Table 25.

Comparison of School Demographic Characteristics

Both schools were comparable in Mean Enrollment (829 at School U1 v. 885 at School N47 respectively), Disabled students (14.5% v. 14.0%), and Economically Disadvantaged students (58.4% v. 51.7%). Matching for Ethnicity was difficult because the enrollment at School U1 is 96.8% Black, 1.2% Hispanic, and only 1.4% White students. School U47, had an enrollment of 77.5% Black, 2.5% Hispanic, 3.5% and 16.2% White students; However, both schools have high minority student enrollment and low White student enrollment.

Comparison of the Survey of School Improvement Strategies

School U1 and N47 have similar scores for total school improvements in three categories and differences in a fourth category. There were few similarities in the timing of when school improvements were introduced within each building. During the years included in this study, both schools introduced high numbers of Policies measures (0.9 at School U1 v. 0.8 at School N47, respectively), moderate numbers of Security measures (0.6 v. 0.4) and moderate numbers of Curriculum measures (0.8 v. 0.6). School U1

introduced a moderate number of Student Support measures (0.5) compared with a low number at School N47 (0.2). For specific information on the results of the School Improvement Survey, see Appendix E.

Before uniform policy implementation (1994-95 through 1996-97)

In the time period before School U1 introduced the uniform policy, both schools implemented a moderate number of Policy measures (0.5 v. 0.5). Both schools implemented attendance incentives, in-school suspensions, and alternative education programs. School U1 also introduced a strict dress code policy. School N47 implemented a zero-tolerance policy against student aggression. Neither school introduced any Security measures (0.0 v. 0.0) during this time.

Both schools introduced low numbers of Curriculum measures (0.2 v. 0.3). Both schools recruited and placed teachers by subject area of licensure, implemented summer proficiency test remediation, and after school proficiency test remediation programs. School N47 also increased student access to technology. Neither school implemented any Student Support measures (0.0 v. 0.0).

During the uniform policy implementation year (1997-98)

School U1 introduced several improvements during the year it implemented the school uniform policy. In addition to the school uniform, School U1 (0.4) also implemented zero-tolerance policies for weapons and aggression. School N47 did not implement any additional Policy measures.

School U1 also introduced a moderate number of Security measures while School N47 did not introduce any Security measures (0.5 v. 0.0). School U1 introduced the use of video surveillance and security guards. It also increased the presence of police on and

around the school grounds and required students to carry identification.

School U1 also introduced a low number of Curriculum measures, while School N47 implemented none (0.3 v. 0.0). School U1 reduced class size, added academic cluster programs, used intensive test preparation and study guides to help students pass proficiency tests, and increased the number of honors courses.

That same year, School U1 introduced a low number of Student Support measures, while School N47 did not introduce any measures for Student Support (0.3 v. 0.0). School U1 implemented a peer mediation program and prevention programs for drug and alcohol abuse and sexual assault.

After uniform policy implementation (1998-99 through 2001-02)

In the years after School U1 implemented the school uniform policy, School U1 did not introduce any additional Policy measures, while School N47 introduced a low number of Policy measures (0.0 v. 0.3) School N47 added attendance penalties, and a zero-tolerance policy for weapons, which School U1 had implemented the previous year.

School U1 implemented a low number of Security measures; while School N47 implemented a moderate number (0.1 v. 0.4) School U1 increased lighting, while School N47 added video surveillance, security guards, and increased the police presence in and around the school grounds. These were all measures that School U1 had implemented the previous year.

Both schools implemented the same low number of Curriculum measures (0.3 v. 0.3). Both aligned the curriculum in Reading and in Math. School U1 introduced block scheduling and increased student access to technology, which had previously been done at School N47. School N47 implemented academic cluster programs and the use of

intensive test preparation and study guides to assist students with passing the proficiency tests. Both of these measures had been introduced at School U1 previously. School N47 also made scheduling changes.

Both schools implemented a low number of Student Support measures: School U1 added character education, while School N47 implemented prevention programs for drug and alcohol abuse and sexual assault, which School U1 had previous implemented.

Table 25

Comparison of School Demographics and School Improvement Strategies for School U1 with Matched School.

		<u>School</u>	<u>U1</u>	<u>N47</u>
<i>UNIFORM POLICY</i>			Yes	No
	<u>Mean Enrollment Disabled</u>		829	885
	<u>Limited English Proficient</u>		14.5	14.0
	<u>Economically Disadvantaged</u>		5.6	5.1
	<u>Economically Disadvantaged</u>		77.0	48.3*
<i>SCHOOL DEMOGRAPHICS</i>				
	<u>Gender</u>	Female	48.4	51.0
		Male	51.6	49.0
		Asian	0.6	3.5
		Black	96.8	77.5*
		Hispanic	1.2	2.5
	<u>Ethnicity</u>	American Indian	0.0	0.1
		Multi-racial	0.0	0.2
		White	1.4	16.2*
		Before 1997-98		
	<u>School Policy Measures</u>	During 1997-98	0.5	0.5
		After 1997-98	0.4	0.0
		Total	0.0	0.3
			0.9	0.8
		Before 1997-98		
	<u>School Security Measures</u>	During 1997-98	0.0	0.0
		After 1997-98	0.5	0.0
		Total	0.1	0.4
			0.6	0.4
<i>SCHOOL IMPROVEMENT SURVEY RESPONSES</i>				
		Before 1997-98		
	<u>Curriculum Measures</u>	During 1997-98	0.2	0.3
		After 1997-98	0.3	0.0
		Total	0.3	0.3
			0.8	0.6
		Before 1997-98		
	<u>Student Support Measures</u>	During 1997-98	0.0	0.0
		After 1997-98	0.3	0.0
		Total	0.2	0.2
			0.5	0.2

*significantly different

The differences in the timing of policy implementations at Schools U1 and N47 cast some questions on whether or not differences in school performance measures can be attributed to the presence of the school uniform policy. Implementation of some school improvements are complex and may impact in subtle ways on more than one performance measure. Table 26 indicates the performance measures for which the uniform policy may have shown effectiveness. When Uniform School U1 is compared with its matched Non-uniform School N47, the uniform policy was highly effective for Attendance. Even though attendance declined at School U1, it did not decline as badly as at School N47. The uniform policy was not effective for Graduation, which declined at both schools.

In the comparison of the two schools for Academic Proficiency, the uniform policy was moderately effective for Reading 9, but not effective for Reading 12, Math 9, and Math 12. Reading 12 and Math 12 showed similar declines in performance. Math 9 improved at both schools. Since curriculum improvements were introduced at the same time as the uniform policy, the improvements in Reading 9 and Math 9 could possibly be attributed to improvements in Curriculum. School N47, however, introduced some of the same improvements in the following years, which may minimize the influence of those other school improvements at School U1 in the years after the uniform policy was introduced. The uniform policy may have been effective for improvements for Reading 9.

For Student Conduct, compared to School U47, the uniform policy was highly effective for Suspensions and moderately effective for Expulsions. Suspensions showed similar deterioration at both schools, but School U1 did not see as drastic worsening as did School N47. Expulsions continued at about the same level at School U1, but the rate

worsened at School N47.

School U1 had higher scores than N47 for Policy measures, Security measures, and Student Support measures during the uniform policy implementation year, therefore, these other improvements may have influenced Student Conduct. Over all, however, in the years after the uniform policy implementation year, there were more similarities than differences in the number and kinds of improvement strategies implemented at both schools. At the end of the study, both Schools have more similarities than differences in the numbers and kinds of schools improvement strategies that were implemented, and in the number and kinds of policies and programs that are present during the later years of the study. While these other school improvements may have been at work at both schools, they more or less equalize the schools in terms of other policies and programs that may have been at work. For the comparisons of School U1 with N47, the uniform policy may be effective for Attendance, Academic Proficiency in Reading 9, and Student Conduct.

Table 26

<u>Comparison of Performance Measures at School U1 and Matched School.</u>				
	<u>(N=2)</u>	<u>School</u>	<u>U1</u>	<u>N47</u>
<u>ATTENDANCE</u>		Mean before	81.6	83.3
		Mean after	78.6	79.1
		Mean Change	-3.0	-4.2
		S.D. (pooled)		5.2
		Effect size		0.2
<u>GRADUATION</u>		Mean before	81.6	83.3
		Mean after	63.6	65.4
		Mean Change	-18.0	-17.9
		S.D. (pooled)		8.0
		Effect size		0.0
<u>Reading 9</u>		Mean Before	58.5	69.9
		Mean After	64.9	74.7
		Mean Change	6.4	4.8
		S.D. (pooled)		4.2
		Effect size		0.4
<u>Reading 12</u>		Mean Before	52.0	51.9
		Mean After	42.5	42.2
		Mean Change	-9.5	-9.7
		S.D. (pooled)		6.3
		Effect size		0.0
<u>ACADEMIC PROFICIENCY</u>		Mean Before	24.0	31.0
		Mean After	28.7	36.2
	<u>Math 9</u>	Mean Change	4.8	5.2
		S.D. (pooled)		6.1
		Effect size		-0.1
<u>Math 12</u>		Mean Before	22.0	21.9
		Mean After	26.0	29.8
		Mean Change	2.0	8.1
		S.D. (pooled)		5.2
		Effect size		-1.2
<u>Suspensions</u>		Mean Before	30.8	29.0
		Mean After	48.0	90.2
		Mean Change	-17.3	-61.2
		S.D. (pooled)		18.9
		Effect size		2.3
<u>STUDENT CONDUCT</u>		Mean Before	0.9	0.0
		Mean After	0.9	0.7
	<u>Expulsions</u>	Mean Change	0.04	-0.7
		S.D. (pooled)		1.80
		Effect size		0.39

Summary of Comparison Four

In Comparison Four each of the six Uniform Schools was matched with a similar Non-uniform School based on demographic characteristics of the student population and survey responses of school administrators on the Survey of School Improvement Strategies. The results of this analysis using Cohen's *d*, is summarized in Table 27. Differences in school demographics and school improvement measures, other than the introduction of the school uniform policy, have been eliminated or minimized to the extent practicable as alternative explanations for changes in school performance measures recorded at the Uniform Schools. Under these matched conditions, the following findings emerge regarding the apparent effectiveness of the school uniform policies relative to the school performance measures.

For the analysis for Attendance, the uniform policy was highly effective in three schools and moderately effective in one school, therefore, there was policy effectiveness in four out of six of the schools. Based on this finding, the uniform policy may be considered effective with substantial regularity for improving attendance.

In regard to Graduation, the uniform policy was highly effective for two out of four of the schools in this matched comparison. Thus, the uniform policy may be considered effective with some regularity for improving Graduation rates.

For the comparisons for Academic Proficiency, the uniform policy was moderately effective in one school, and highly effective in two schools for Reading 9, and highly effective in three schools for Reading 12. The uniform policy may possibly be effective for improving Academic Proficiency in Reading in some of the schools in this analysis, however in some school matches, other improvements may have contributed to

the greater improvements in some of the uniform schools.

Academic Proficiency as indicated by Math 9 and 12 pass rates indicated the uniform policy was moderately effective in one school for Math 9, highly effective at one school for Math 9 and highly effective for two schools for Math 12. The uniform policy appears to suggest some regularity of effectiveness with respect to Math 12, but a lack of discernable regularity of effectiveness with respect to Math 9. Further caution must be exercised even with respect to this limited assessment of effectiveness. Not only did the changes in performance measures fail to differ significantly in the majority of the paired schools, the actual change in the pass rates for the Math academic proficiency measures declined in the period after the school uniform policy was implemented in several of the uniform schools. In these settings any rating of effectiveness was consequently a result of even larger declines in the pass rates at the matched Non-uniform schools.

In the analysis for Student Conduct, the uniform policy was highly effective in reducing the suspension rate over time at three out of five uniform schools. However, the uniform policy was only moderately effective at one school and highly effective at one school for Expulsions, indicating effectiveness at only two out of six schools. The uniform policy consequently appears to be effective with some frequency in reducing suspensions, but lacks consistency in effectiveness in reducing expulsions as gauged by the matched comparisons

Table 27

Summary of Comparison 4 for all variables for all schools

<i>Variable:</i>	<u>Attendance</u>	<u>Graduation</u>	<u>Academic Proficiency</u>				<u>Student Conduct</u>	
<i>School(s):</i>			Reading 9	Reading 12	Math 9	Math 12	Suspensions	Expulsions
<i>U1</i>	moderately effective	not effective	moderately effective	not effective	not effective	not effective	highly effective	moderately effective
<i>U2</i>	not effective	not effective	highly effective	not effective	highly effective	moderately effective	highly effective	highly effective
<i>U3</i>	highly effective	highly effective	not effective	not effective	not effective	not effective	highly effective	not effective
<i>U4</i>	highly effective	highly effective	not effective	highly effective	not effective	highly effective	highly effective	not effective
<i>U5</i>	not effective	~~~~~	not effective	highly effective	not effective	highly effective	~~~~~	not effective
<i>U6</i>	highly effective	~~~~~	highly effective	~~~~~	highly effective	~~~~~	highly effective	highly effective
Effectiveness # Comparisons	4 6	2 4	2 6	3 5	2 6	3 5	5 5	3 6

Summary of all Comparisons

Throughout this study of the effectiveness of school uniform policies in urban public high schools, comparisons of School Performance Measures for schools with uniforms have been made over a time period of several years, 1994-95 through 2001-02. Four different analytical comparisons were conducted to ascertain the effectiveness of the uniform policy within the schools that introduced such policies.

Other factors in schools such as the demographic make-up of the student population and other school improvements were considered in some of the comparisons as possible explanations other than the uniform policy for changes in school performance measures. In discussing the results of the various analyses, it should be noted, when discussing improvements in the uniform schools, that this group of uniform schools had higher proportions of economically disadvantaged students (52.1% v. 37.6%) and higher

proportions of minority students (78.8% v. 68.2%) than the non-uniform schools to which they were compared (see Table 27). Poverty and race are frequently considered risk factors for student educational success as these students have historically been the least well served by public schools. In regard to the findings for the analyses in this chapter, the reader should note that these are significant positive differences in improvements in school performance measures in buildings with these enrollment characteristics. Thus, these performance outcomes in these schools should be considered particularly notable. Similarly, where these schools achieved similar positive outcomes, but not necessarily statically superior results, such progress should not be minimized.

In Comparison One, measurements for each of the eight School Performance Measures for each of the six Uniform Schools were examined over time, for some variables over a period of seven years, for others over a period of five to six years. In Comparison Two, three Uniform Schools were compared with other Non uniform schools within their own district on the same School Performance Measures. In Comparison Three, Four of the Uniform Schools were compared statewide with all 58 Non-uniform Schools. Finally, in Comparison Four, each of the six Uniform Schools was compared with a Matched Non-uniform School. Three schools were each compared with the most similar Non-uniform school within the same district as the Uniform school, and the other three Uniform schools were each compared with a similar Non-uniform school outside their common district. Table 28 summarizes the results of all 4 comparisons for all schools.

Table 28

Summary of all tests for all performance measures for all comparisons of all schools

Comparison:	Variable School(s):	Attendance	Graduation	Academic Proficiency				Student Conduct	
				Reading 9	Reading 12	Math 9	Math 12	Suspensions	Expulsions
Comparison One Same School Comparison using t-tests and Cohen's <i>d</i>	<i>U1</i>	not effective	not effective	highly effective	not effective	moderately effective	moderately effective	not effective	moderately effective
	<i>U2</i>	highly effective	not effective	not effective	not effective	moderately effective	highly effective	highly effective	highly effective
	<i>U3</i>	moderately effective	highly effective	not effective	not effective	highly effective	moderately effective	highly effective	highly effective
	<i>U4</i>	highly effective	moderately effective	not effective	not effective	not effective	highly effective	highly effective	highly effective
	<i>U5</i>	not effective	~~~~~	not effective	not effective	moderately effective	highly effective	~~~~~	highly effective
	<i>U6</i>	highly effective	~~~~~	not effective	~~~~~	not effective	~~~~~	not effective	not effective
Comparison Two Within District Comparison using ANOVA	<i>U1</i>	not significant	not significant	not significant	not significant	not significant	not significant	not significant	not significant
	<i>U5</i>	significant but lower	~~~~~	not significant	not significant	significant but lower	not significant	not significant	not significant
	<i>U6</i>	significant	~~~~~	not significant	not significant	not significant	not significant	not significant	not significant
Comparison Three All Schools Comparison using ANOVA	<i>All</i>	not significant	significant	significant but lower	not significant	not significant	not significant	significant	not significant
Comparison Four Matched Schools Comparison using t-tests and Cohen's <i>d</i>	<i>U1</i>	moderately effective	not effective	moderately effective	not effective	not effective	not effective	highly effective	moderately effective
	<i>U2</i>	not effective	not effective	highly effective	not effective	highly effective	moderately effective	highly effective	highly effective
	<i>U3</i>	highly effective	highly effective	not effective	not effective	not effective	not effective	highly effective	not effective
	<i>U4</i>	highly effective	highly effective	not effective	highly effective	not effective	highly effective	highly effective	not effective
	<i>U5</i>	not effective	~~~~~	not effective	highly effective	not effective	highly effective	~~~~~	not effective
	<i>U6</i>	highly effective	~~~~~	highly effective	~~~~~	moderately effective	~~~~~	highly effective	highly effective
Significant/ Effective Total comparisons		10 16	6 10	3 16	2 14	6 16	5 14	9 14	8 16

Attempts to determine the effectiveness of the school uniform policy using different methods of comparison yielded varying results. Comparison one, the “same school” comparison over time, using t-tests and Cohen’s *d* analysis for effect size, suggested the school uniform policy to frequently be effective in reducing Suspensions and effective with some regularity in enhancing the rate for Attendance. The school uniform policy, however, lacked any appreciable pattern of effectiveness in improving Graduation or any measure of Academic Proficiency as in Reading 9, Reading 12, Math 9, or Math 12.

Two comparisons (Comparison two and three) used Analysis of Variance (ANOVA). For Comparison Two, the intra-district comparison, there was a lack of effectiveness for any performance measure. For Comparison Three, the statewide comparison, there were significantly improved Graduation rates and Suspensions rates for the Uniform schools; however, Reading 9 and Math 9 showed significantly lower passing rates than the group of Non-uniform schools.

In the last comparison (Comparison four), each Uniform school was matched with a similar Non-uniform school based on school demographics and the nature, pervasiveness, and timing of other school improvement strategies that were introduced. Statistical analysis utilized t-tests and Cohen’s *d* analysis for effect size. The purpose of this comparison was to find a “control” school for the Uniform (treatment) school. Results from these comparisons indicated that uniform policies seemed to be frequently effective in improving Attendance, Graduation, and Suspension rates. The policy was effective with some regularity for the Academic Proficiency measures for Reading 12 and Math 12, but the comparisons for Academic Proficiency in Reading 9 and Math 9 lacked

an appreciable pattern of effectiveness.

In Chapter V, results of these four comparisons will be discussed by School Performance Measure to confirm patterns and reconcile differences in apparent effectiveness or significance across the different types of analytic comparisons made. In so doing, some conclusions on the research questions will be addressed and implications of these conclusions will be explored.

CHAPTER V
RESULTS, CONCLUSIONS, AND IMPLICATIONS,

More than twenty years have passed since “A National At Risk (National Commission on Excellence in Education, 1983) was released and the school reform movement began. It has now been almost a decade since President William Jefferson Clinton (1996) began his efforts to clothe the nation’s school children in uniforms. It has been almost four years since President George W. Bush’s educational reform effort, No Child Left Behind (2001). Despite efforts for more than 20 years to create high achieving schools and better educational outcomes for all American students, including problems with attendance, academic achievement, school crime, discipline and poor graduation rates, these problems still exist, especially in urban schools serving economically disadvantaged and racial minority students (Jacobson, Olsen, Rice & Sweetland, 2001; Orfield et al., 2004). Considering the consequences that NCLB imposes on “underperforming schools, urban high schools serving predominantly poor and minority student populations will be sanctioned severely. Urban high schools must search for every possible strategy that could possibly help them make improvements in academic performance, in student conduct and in graduating more of their students (Simpson et al., 2004).

In the late 1990’s, with the nudge from the White House, legislative changes were made in the various states that permitted public schools to require students to wear uniforms to school. While there was very little empirical data in the professional education literature at that time to support such a seemingly Draconian measure, there did exist a body of knowledge in the literature related to the social-psychology of clothing

and appearance that suggested that individuals clothed in uniforms would behave differently in various contextual situations, and that others would behave differently toward them (Creekmore, 1980; Damhorst, 1995; Joseph, 1986; Kaiser, 1998).

Without any such research basis, a number of school districts adopted school uniform policies. A number of factors contributed to this, including: adolescent fashion trends of the 1990's and the challenges these trends posed for school officials in trying to enforce a dress code (Holloman et al., 1998), the concerns about crime and gang activity finding their way into the schoolhouse (Forney & Forney, 1995), the marketing of high priced, brand label clothing for the teen market, and instances of related school violence (Garrity, Jens, Porter, Sager, & Short-Camilli, 1997; Holloman, 1995; Holloman et al., 1998). Under these conditions, the implementation of school uniform policies offered public school administrators a possible remedy for some of the problems plaguing their schools. Attention to and discourse on the effectiveness of uniforms in improving student and school performance measures became notable only after the dramatic results of LBUSD's school uniform initiative were published (Brunsma & Rockquemore, 1998; Cohn, 1996; Paloikas & Rist, 1996b; Stanley, 1996).

When LBUSD reported multiple improvements in its schools after implementing mandatory uniforms, critics questioned how one policy change, particularly a low cost one, could be credited for so many different improvements (Paloikas & Rist, 1996a; Seigal, 1996). Critics at the time also pointed out that the reported school improvements might be related to a "Hawthorne effect" which suggests that improved school performance measures resulted from the attention given to the school and student body because of the change, and that the anticipation that there would be a change led to

temporary, yet possibly short lived improvements (Paloikas & Rist, 1996a; Paloikas & Rist, 1996b). This study controlled for that possible explanation in that it examined mean changes in performance measures over a period of multiple years prior to the implementation of the policy, and multiple years following policy implementation. The sustained higher levels of performance, where they occurred, negate the supposition that the “Hawthorne effect” was the explanation in this group of uniform schools.

The purpose of this study was to investigate whether or not the presence of a school uniform policy makes a difference in school performance outcomes in Ohio’s urban high schools. Efforts were made to filter out many of the other explanatory circumstances that uniform opponents argue are responsible when uniform schools produce improvements in performance measures. Efforts were also made to create a causal comparative research design.: Individual school’s performance measures were compared for years before and years after policy implementation, schools with uniform policies were compared with schools without uniform policies within school districts and state-wide. Finally, uniform schools were matched with non-uniform schools based on similar demographic variables, and on the results of a survey inquiry to the schools about other school improvement measures that may have impacted on the individual school’s performance measures.

Among the 64 school buildings that qualified for this study, there were mixed results. However, through the use of these four different comparisons, and a rigorous research design, a pattern of results did emerge that will add to the body of knowledge on school uniform effectiveness in urban public high schools.

In this chapter, the effectiveness of uniform policies on each of the school performance variables are examined and each research question proposed in Chapter I is answered. Suggestions will be made for further research on this topic. Conclusions that can be drawn from the results of this study and their implications for urban public high schools will also be explored.

Effectiveness of the Uniform Policy on School Performance Measures

Each of the School Performance Measures variables are examined and discussed separately and each research question from Chapter I are answered as follows:

Do School Uniform Policies Improve School Attendance?

Sixteen comparisons were made in this study that tested performance measures for Attendance. In ten out of those sixteen analyses, the presence of a school uniform policy was concluded as effective for improving attendance. A summary of these analyses for Attendance appear in Table 29.

Table 29

<u>Summary of all comparisons for Attendance</u>						
<u>UNIFORM SCHOOL</u>	<i>U1</i>	<i>U2</i>	<i>U3</i>	<i>U4</i>	<i>U5</i>	<i>U6</i>
Comparison One Same School Comparison using t- tests and Cohen's <i>d</i>	not effective	highly effective	moderately effective	highly effective	not effective	highly effective
Comparison Two Within District Comparison using ANOVA	not significant	~	~	~	significant but not improved	significant
Comparison Three All Schools Comparison using ANOVA			not significant			
Comparison Four Uniform Schools compared with Matched Schools using t-tests and Cohen's <i>d</i>	moderately effective	not effective	highly effective	highly effective	not effective	highly effective

~ No data

In Comparison One, the assumption is that any change in attendance over time was attributable to the introduction of the school uniform policy and that all other things remained the same, including school reform initiatives at the building level and environmental factors in the district, state and beyond. In this analysis, of the six Uniform Schools, four schools showed a sufficiently substantial improvement in Attendance to result in the uniform policy being deemed effective. The mean attendance rates increased an average of 3.5% in these four buildings after the adoption of the uniform policy. At the other two schools, Schools U1 and U5 attendance rates actually declined after the implementation of the uniform policy.

With four of six Uniform schools showing improvement in attendance, school uniform policies appear to be effective in enhancing attendance, although this conclusion is subject to the caution that this type of comparison fails to control for numerous other plausible explanations for the change reported.

Comparison Two begins to control for one set of alternative explanations, specifically changes in school district policies and priorities, as well as system-wide school improvement initiatives, which might affect attendance. Comparison Two serves to control for those types of changes over time and their effect on all buildings in the district, including those that have adopted uniform policies, as well as those that have not. Comparison Two serves to help evaluate the effect of such systems-level changes on changes in performance measures. Thus, if all buildings in the district, including those that adopted and those that failed to adopt school uniform policies, show similar changes in performance measures over time, these changes cannot be readily attributed to the

adoption of a uniform policy in the building where such a policy was implemented, at least not without additional evidence to justify a contrary inference.

Table 29 confirms that in two of the three cases in which changes in attendance rates at a uniformed school could be compared with the changes at non-uniform secondary schools in the same district, a statistically significant difference existed in the relative change in attendance rates. At one school, U6, the significant change was in the nature of an improvement of attendance, while at the second school, U5, attendance rates actually declined. However, when examined school by school, School U5 showed a smaller decline than other secondary schools in the same district (see Appendix B). Comparison Two consequently would tend to support, although not in every instance, the potential effectiveness of school uniform policies as an explanation for changes in attendance rates over and above other district-associated explanations for such changes, one as an improvement, and one as a lesser decline than experienced within the district.

While Comparison Two helps control for school system level variables that might explain changes in school performance measures at uniform schools over time, local school buildings and districts are nested within a broader state system of public schools. Over the last two decades in particular, state level policy making and mandates have sought to increase school performance and student outcomes, including student academic achievement and graduation rates. In pursuit of these objectives, state policymakers have also enacted legislation to improve student attendance and student discipline or conduct. Thus, to the extent that various school improvement strategies have been mandated or encouraged by state policy makers or departments of education, they may also explain changes in performance measures which otherwise might be attributed to the adoption of

school uniform policies at the building or district level. For instance, even if positive gains are reflected for various performance measures over time for a uniform school or similar gains are evident in other urban secondary schools across the state that have not implemented uniform policies, the gains registered at the uniform buildings cannot readily be attributed to the implementation of a uniform policy. An equal or more plausible interpretation might be that changes in building performance are attributable to alterations brought about by state level policy or other state environmental variables. By contrast, if the universe of secondary schools in urban districts fails to show gains of a similar magnitude or any gains at all, whereas the urban uniform schools register gains, it may be reasonable to infer that the gains are associated with the implementation of the uniform policy. Similarly, if the performance measures decline at the uniform schools, but the decline is less than what is registered by other urban secondary schools, the difference may be attributable to the implementation of the uniform policy. An example of a state level variable that may influence school performance measures would be the adoption of a new procedure or formula for reporting building level attendance to the state department of education. If such a reporting procedure or formula was implemented, it would be expected that buildings across the state might all be affected in the same way. Whatever the direction and effect, it would presumably be evident across all the secondary schools in urban districts being studied.

In examining the findings in Table 29 associated with Comparison Three, no significant difference in changes in attendance rates are reported for the group of six uniform schools as contrasted to the 58 other secondary schools which did not adopt uniforms in the urban districts included in the study. Taken in isolation, this would appear

to suggest that changes in attendance rates at uniform schools may be as likely explained by changes in state-wide policy variables or environmental factors than by the implementation of a school uniform policy. Such a conclusion; however, would seem to contradict the finding in Comparison Two that attendance rate changes were significantly different at uniform schools verses non-uniformed schools in the same district, since both sets of schools within a district presumably are subject to the same state policies. Perhaps there are demographic differences between those schools that adopt uniform policies and those within the same district or across the state that do not adopt such policies, or there may be differences in the school and community environment that may help explain the absence of discernable differences between the six uniformed schools as a group and the group of 58 non-uniform schools.

Comparison Four adds additional explanatory dimensions to the analysis of uniform policy effectiveness. Even if it is possible to control for school district and state level variables that may effect school performance measures through the previous two types of comparisons, there are building-specific variables other than the implementation of a school uniform policy that may explain changes in school performance measures. One set of variables, of course, is student demographics. Another set of variables, and one of the most commonly pointed to explanations for improved outcomes where uniform polices are present, is the introduction of other school improvement or reform measures designed to affect the same school performance measures as the adoption of school uniform policies.

As recounted previously, Comparison Four sought to control for the number, nature and timing of the introduction of school improvement strategies associated with

School Policies, Curriculum, School Security and Student Support Services. By matching buildings with similar demographics and similar school improvement initiatives, particularly those initiated in the year school uniforms were introduced in some schools but not others, such building level improvement initiatives may be better controlled for than otherwise would be the case. Thus, using Comparison Four, certain alternative plausible explanations for the change in school performance measures can be ruled out, including explanations related to differing demographics of the student populations served and the introduction of other school improvement measures, such as selected strategies associated with School Policy or Student Support Services. For instance, if neither the uniformed nor non-uniformed school had implemented policies that provided incentives to students with good attendance, or penalized students for poor attendance, or if both had undertaken similar initiatives, but the uniform school showed significantly greater gains for Attendance, an argument can be made that the difference might be attributable to the effects of the school uniform policy. Conversely, if the gains are similar for both schools, then it would be difficult to conclude that the school uniform policy was responsible for the positive outcome, since other initiatives were present or absent in both schools. Rather, this similarity of outcomes in both schools would suggest that something other than a school uniform policy may have been responsible for the gains realized.

A review of Table 29 reveals that when controlling for student demographics and other school improvement strategies, in four of six matched schools, the adoption of a uniform policy was effective in improving attendance rates. In this study, the students served by schools with uniform policies tended to be at greater risk than those served in

other urban secondary schools within the study. These uniform schools, on average, serve student populations that are decidedly more impoverished and composed of more minority students who are traditionally less well served by public education than their more affluent and majority counterparts. While virtually all the urban schools in the study serve student populations decidedly at risk, the relative risk seems to be the greatest at the schools that adopted uniforms as a school reform or improvement strategy. When controlling more precisely for these demographic characteristics, and taking into account the presence or absence of other school improvement strategies, school uniforms appeared with appreciable regularity (four of six instances) to be an effective policy instrument to promote student attendance.

In summary, looking across the four comparisons, and the relative benefits of each comparison, it appears that school uniform policies may indeed be effective with some regularity in enhancing attendance rates in urban schools. School uniform policies appear to make a positive change in those schools serving decidedly at risk populations of students with respect to which attendance has often proven to be a substantial and often intractable problem.

Do School Uniform Policies Improve Graduation Rates?

In regard to impact studies for school uniform policies, graduation rates have not previously been examined or mentioned as an intended policy outcome. In 2004, Ohio had the second lowest graduation rate for minority students in the United States (Orfield et al., 2004). The population of urban public high schools in this study had high enrollments of minority and economically disadvantaged students. Those schools within this population that implemented uniform policies had proportionally higher enrollments

of minority and economically disadvantaged students than urban schools generally within the state of Ohio. Results from this study of uniform policy effectiveness suggest that school uniform policies may help improve school graduation rates for this group of schools which serve the most at-risk population of public school students.

According to Haney, Madaus, Abrams, Wheelock, Miao & Gruia (2004), state-wide policies that deny students high school diplomas due to standards-based test results increase the likelihood of students dropping out of school before graduating. During the past decade, with the increase in standards-based testing as a qualification for graduation in Ohio, there has been a decline in the percentage of students graduating from high school, particularly among urban public high schools. However, among this group of urban high schools, the uniform schools as a group showed a 10.9% improvement between the mean graduation rate before the uniform policy was implemented and the mean rate after the uniform policy was implemented. For these same two time periods, the non-uniform schools in these same urban school districts showed a 4.6% decline in graduation rates.

Improvements in Graduation rates, particularly in Ohio high schools, may be a much better indicator of a school's progress than other performance indicators (academic proficiency test pass rates, attendance). During the time of this study, in order to graduate from high school in Ohio, a student had to not only successfully complete the requisite number of credits in specified and elective courses, attend school regularly, and maintain good enough behavior to keep from being suspended, but also, he or she was required to achieve passing scores (75%) on proficiency tests in Writing, Reading, Math, Citizenship and Science (Ohio Department of Education, 2002).

Eleven comparisons were made in this study that tested performance measures for Graduation rates. In six of these comparisons, including the statewide analysis, there was significance or effectiveness for the uniform policy. A summary of these analyses appears in Table 30.

Table 30

<u>Summary of all comparisons for Graduation.</u>						
<u>UNIFORM SCHOOL.</u>	<u>U1</u>	<u>U2</u>	<u>U3</u>	<u>U4</u>	<u>U5</u>	<u>U6</u>
Comparison One Same School Comparison using t-tests and Cohen's d	not effective	not effective	highly effective	moderately effective	~~~~~	~~~~~
Comparison Two Within District Comparison using ANOVA	not significant	~~~~~	~~~~~	~~~~~	~~~~~	~~~~~
Comparison Three All Schools Comparison using ANOVA			significant (df=61)			
Comparison Four Uniform Schools compared with Matched Schools using t-tests and Cohen's d	not effective	not effective	highly effective	highly effective	~~~~~	~~~~~

~~ No data

In Comparison One, where it was assumed that all things remained constant except for the implementation of the school uniform policies, two of four schools for which comparisons could be made showed improvements in Graduation rates. Two uniform schools however did not show any improvement.

Two additional schools could not be included in this analysis. One of these excluded schools, U5, did not graduate any students until 1998, although the mean graduation rate in that building was the sixth highest of all 64 schools in this study (See Appendix E). The mean graduation rate for the years following uniform policy implementation at this building was 84%. Other high schools in the same district experienced a decline in graduation rates during the time period of the study with the next highest mean graduation rate being 60.1%. It is impossible, given the design of this study, to determine if the uniform policy impacted on graduation rates at this school since there are no pre-uniform measurements to compare to post-uniform measurements. However, given that this school's mean graduation rate in this post implementation period was the highest in its district, the sixth highest in the state, and the highest among the uniform schools in the study, the contribution of the school uniform policy to influence a higher than would be expected graduation rate at this 82.5% minority building might be reasonably considered

Another school, U6, also did not report graduations until 2000, but had a mean graduation rate that was higher than eight of the other thirteen schools within its district. This building had a high proportion of economically disadvantaged students (74.9%) and a graduation rate after uniform policy implementation of 65.2%. suggesting a potentially positive effect of such a policy on graduation rates. Considering these two school buildings, along with the two schools where the uniform policy tested as effective, it appears that the uniform policy showed a pattern of effectiveness in improving graduation rates in Comparison One.

In Comparison Two, which controlled for system-wide changes in policies and compared the mean change in graduation rates before and after uniform policy implementation, only one building-to-district comparison could be analyzed because the three other uniform schools, for which both pre and post implementation data were available, were in a single school district in which all schools had adopted uniforms. This was one of the schools that did not show an improvement in Comparison One. The change in graduation rate at this school did not differ significantly from the change at other buildings within the same district, thereby rejecting an inference of policy effectiveness. The post policy implementation comparisons of schools U5 and U6 with none of the buildings in their respective districts were discussed above.

Comparison Three is useful for determining the effectiveness of the uniform policy for graduation rates based on examining changes in graduation rates in uniform and non-uniform schools statewide. Whatever statewide policies were implemented that could impact on Graduation rates would presumably influence such rates in both uniform and non-uniform schools. For instance if the state legislature or department of education made additional requirements, such as an additional proficiency test necessary for students to earn high school diplomas, such a policy would be expected to have a similar depressive effect on graduation in all schools statewide. Conversely, if these governmental entities added incentives for passing all proficiency tests, such as scholarships or other tangible rewards, graduation rates might show an increase statewide. In Comparison Three, Uniform Schools had a significantly improved Graduation rate over the Non-uniform Schools in the urban districts statewide. This would serve to negate an inference that state policy influences explain gains at the

uniforms schools and reinforce a conclusion that school uniforms are associated with improved graduation rates for this group of schools.

In Comparison Four, where the effort was made to control for specific building level improvements, once again, for two of four schools, where data were available, the uniform policy was determined to be highly effective. At two uniform schools it was not effective based on comparison with changes in graduation rates at the matched schools. In those two Uniform schools where graduation rates were no available for the pre-policy implementation years, the mean graduation rates for years after uniform policy implementation were higher than in their matched Non-uniform schools. It may therefore be concluded that in Comparison Four there are indications of policy effectiveness for the school uniform in improving graduation rates.

In summary, it appears that the uniform policy shows some consistency in effectiveness across comparisons for improving graduation rates. Two of four uniform schools report significant changes in graduation rates over time, the net change in the group of four schools was significantly greater than reported in the other 58 urban secondary schools without uniforms, and in two of four match comparisons, uniform school policies appear to be highly effective. These findings taken together along with the higher than expected rates at the two schools for which only post implementation rates were available provide evidence that supports a conclusion that uniform policies appear, to contribute with appreciable frequency to increased graduation rates. Considering the efforts made to control for rival alternative hypotheses (Lempert, 1966), it seems appropriate to conclude, if cautiously, that the difference in graduation rates between

Uniform Schools and Non-uniform schools may be attributable to the requirement that students in the one set of schools were required to wear uniforms.

Do School Uniform Policies Improve Academic Proficiency?

Comparisons for the school proficiency test pass rates were analyzed separately for the ninth grade Reading proficiency tests, the twelfth grade Reading proficiency tests, the ninth grade Math proficiency tests, and the twelfth grade Math proficiency tests. Sixteen comparisons were completed for the ninth grade proficiency tests and 14 comparisons were completed for the twelfth grade proficiency tests. For a complete summary of the results of these comparisons for Reading, see Table 31, for Math, see Table 32.

Results for Reading Proficiency

Reading proficiency test pass rates for ninth and twelfth grades were examined in 30 different comparisons. In seven of those comparisons the uniform policy was deemed effective for improving Reading proficiency test pass rates at the buildings included in this study.

Table 31

Summary of all comparisons for Academic Proficiency in Reading

<u>UNIFORM SCHOOL</u>	<u>U1</u>	<u>U2</u>	<u>U3</u>	<u>U4</u>	<u>U5</u>	<u>U6</u>	
Comparison One Same School	<u>Reading 9</u>	highly effective	highly effective	not effective	not effective	not effective	not effective
Comparison using t-tests and Cohen's <i>d</i>	<u>Reading 12</u>	not effective	not effective	not effective	not effective	not effective	~~~~~
Comparison Two Within District	<u>Reading 9</u>	not significant	~~~~~	~~~~~	~~~~~	not significant	not significant
Comparison using ANOVA	<u>Reading 12</u>	not significant	~~~~~	~~~~~	~~~~~	not significant	not significant
Comparison Three All Schools	<u>Reading 9</u>			significant but lower			
Comparison using ANOVA	<u>Reading 12</u>			not significant			
Comparison Four Uniform Schools compared with Matched Schools using t- tests and Cohen's <i>d</i>	<u>Reading 9</u>	not effective	highly effective	not effective	not effective	not effective	highly effective
	<u>Reading 12</u>	not effective	highly effective	not effective	highly effective	highly effective	~~~~~

~~~~~ no data

In Comparison One, where it was assumed that no other school improvements were introduced to influence building pass rates on the proficiency tests in Reading 9 and 12, there was evidence that the uniform policy was effective in only one school building for the ninth grade proficiency test and in none of the buildings for the twelfth grade test. It is reasonable to conclude for Comparison One that the school uniform policy was not effective for improving academic proficiency tests in Reading.

In Comparison Two, which sought to control for other improvements at the district level and system-wide influences on Reading passage rates, there was no



difference in either the ninth grade Reading or the twelfth grade Reading performance measures between Uniform and Non-uniform schools, again negating any effectiveness for the implementation of the uniform policy.

Comparison Three, however, which sought to control for changes in state policies, programs, or procedures that impact on Reading proficiency, there was a significant difference in the ninth grade Reading proficiency test passage rate between Uniform and Non-uniform schools. The pass rate, however, was lower among uniform schools than among the general population of urban schools. The reason for this phenomenon cannot be explained; however, it should be noted that these uniform schools have considerably higher levels of economically disadvantaged and minority enrollments than the Non-uniform urban schools statewide. In the analysis for the twelfth grade proficiency test in Reading, there was no significant difference in the Reading Performance measure. This leads to an inference that school uniforms are not an effective strategy for improving Reading performance. Based on Comparison Three, it must be concluded that the uniform policy did not contribute to improvements in Reading proficiency.

In Comparison Four, where attempts were made to control for other building level initiatives to improve Reading proficiency, the uniform policy was effective in three out of six schools for the ninth grade test, and two out of five different schools for the twelfth grade test. This comparison suggests some potential effectiveness, but the frequency is limited.

In examining the results of these four comparisons taken together, there is no appreciable pattern of effectiveness within or across comparisons; indeed, the opposite

seems to be true. Thus the data fails to support an assertion that uniform policies enhance reading proficiency pass rates.

*Results for Math Proficiency*

Thirty comparisons were completed that examined the potential effectiveness for math proficiency. Among these 30 examinations, the uniform policy was deemed effective in 15 of those comparisons. These results are summarized in Table 32.

Table 32

| <u>Summary of all comparisons for Academic Proficiency in Math</u>                                  |                          |                      |                      |                      |                  |                              |                      |
|-----------------------------------------------------------------------------------------------------|--------------------------|----------------------|----------------------|----------------------|------------------|------------------------------|----------------------|
| <u>UNIFORM SCHOOL</u>                                                                               |                          | <u>U1</u>            | <u>U2</u>            | <u>U3</u>            | <u>U4</u>        | <u>U5</u>                    | <u>U6</u>            |
| Comparison One<br>Same School Comparison using t-tests and Cohen's <i>d</i>                         | <u>Math</u><br><u>9</u>  | moderately effective | moderately effective | highly effective     | not effective    | moderately effective         | not effective        |
|                                                                                                     | <u>Math</u><br><u>12</u> | moderately effective | highly effective     | moderately effective | highly effective | highly effective             | ~~~~~                |
| Comparison Two<br>Within District Comparison using ANOVA                                            | <u>Math</u><br><u>9</u>  | not significant      | ~~~~~                | ~~~~~                | ~~~~~            | significant but not improved | not significant      |
|                                                                                                     | <u>Math</u><br><u>12</u> | not significant      | ~~~~~                | ~~~~~                | ~~~~~            | not significant              | not significant      |
| Comparison Three<br>All Schools Comparison using ANOVA                                              | <u>Math</u><br><u>9</u>  |                      |                      | not significant      |                  |                              |                      |
|                                                                                                     | <u>Math</u><br><u>12</u> |                      |                      | not significant      |                  |                              |                      |
| Comparison Four<br>Uniform Schools compared with Matched Schools using t-tests and Cohen's <i>d</i> | <u>Math</u><br><u>9</u>  | not effective        | moderately effective | not effective        | not effective    | not effective                | moderately effective |
|                                                                                                     | <u>Math</u><br><u>12</u> | not effective        | highly effective     | not effective        | highly effective | highly effective             | ~~~~~                |

~~~~~ no data

In Comparison One, where it is assumed that all things other than the adoption of a uniform policy remain the same, the policy tested as effective in four out of six schools for the ninth grade Math proficiency test, and five out of five schools for the twelfth

grade Math proficiency test. This is a very high rate of effectiveness for this group of schools. Based on Comparison One, the uniform policy appears to be effective in improving school-wide performance on both the ninth grade and the twelfth grade proficiency tests in Math.

In Comparison Two, which served to control for district wide improvements that may impact on Math proficiency test results, there were no significant differences between uniform and non-uniform schools on either ninth or twelfth grade math proficiency tests. This seems to suggest that district-wide initiatives to improve Math proficiency may have impacted similarly on schools with uniform policies and schools without uniform policies. The uniform policy appears to be ineffective in this set of comparisons. Likewise, in Comparison Three there was no significant difference in Math Proficiency performance measures between uniform schools and other urban schools statewide, again suggesting that uniform policies were not impacting on Math proficiency

In Comparison Four, effectiveness was indicated for the uniform policy two out of the six Uniform Schools for the ninth grade math proficiency test, and for three out of five Uniform Schools for the twelfth grade math proficiency test. The difficulty in precisely matching some schools based on other school improvement measures implemented along with or in close proximity to school uniform policies warrant further examination.

The results at one school building, U2, indicated that the uniform policy was effective, for both the ninth grade and the twelfth grade proficiency test in Math. However for this school building, several additional curriculum improvements were implemented which were not introduced in its matched non-uniform school. Therefore

other initiatives to improve math performance may be responsible for the improved math performance in the post-uniform policy implementation period. Schools U2 and U6 which indicated that the uniform policy was effective for the ninth grade math proficiency test, differences in school size and student demographics could be argued as being responsible for the differences in improvement in math proficiency pass rates between the two schools. Thus, it cannot be confidently concluded that the uniform policy was primarily responsible for the gains in math proficiency pass rates in the School U2, U4, U5, or U6 for the grade levels at which they occurred. There may be other factors working in concert with the uniform policy that influenced Math proficiency test improvements in these settings. Without further analyses and closer examination of the impact of those other policies, it cannot be concluded on the basis of Comparison Four that the uniform policy was effective for improving Academic Proficiency in Math. Any conclusions regarding effectiveness of the uniform policy on math proficiency must be subjected to further scrutiny of other improvements and contextual factors that may have taken place in the school building concurrently with the uniform policy implementation.

While a substantial majority of the uniform schools reported gains in math pass rates over time in Comparison One, their gains were, in most instances, similar to changes reported by non-uniform schools in their own districts or those in other urban districts across the state as confirmed in Comparisons Two and Three. This suggests that the gains at the uniform schools were likely attributable to district or state-level influences rather than the adoption of the uniform policy. While this conclusion might be moderated to a small degree by the apparent effectiveness of the school uniform policy

on Math 12, this seems inadequate to warrant the conclusion that uniforms are effective in influencing Math proficiency outcomes.

Conclusion for Academic Proficiency in Reading and Math

In his recent book, *The School Uniform Movement And What It Tells Us About American Education: A Symbolic Crusade*, Brunσμα (2004) repeats his earlier assertions (Brunσμα & Rockquemore, 2003; Brunσμα & Rockquemore, 1998) that school uniforms do not make any improvements in students' academic performance. Other smaller studies have confirmed this lack of improvement as well (Hoeffler-Riddick, 1999; Stevenson & Chunn, 1991; Williams-Davidson, 1996). In those Uniform Schools where there were gains in Academic proficiency pass rates, other factors implemented at the building, district or state levels before, during or after the uniform policy offer more plausible explanations for the gains in those Uniform schools on the respective tests where gains were made. It may be speculated that the twelfth grade results could be explained as a maturational effect since students would have benefited from the uniforms policy for a larger number of years, by the time the twelfth grade test was taken. However, in this study, there is a lack of consistency or appreciable frequency in the pattern of effectiveness in these several comparisons. Therefore, it cannot be concluded that the presence of a uniform policy was the one difference that is responsible for gains within the buildings that showed an increase in academic proficiency pass rates.

Do School Uniform Policies Improve Student Conduct?

Twenty-eight comparisons of Student Conduct performance measures were completed. In 15 of those comparisons, the uniform policy was deemed effective or significant. For purposes of this discussion, each of these two performance measures of student conduct will be considered separately.

Results for Suspension rates

Fourteen comparisons were made in this study that tested performance measures for student suspension rates. Table 33 confirms that in nine of these comparisons, the uniform policy was associated with an improvement in Suspension rates.

Table 33

Summary of All Comparisons for Suspensions.

| <i>UNIFORM SCHOOL</i> | <i>U1</i> | <i>U2</i> | <i>U3</i> | <i>U4</i> | <i>U5</i> | <i>U6</i> |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-----------|-------------------------|
| Comparison One
Same School Comparison
using t-tests and Cohen's
d | not effective | highly effective | highly effective | highly effective | ~ | not effective |
| Comparison Two
Within District
Comparison using
ANOVA | not significant | ~ | ~ | ~ | ~ | not significant |
| Comparison Three All
Schools Comparison
using ANOVA | | | significant | | | |
| Comparison Four
Uniform Schools
compared with Matched
Schools using t-tests and
Cohen's d | highly effective | highly effective | highly effective | highly effective | ~ | highly effective |

~ No data

As previously stated, Comparison One analyzed changes in means, in this instance, for suspension rates over time, As verified in Table 33, that the uniform policy

was effective in reducing suspension rates in three out of five schools. The amount of the change was also very substantial as there was a mean reduction of 85.7 suspensions per 100 students among this group of schools. This seems to indicate both a high level of impact and a pattern of appreciable frequency in effectiveness that supports a conclusion that the uniform policy was effective for improving student suspensions rates in this set of schools.

Comparison Two sought to control for system-wide environmental factors and district-wide initiatives other than the uniform policies that may have been directed toward improving student conduct that would decrease rates of suspensions. It also may control for community factors or underlying factors in the local culture which may have an impact on misbehavior and juvenile crime that is carried into the schoolhouse from the larger community. This comparison could be completed for only two of six buildings with school uniform policies, since three of these schools are in a common district where all secondary schools implemented uniform policies. For a fourth school, no definitive data was available to make this comparison. There were no significant differences between the schools with uniforms and the schools that did not require uniforms within their respective school districts in the two school districts where this analysis could be completed. Based on the limited number of districts for which this comparison could be made, and on the lack of any significant differences in those instances where the analysis could be performed, it cannot be concluded that the school uniform policy was effective in improving rates of suspension.

Comparison Three attempted to control for any state policy or environmental changes that may have impacted on student conduct in urban schools statewide. An

example of a statewide change could be a law or regulation that requires or permits school buildings to inflict harsher punishments on students for certain kinds of misbehaviors, such as bringing weapons or drugs to school. An example of a larger contextual influence may be a trend in a multi-state region toward more gang activity, which previously had been in larger coastal cities, and not present in Middle American states (Grapes, 2000). Another example could be nation-wide attention to violent behaviors and actions on the part of students in schools, or perhaps popular culture such as video games, television shows, movies, or music that extols violent behaviors (Hoffman, 1996; Holloman, 1995). Significant differences were found between the four schools with uniform policies included in the analysis compared to the 58 schools that did not implement uniform policies. These findings point away from state influences and for changes in suspension rates and point back toward these schools and potentially their uniform policies to explain the differences noted.

Comparison Four, attempted to control for building level improvement strategies aimed at improving student behavior or enhancing student safety in the building as well as differences in student demographics. Still, the results indicated the uniform policy was effective in all five schools where the performance measure could be compared with changes in suspension rates at Non-uniform schools with similar students and school improvement strategies. Additionally, in the school that could not produce suspension data for the years before the uniform policy was implemented, the rate for the years after uniform policy implementation was 7.4% lower than the mean suspension rate for the same time period in its matched non-uniform school.

From Table 33, it is evident that the uniform policy is frequently deemed effective in these comparisons, and that there is a persistent pattern of effectiveness in three of these methods of comparison. Therefore it can be concluded that the uniform policy appears to be effective for the improvement of school suspension rates.

Results for Expulsion Rates

As a second indicator of student conduct, sixteen comparisons were made in this study that tested the performance measure of student expulsion rates. Table 34 confirms that the uniform policy proved to be effective in eight out of sixteen comparisons of expulsion rates in this study. While this appears to be a meaningful result, there are also some questions about the data that need to be resolved.

Table 34

| <u>Summary of all comparisons for Expulsions.</u> | | | | | | |
|---|---------------------------------|---------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| <u>UNIFORM SCHOOL</u> | <i>U1</i> | <i>U2</i> | <i>U3</i> | <i>U4</i> | <i>U5</i> | <i>U6</i> |
| Comparison One
Same School
Comparison using
t-tests and
Cohen's <i>d</i> | moderately
effective | highly
effective | highly
effective | highly
effective | highly
effective | not
effective |
| Comparison Two
Within District
Comparison using
ANOVA | not
significant | ~~~~ | ~~~~ | ~~~~ | not
significant | not
significant |
| Comparison
Three All Schools
Comparison using
ANOVA | | | not significant | | | |
| Comparison Four
Uniform Schools
compared with
Matched Schools
using t-tests and
Cohen's <i>d</i> | moderately
effective | moderately
effective | not
effective | not
effective | not
effective | highly
effective |

~~~~ No data

Comparison One, which assumes that everything else remains constant other than the introduction of the uniform policy, its implementation was effective in reducing expulsions in five out of six schools. Among the six uniform schools, there was a mean reduction of 0.6 expulsions per 100 students. In School U6, the one school that did not show an improvement in expulsion rates, the schools district reported zero expulsions to the state department of education for each year before 1998. This data is called into question as it seems highly unlikely that there were no expulsions in this school building in any of the years preceding the uniform policy, let alone no expulsions in the entire urban district. However, with a rate of effectiveness of five out of six schools, it could be

concluded based on this comparison, the uniform policy was effective in reducing expulsions.

Comparisons Two seeks to control for other variables and influences within the local community and the school district in which the Uniform school is located. As pointed out previously, some district-wide policies that seek to counter problems of crime and violence may have been enacted at the district level. Local culture and environmental factors in the community may have also impacted on expulsion rates and these also were alluded to in the discussion of contextual factors within the school district that might influence suspensions rates. In this analysis, for the two schools where such comparisons could be made, there were no significant differences in changes in expulsion rates between the schools with a uniform policy and the other schools without uniform policies within their common school districts. The conclusion for this analysis is that the uniform policy is not the explanation for improved expulsion rates.

Comparison Three seeks to control for factors and changes across the state, and perhaps throughout a larger geographic region. Such contextual factors, as previously described in the discussion on suspension rates, may also affect expulsion rates. Expulsion rates might also be minimized, at least in their reporting to the state department of education if there was a state-wide inquiry into the frequency of use of expulsions to manage serious school behavior problems.

Expulsion rates may have become higher in response to the rash of incidents of horrific school violence that swept the nation during the years included in this study. The national media attention given to this phenomenon, along with criticism of lax administrative policies that may have set the stage for these tragic events (Grapes, 2000;

Hoffman, 1996) may have induced schools to “crack down” on perceived threats of violence. This, in turn, may have led to higher than expected incidences of expulsions in high schools throughout the nation as well as within the state of Ohio, goading school administrators into expelling students for offenses that may have been treated less severely before such a wave of fear swept over the nation’s public schools in the mid 1990’s. However, these trends would have most likely impacted on all schools within the population in this study, regardless of the presence of uniform policies or dress codes. In the statewide analysis, there were no significant differences between the schools with uniform policies and schools without such policies. Thus, based on this comparison, it is concluded that the uniform policy was not effective in reducing rates of expulsion.

As previously discussed, Comparison Four controls for building level strategies that were introduced to reduce school violence, improve student safety, and control student behavior. As substantiated, the uniform policy was effective in three out of six schools. However, when consideration is given to all four comparisons, the uniform policy fails to show efficacy with sufficient frequency to support a conclusion that the school uniform policy was effective in reducing expulsions overall for this group of high risk urban public schools.

#### Recommendations for Further Research

Given the at times heated debate regarding the pros and cons of school uniform policies since the advent of the contemporary school uniform movement a decade ago, it is interesting to note how little data has been gathered, analyzed or reported about those schools. As a result there is still a paucity of empirical research to determine if, in fact,

school uniforms do make a difference or are effective in improving various measures of school performance.

While this study has sought to answer this question based on the experience of urban secondary schools in Ohio's largest eight urban districts, certainty of findings has been hindered by the small number of buildings in these districts that have implemented mandatory school uniform policies. Consequently, it would be advantageous to replicate this study with a larger universe of schools, such as the 21 smaller city districts in the state, within which a substantially larger number of buildings have adopted uniform policies. That is one recommendation for further research.

This study also found particularly significant and effective outcomes associated with three uniform schools in a single district in which all buildings K-12 were required to implement uniform policies. A second recommendation then would be an in-depth study of this district, employing qualitative as well as quantitative methods. Such a study might be particularly useful in understanding how the implementation of a district-wide and K-12 uniform policy influences certain school performance measures, including whether the number of years students are exposed to such a policy has a decided effect on school performance measures such as those studied here.

Another study finding, this one regarding the apparent effectiveness of school uniform policies on graduation rates, deserves further attention. Previous research has not examined the improvement or lack thereof with regard to school uniforms and high school graduation rates. Since every state has different and unique graduation requirements, yet all of secondary schooling leads to the goal of a high school diploma, tracking and comparing this variable for districts across numerous states would prove

useful given the importance of ensuring high school diplomas for as many students as possible.

A fourth recommendation is that researchers continue to strive to develop and implement research designs that will help to control for rival alternative hypotheses to explain changes in school performance measures. This recommendation is particularly crucial in a dense educational policy environment such as the present era of accountability, when both federal and state policy makers are either encouraging or mandating numerous and widely varying school improvement strategies to enhance the performance of public schools. While this research design has attempted to filter out alternative explanations by using multiple referent groups for comparison purposes, as well as a matched pair strategy, the researcher is under no illusions about the obstacles in controlling for potentially significant variables or apportioning effects among multiple policy or program improvement strategies implemented at approximately the same time. The addition of a more extensive qualitative component, including a review of in-district program evaluation studies where they exist, and in-depth interviewing of key implementers regarding the fidelity with which various policies and programs were implemented, and the perceived effectiveness of several policies or reform strategies in bringing about changes in specific performance measures, is suggested.

A fifth recommendation would be to replicate Brunnsma's (2003) research intended to tease out relationships between student performance and school policy measures, including the requirements of an assigned school uniform. The data relied on in that study were collected prior to the adoption of school uniform policies in an appreciable number of public and private schools, and consequently may actually have

been heavily skewed toward private school uniform policies and measures of performance. More contemporary data from the National Educational Longitudinal Study would include a larger number of public school student respondents who have worn school uniforms, and would also substantiate whether or not such policies appear to be associated with selected school performance measures in such public school settings.

#### Summary and Conclusions

In this study, school uniform policies appear to be effective with some regularity in improving rates of Attendance, Graduation, and Suspension in urban high schools in Ohio's Big Eight Districts.

Graduation rates have not been included in the previous studies of uniform policy effectiveness. In order to improve Graduation rates, numerous other improvements in schools have to take place. That implementation of the uniform policy was associated with significant improvement or effectiveness in graduation rates is a particularly important finding. Improvements in school safety and security have also been of concern to school administrators in recent years, and the improvements in suspensions, which mean fewer students are engaging in moderate or repetitive forms of misconduct commonly associated with suspension, and are consequently missing fewer days of instruction, is also of special importance.

Although the changes in attendance, graduation and suspensions rates may not be sufficiently great to raise these school buildings' status on local school report cards, there appears to be significant differences in changes occurring in uniform schools, particularly when they are compared to schools without uniforms that are otherwise very similar in terms of student demographics and other school improvement strategies implemented. In



some instances these changes represent positive improvements in performance rates, while in others the policy's effectiveness is predicated on the uniform schools experiencing smaller declines in performance than experienced by referent groups of schools that had not implemented school uniform policies.

By contrast, schools implementing uniform policies did not experience significant changes in measures of academic proficiency when compared to non-uniform schools and the policy was not found to be effective with respect to these academic performance measures in the aggregate, although more positive associations were reported for some academic proficiency measures than others.

For the most part, schools that implemented a uniform policy in these various comparisons exhibited positive changes, or changes that were better than those non-uniform schools with which they were compared with respect to multiple measures of school performance. The uniform policy was determined to be effective for at least two and as many as six of the potential eight performance measures, with an average of four indications of policy effectiveness across the several types of comparisons that comprised this study design. This apparent relationship may be particularly noteworthy because gains in the schools in question may be especially difficult to demonstrate, as the Uniform Schools in this study tend to enroll a higher proportion of economically disadvantaged and minority students than do the other urban schools studied. Given that these high risk schools have historically performed poorly on these performance measures, significant improvements in these schools in one or more measures may be particularly difficult to achieve.



While Brunnsma (2004) expresses concern that uniform policies are more likely to be implemented in schools that are highly minority and very poor, the results of this study suggests the implementation of a uniform policy for such schools may be a step toward improving school performance on two, three or even four measures. Such was this was the case for the average uniform school in this study. At a minimum, the study results suggest that the adoption of such a policy should not be summarily dismissed as having no potential value.

While the adoption and implementation of a school uniform policy may not produce extraordinary changes, and significant changes in any performance measure is certainly not guaranteed in every school implementing such a policy, significant changes in one or more outcomes appears, as the result of this study, to not be uncommon. Thus for those schools that have tried to implement other improvement strategies with limited positive results, adopting and implementing a school uniform policy may help to move the school in a positive direction.

How is it possible that school uniforms may contribute to significant changes and be deemed effective with some regularity with respect to multiple measures of school performance? This question has been largely, if not entirely, ignored in the educational literature to date. However, a credible explanation exists that draws on theories and prior research in the context of socio-psychology, role theory and attire in the workplace. These socio-psychological explanations for how clothing and appearance might affect behavior may help explain the results of this study. Joseph and Alex, (1972) found that a common uniform identifies group members, and helps to insure that organizational goals are attained. Furthermore, uniforms define group boundaries, promote group goals, and

reduce role conflict (Gurel, 1979; Joseph & Alex, 1972; Stanley, 1996). For the uniform wearer, individual status and demands become secondary to the priorities of the group (Joseph & Alex, 1972). Individuals in various social contexts, including classrooms, will react and respond to others based on their appearance (Behling, 1994; Behling, 1995; Behling & Williams, 1991; Chaikin, Derlenga, Yoder, & Phillips, 1974; Connors, Peters, and Nagawa, 1997; Creekmore, 1980; Damhorst, 1995). To extrapolate this research to explain the potential effectiveness of school uniform involves the following line of reasoning:

Students in uniforms may actually behave differently because of increased role identification and decreases in distraction, social vulnerability and status differentiation which may interfere with some students' attendance, good conduct, and even academic proficiency. Moreover, school staff may have altered perceptions of students as a result of the changes in student appearance and behavior that uniforms engender.

Just as actual changes in student behavior may explain changes in staff perceptions, staff perceptions may also be substantially shaped by the clothing in which the students are attired. Standardization of dress, for instance, may make it difficult for staff to distinguish between students based on socio-economic status, resulting in more consistent and higher expectations for all students in terms of behavior and academic performance. In turn, heightened teacher or staff expectations of students have been shown to contribute to actual improvement in student behaviors and academic performance in school (Behling & Williams, 1991; Keanealy, Frude, & Shaw, 1990; Lapitsky & Smith, 1981; Rosenthal & Jacobson, 1968).

One of the expressed purposes of schooling, and a seemingly dominant one in this era of increased global economic competitiveness, is to educate young people so that they may become productive, capable, and employable. Regulation of student dress in such a way that socially-prescribed educational goals may be met is within the authority of schools.

This study of school uniforms, to the extent that it finds that school uniforms are associated with significant changes in selected school performance measures with some regularity, may serve to support these explanations of how school uniforms contributes to changes in school performance and student outcomes. In 1969, Roach expressed what now appears to be a timeless argument in favor of the school's authority to regulate student attire:

Within the schools, conflicts over appropriate appearance often come to a head. The school is, to an extent, a self-contained "little society" with limited functions – educational ones to be exact. Since students represent many kinds of backgrounds, especially at the ... secondary level, the stage is set, as in the larger society, for tensions to grow. One way [school] administrators sometimes attempt to ease tensions and facilitate students' learning and... [congeniality]... with each other is by encouraging some conformity in dress. The implied hope is that some uniformity in appearance will reduce distractions of differences and also serve as a means for controlling behavior so that energies may be turned to the important job at hand – the accumulation of knowledge and skills that will prepare students for effective performance of adult roles (p. 969).

## REFERENCES

- Barton, P., Coley, R., & Wenglensky, H. (1998). The links among school discipline, student delinquency, and academic achievement. In P. Barton and H. Wenglensky (Eds.), *Order in the classroom: Violence, discipline and student achievement* (pp. 7-9). Princeton, NJ: Educational Testing Service Policy Information Center.
- Behling, D. U. (1994). School uniforms and person perception. *Perceptual and Motor Skills, 79*, 723-729.
- Behling, D. U. (1995). Influence of dress on perception of intelligence and scholastic achievement in urban schools with minority populations. *Clothing and Textiles Research Journal, 13*(1), 11-16.
- Behling, D. U., & Williams, E. A. (1991). Influence of dress on perception of intelligent and expectations of scholastic achievement. *Clothing and Textiles Research Journal, 9*, 17-21.
- Blumberg, A., Dowling, R. T., Horton, J. L., Majestic, R. A., Schartz, R. A., Shaw, B. C., & Smith, B. W. (Eds.). (1995). *Legal guidelines for curbing school violence*. Alexandria, VA: National School Board Association.
- Bodine, A. (2003). School uniforms, academic achievement, and uses of research. *Journal of Educational Research, 97*(2), 67-71.
- Box, G. E. P., Jenkins, G. M., & Reinsel, G. C. (1994). *Time series analysis: Forecasting and control* (3rd ed.). Englewood Cliffs, N.J.: Prentice-Hall.
- Brunsma, D. L. (2004). *The school uniform movement and what it tells us about American education: A symbolic crusade*. Lanham, MD: Scarecrow Education.

- Brunsma, D. L., & Rockquemore, K. A. (1998). Effects of student uniforms on attendance, behavior problems, substance use and academic achievement. *Journal of Educational Research, 91*(1), 53-62.
- Brunsma, D. L., & Rockquemore, K. A. (2003). Statistics, sound bites, and school uniforms: A reply to Bodine. *Journal of Educational Research, 97*(2), 72-77.
- Bush, G .H. W. (1990). State of the Union Address to Congress.
- Carnegie Schools for a New Society. (2003). *Academy for Educational Development*. Retrieved from the World Wide Web 5/29/03:  
[http://www.ed.gov/inits/mathsciecn/descriptions/aed\\_carnegie\\_schools.doc](http://www.ed.gov/inits/mathsciecn/descriptions/aed_carnegie_schools.doc).
- Caruso, J. (1996). Individuality vs. Conformity: The issues behind school uniforms. *NASSP Bulletin, 80*(581), .83-88.
- Chaikin, A. L., Derlenga, V. J., Yoder, J., & Phillips, O. (1974). The effects of appearance on compliance. *Journal of Social Psychology, 92*, 199-200.
- Clinton, W. J. (1996). State of the Union Address to Congress.
- Cohn, C. A. (1996). Should students wear uniforms? *Learning, 25*(2), 38-39.
- Conner, B. H., Peters, K., & Nagasawa, R. H. (1997). Person and costume: Effects on the formation of first impressions. *Home Economics Research Journal, 4*(1), 32-41.
- Creekmore, A. M. (1980). Clothing and personal attractiveness of adolescents related to conformity to clothing mode, peer acceptance, and leadership potential. *Home Economics Research Journal, 8* (3), 203-215.
- Creswell, J. W. (1994). *Research design: Qualitative & quantitative approaches*, Thousand Oaks, CA: Sage Publications.

- Damhorst, M. L. (1995). Meanings of clothing cues in social context. *Clothing and Textiles Research Journal*, 3(2), 39-48.
- DeMitchell, T. A., Fossey, R., & Cobb, C. (2000). Dress codes in the public schools: Principals, policies, and precepts. *Journal of Law and Education*, 29(1), 31-49.
- Dressed for survival. (1994). *The Economist*, 78, 32.
- Excellence in Education Act of 2001, S. 308, 107<sup>th</sup> Congress, 1<sup>st</sup> session (2001).
- Forney, J. C., & Forney, W .S. (1995). Gangs or fashion: Influences on junior high student dress. *Journal of Family and Consumer Sciences*, 87(1), 26-32.
- Garrity, C., Jens, K., Porter, W. W., Sager, N., & Short-Camilli, C. (1997). Bully proofing your school: Creating a positive climate. *Intervention in School and Clinic*, 32(4), 235-243.
- Goffman, E. (1959). *The presentation of self in everyday life*. Garden City, NJ: Doubleday.
- Gowen, A. (1996, February 2). Class clones, *Women's Wear Daily*, p. A14.
- Grapes, B. J. (2000). *School violence*. San Diego, CA: Greenhaven Press.
- Gravetter, F. & Wallnau, L. (2004). *Statistics for the behavioral sciences*, 6th ed. Belmont, CA: Wadsworth/Thomson Learning.
- Gregory, N. (1998). *Effects of school uniforms on self-esteem, academic achievement, and attendance*. Unpublished doctoral dissertation, University of Northern Arizona, Flagstaff, Arizona.
- Gurel, L. M. (1979). Clothing behavior: Social and psychological viewpoints. In Gurel L. M. & Beeson, M.S. (Eds.) *Dimensions of dress and adornment* (pp. 91-94) Dubuque, IA: Kendall/Hunt.

- Haney, W., Madaus, G., Abrams, L., Wheelock, A. Miao, J. & Gruia, I. (2004). *The education pipeline in the U.S., 1970-2000*. Chestnut Hill, MA: Boston College, Center for the study of testing, evaluation, and educational policy.
- Hatfield, J. (1992, Jan 14). Better dress cuts crime, inspires students to excel. *Boston Globe*, p. 3B.
- Hoeffler-Riddick, P.Y. (1999). *The relationship between the implementation of a mandatory uniform dress policy and attendance, discipline, grade point average and self-esteem*. Unpublished doctoral dissertation, Virginia Polytechnic University, Blacksburg, Virginia.
- Hoeffler-Riddick, P. Y., & Lassiter, K. J. (1996). No more “saggin’ ‘n baggin : School uniforms brings the focus back to instruction. *Schools in the Middle*, 5(4), 27-28.
- Hoffman, A.M. (Ed.) (1996). *Schools, violence, and society*. New Haven, Connecticut: Prager Publishers.
- Holloman, L. O. (1995). Violence and other antisocial behaviors in public schools: Can dress codes help solve the problem? *Journal of Family and Consumer Sciences*, 87(1), 33-37.
- Holloman, L. O., LaPoint, V., Alleyne, S., Palmer, R., & Sanders-Phillips, K. (1998). Dress-related behavioral problems and violence in the public school setting: prevention, intervention, and policy--a holistic approach. *The Journal of Negro Education*, 65, 267-281.
- House Congressional Resolution 155, 98<sup>th</sup> Congress, 1<sup>st</sup> session (1983).

- Isaacson, L. A. (1998). *Student dress codes. ERIC Digest, 117.* , Eugene, OR: ERIC Clearing House on Educational Management. (ERIC Document Reproduction Service ED15570)
- Jacobson, Olsen, C., J. Rice, J. K. Sweetland, S. (2001). *Educational achievement and black-white inequality.* (NCES publication No. 2001-061) Washington, D.C.: U.S. Dept. of Education, Office of Educational Research and Improvement.
- Joseph, N. (1986). *Uniforms and non-uniforms*, New York: Greenwood Press.
- Joseph, N. & Alex, N. (1972). The uniform. *American Journal of Sociology, 77*(4), 719-731.
- Joseph, N. & Alex, N. (1979). The uniform: A sociological perspective. In Gurel, L. M. & Beeson, M. S. (Eds.) *Dimensions of Dress and Adornment.* (pp. 122-128) New York: Kendall Hunt Publishing.
- Kaiser, S. B. (1998). *The social psychology of clothing* (2nd ed.). New York: Fairchild.
- Kenealy, P., Frude, N., & Shaw, W. (1990). Teacher expectations as predictors of academic success. *The Journal of Social Psychology, 13*(2), 305-306.
- Kohn, A. (1998). *What to look for in a classroom* (1st ed.). San Francisco: Jossey-Bass.
- Kommer, D. (1999). Beyond fashion patrol: School uniforms for the middle grades. *Middle School Journal, 3*(5), 23-26.
- Lapitsky, M., & Smith, C.M. (1981). Impact of clothing on impressions of personal characteristics and writing ability. *Home Economics Research Journal, 9*(4), 327-335.
- LaPoint, V., Holloman, L. O., & Alleyne, S. (1993). Dress codes and uniforms in urban schools. *The Education Digest, 58*, 32-34.



- LaPoint, V. (1997). The role of dress codes uniforms in urban schools. *NASSP Bulletin*, 76, 20-26.
- Lempert, R. (1966). Strategies of research design in legal impact study, the control of plausible rival hypotheses. *Law and Society Review*, 1(1), 111-132.
- Mead, G. H. (1934). *Mind, self, and society from the standpoint of a social behavior*. Chicago: University of Chicago Press.
- Murphy, M. L. (1997). *Public school uniforms: A case study of one school's experience*. Unpublished doctoral dissertation. University of Washington, Seattle, Washington.
- Murray, R. K. (1997). The impact of school uniforms on school climate. *NAASP Bulletin*, 76, 106-110.
- Murray, R. K. (2002). Tinkering with student dress: A review of school uniform law. *Thresholds in Education*, 28(1), 27-41.
- National Commission on Excellence in Education. (1983). *A Nation at risk: the imperative for educational reform*. Washington, D.C.: U.S. Government printing office.
- No Child Left Behind Act, 20 U.S.C. § 6301 (2001).
- Ogle J. P. & Eckman, M. (2002). Dress-related responses to the Columbine shootings: Other-imposed and self-designed. *Family and Consumer Sciences Research Journal*, 31(2), 155-194.
- Ohio Department of Education. (August 02, 2001). Ohio Math Scores Up. *Communication News Center*. Retrieved May 29, 2003, from <http://webapp1/ode.state.oh.us/cnc/view.asp?id+563938251328711287>

- Ohio Department of Education (2002). Ohio Educational Management Information System Guidelines. Retrieved June 5, 2003 from <http://www.ode.state.oh.us/emis/documentation/manual/2002/pdf>
- Ohio Department of Education. (2003). *Toward high achievement for all students: The report of the Ohio State Board of Education's closing achievement gaps task force*. Retrieved May 29, 2003 from [http://www.ode.state.oh.us/achievement\\_gaps/Task\\_Force\\_Report](http://www.ode.state.oh.us/achievement_gaps/Task_Force_Report).
- Ohio Department of Education (2004) iLRC (interactive Local Report Card Home) [Data files] Retrieved September 9, 2004 from <http://ilrc.ode.state.oh.us/default.asp>
- Ohio Legislative Service (1989). Senate Bill 140. *The Ohio Legislative Service Commission Report*.
- Ohio Legislative Service (1996a). House Bill 601. *The Ohio Legislative Service Commission Report*.
- Ohio Legislative Service (1996b). Senate Bill 279. *The Ohio Legislative Service Commission Report*.
- Ohio School Boards Association. (2000). *Operating standards for Ohio Schools: A system of high performance*. Retrieved May 29, 2003 from [http://www.ode.state.oh.us/school\\_improvement/School\\_Leaders/Standards/](http://www.ode.state.oh.us/school_improvement/School_Leaders/Standards/).
- Ohio Administrative Code §3301-56-01 (1990). Retrieved May 29, 2003 from <http://onlinedocs.andersonpublishing.com/administrativecode/>.
- Ohio Revised Code O.R.C. § 9.44.1 (1989). Retrieved May 29, 2003 from <http://onlinedocs.andersonpublishing.com/revisedcode/>.

- Ohio Revised Code O.R.C. § 3313.66.5 (1996). Retrieved May 29, 2003 from <http://onlinedocs.andersonpublishing.com/revisedcode/>.
- Orfield, G., Losen, D., Wald, J., & Swanson, C. (2004). *Losing our future: How minority youth are being left behind by the graduation rate crisis*. Joint Release by The Civil Rights Project at Harvard University, The Urban Institute, Advocates for Children of New York, and The Civil Society Institute. Retrieved, August 1, 2005, from Harvard University, The Civil Rights Project Website: <http://www.civilrightsproject.harvard.edu/research/dropouts/LosingOurFuture.pdf>
- Paloikas, K. L. & Rist, R. C. (1996a). Do they reduce violence or just make us feel better? *Education Week*, 15(28), 36, 52.
- Paloikas, K. L. & Rist, R.C. (1996b). Trying uniforms on for size. *American School Board Journal*, 183(5), 32-35.
- Parr, J. L. & Halperini, M .S. (1978). *Children's impressions of the social meaning of clothing*. (Report No. PS009920). Wilmington, DE: University of Delaware, Department of Educational Foundations, (ERIC Document Reproduction Service No. ED 154911)
- Pate, S. S. (1999, December). *The Influence of a Mandatory School Uniform Policy*. Paper presented at the annual meeting of The Association for Career and Technical Education. Eugene, OR: ERIC Clearing House on Educational Management. (ERIC Document Reproduction Service No. ED458695)
- Reagan, R. (1983). State of the Union Address to Congress.
- Roach, M. E. (1969). Adolescent dress: understanding the issues. *Journal of Home Economics*, 61(9), 693-697.

- Rosenthal, R., & Jacobson, L. (1968). *Pygmalion in the classroom*, New York: Holt, Rinehart and Winston, Inc.
- Sarbin, T. R. (1954). Role Theory. In Linzey, G. (Ed.) *Handbook of social psychology* (223-258). Cambridge, MA: Addison-Wesley Publishing Company.
- Seigal, L. (1996). Should students wear uniforms? *Learning*, 25(2), 38-39.
- Senate Bill 1141, 102<sup>nd</sup> Congress, 1<sup>st</sup> session (1991).
- Simpson, R. L., LaCava, P. G., and Graner, P. S. (2004, November). The No Child Left Behind Act: Challenges and Implications for Educators. *Intervention in School and Clinic*, 40(2), 67-75.
- Stanley, M. S. (1996). School Uniforms and Safety. *Education and Urban Society*, 28(4), 424-435.
- Starr, J. (2000). School Violence and Its Effect on the Constitutionality of Public School Uniform Policies. *Journal of Law and Education*, 29(1), 113-118.
- Stevenson, H. L. (1999). *An analysis of requiring school uniforms and its impact on student behavior: Implications for school reform*. Unpublished doctoral dissertation, Texas Southern University.
- Stevenson, Z. & Chunn, E. W. (1991). *Uniform Policy/Dress Codes: School Staff and Parent Perceptions of Need and Impact*. Eugene, OR: ERIC Clearing House on Educational Management. (ERIC Document Reproduction Service No. ED331933)
- Thomas, E. J., & Biddle, B. J. (1966). *Role theory: Concepts and research*. (1st ed.) New York: John Wiley & Sons, Inc.
- Thomas, S. (1994). Uniforms in the schools. *Black Issues in Higher Education*, 44-47.

U.S. Department of Education. (1984). *The nation responds*, Washington, D.C.: U.S. Government Printing Office.

U.S. Department of Education. (1996). *Manual on school uniforms*, Washington, D.C.: U.S. Government Printing Office.

U.S. Department of Education. (2003). *The secretary's mathematics and science initiative*. Retrieved May 29, 2003 from <http://www.ed.gov/schsta/research/progs/mathscience/describe.html>

Volokh, A. & Snell, L. (1997). *School violence prevention: Strategies to keep schools safe* (Policy Study No. 234). Los Angeles: Reason Public Policy Institute.

West, C. K., Tidwell, D. K., Bomba, A. K. & Elmore, P. A. (1999). Attitudes of parents about school uniforms. *Journal of Family and Consumer Sciences*, 91(2), 92-96.

White, K. A. (2000). Do School Uniforms Fit? *School Administrator*, 57(2), 36-40.

Williams-Davidson, C. (1996). *Case study of the mandatory enforcement of a voluntary student uniform policy*. Unpublished doctoral dissertation. Arizona State University, Tempe, Arizona.

Wilson, R. E., II. (1999). *Impact of School Uniform Dress Code on Principal Perception of School Violence*. Eugene, OR: ERIC Clearing House on Educational Management. (ERIC Document Reproduction Service No. ED449546)

APPENDIX A

Letters of Approval



Youngstown State University / One University Plaza / Youngstown, Ohio 44555-0001

Dean of Graduate Studies

330-941-3091

FAX 330-941-1580

E-Mail: [graduateschool@cc.yzu.edu](mailto:graduateschool@cc.yzu.edu)

October 29, 2003

Dr. Charles Vergon, Principal Investigator  
Ms. Virginia Draa, Co-investigator  
Department of Educational Administration, Research, and Foundations  
UNIVERSITY

RE: HSRC Protocol #13-2004

Dear Dr. Vergon and Ms. Draa:

The Human Subjects Research Committee has reviewed the abovementioned protocol titled "School Uniforms in Urban Public High Schools," and determined that it is exempt from full committee review based on a DHHS Category 4 exemption.

Any changes in your research activity should be promptly reported to the Human Subjects Research Committee and may not be initiated without HSRC approval except where necessary to eliminate hazard to human subjects. Any unanticipated problems involving risks to subjects should also be promptly reported to the Human Subjects Research Committee.

The HSRC would like to extend its best wishes to you in the conduct of this study.

Sincerely,

A handwritten signature in black ink, appearing to read 'Peter J. Kasvinsky', written over a large, stylized loop.

Peter J. Kasvinsky  
Dean, School of Graduate Studies  
Research Compliance Officer

PJK/cc

c: Dr. Robert Beebe, Chair  
Department of Educational Research, Administration, and Foundations



---

Youngstown State University / One University Plaza / Youngstown, Ohio 44555-0001

October 6, 2003

Mrs. Virginia Draa  
Department of Human Ecology  
College of Health and Human Services  
Youngstown State University

Dear Ginny:

On behalf of your Doctoral Dissertation Committee, let me express our congratulations for the successful defense of your proposal on August 20<sup>th</sup> and your recent Human Subjects Approval.

Your study of School Uniforms in Urban Public High Schools and their impact on student behavior and academic performance promises to make an important contribution to the professional knowledge base. Your rigorous research design readily distinguishes your study from all those that have been previously published on the topic of school uniforms.

We look forward to working with you and lending our support as you implement this very significant and substantial study.

Very truly,

A handwritten signature in cursive script that reads "Chuck".

Charles B. Vergon  
Professor  
& Dissertation Advisor

Cc: Dean John Yemma, Health and Human Services  
Professor Jean Hassell, Human Ecology Chairperson



APPENDIX B  
School Data

1 1994-95 through 2001-02

Means Before, Means After, and

Mean Change

Table of Attendance Rates for all schools

| District | School Number | uniform policy | 1995 | 1996 | 1997 | Mean before | 1998 | 1999 | 2000 | 2001 | 2002 | Mean after | Mean Change |
|----------|---------------|----------------|------|------|------|-------------|------|------|------|------|------|------------|-------------|
|          |               |                | %    | %    | %    | %           | %    | %    | %    | %    | %    | %          | %           |
| 5        | U1            | yes            | 97.7 | 74.1 | 73.1 | 81.6        | 76.6 | 75.7 | 80.1 | 78.5 | 82.1 | 78.6       | -3.0        |
| 5        | U2            | yes            | 88.3 | 87.5 | 87.9 | 87.9        | 87.7 | 88.9 | 89.4 | 89.1 | 90.2 | 89.1       | 1.2         |
| 8        | U3            | yes            | 83.4 | 82.4 | 84.7 | 83.5        | 87.8 | 79.7 | 84.2 | 87.6 | 89.8 | 85.8       | 2.3         |
| 8        | U4            | yes            | 86.2 | 82.6 | 85.5 | 84.8        | 86.5 | 86.0 | 85.5 | 87.6 | 89.0 | 86.9       | 2.2         |
| 6        | U5            | yes            | 84.1 | 81.0 | 77.2 | 80.8        | 74.4 | 68.7 | 70.0 | 75.5 | 78.3 | 73.4       | -7.4        |
| 4        | U6            | yes            | ~    | ~    | 74.3 | 74.3        | 73.7 | 77.7 | 83.3 | 89.8 | 96.5 | 84.2       | 9.9         |
| 1        | N1            | no             | 78.6 | 72.9 | 76.3 | 75.9        | 79.2 | 83.9 | 88.0 | 88.5 | 89.1 | 85.7       | 9.8         |
| 1        | N2            | no             | 79.4 | 73.5 | 76.3 | 76.4        | 77.3 | 82.7 | 85.1 | 86.1 | 85.9 | 83.4       | 7.0         |
| 1        | N3            | no             | 80.7 | 79.2 | 78.8 | 79.6        | 82.0 | 84.1 | 86.1 | 88.5 | 87.9 | 85.7       | 6.2         |
| 1        | N4            | no             | 85.0 | 84.8 | 85.8 | 85.2        | 86.2 | 87.5 | 88.5 | 90.9 | 93.1 | 89.2       | 4.0         |
| 1        | N5            | no             | 87.5 | 88.0 | 90.5 | 88.7        | 90.2 | 91.1 | 92.3 | 94.8 | 94.3 | 92.5       | 3.9         |
| 1        | N6            | no             | 78.0 | 79.3 | 78.8 | 78.7        | 81.1 | 83.8 | 87.8 | 88.4 | 89.4 | 86.1       | 7.4         |
| 1        | N7            | no             | 78.7 | 77.2 | 79.9 | 78.6        | 80.4 | 84.1 | 85.9 | 88.0 | 89.7 | 85.6       | 7.0         |
| 1        | N8            | no             | 80.9 | 81.9 | 82.1 | 81.6        | 86.1 | 88.4 | 89.9 | 91.0 | 90.6 | 89.2       | 7.6         |
| 2        | N9            | no             | 88.0 | 87.8 | 85.0 | 86.9        | 83.0 | 88.6 | 89.0 | 85.3 | 84.5 | 85.7       | -1.3        |
| 2        | N10           | no             | 83.3 | 84.5 | 86.4 | 84.7        | 87.0 | 83.2 | 83.6 | 87.0 | 88.6 | 85.9       | 1.1         |
| 3        | N11           | no             | 78.8 | 83.3 | 79.8 | 80.6        | 78.1 | 73.8 | 80.6 | 79.1 | 73.8 | 77.1       | -3.6        |
| 3        | N12           | no             | 91.0 | 90.8 | 92.0 | 91.3        | 92.7 | 92.1 | 92.8 | 91.4 | 93.4 | 92.5       | 1.2         |
| 3        | N13           | no             | 84.3 | 88.8 | 85.6 | 86.2        | 88.9 | 88.2 | 88.2 | 89.7 | 88.2 | 88.6       | 2.4         |
| 3        | N14           | no             | 84.5 | 88.2 | 90.5 | 87.7        | 90.0 | 88.9 | 88.6 | 88.3 | 90.7 | 89.3       | 1.6         |
| 3        | N15           | no             | 76.0 | 79.6 | 75.4 | 77.0        | 75.5 | 68.3 | 78.2 | 81.9 | 71.7 | 75.1       | -1.9        |
| 3        | N16           | no             | 94.4 | 94.5 | 95.0 | 94.6        | 94.9 | 95.4 | 95.2 | 94.8 | 95.0 | 95.1       | 0.4         |
| 3        | N17           | no             | 82.0 | 84.4 | 85.6 | 84.0        | 84.9 | 86.1 | 78.3 | 83.1 | 85.7 | 83.6       | -0.4        |
| 3        | N18           | no             | 82.2 | 86.6 | 77.6 | 82.1        | 81.2 | 75.9 | 80.7 | 82.6 | 79.5 | 80.0       | -2.2        |
| 3        | N19           | no             | 79.9 | 84.1 | 83.1 | 82.4        | 86.7 | 69.4 | 73.3 | 72.6 | 72.4 | 74.9       | -7.5        |
| 4        | N20           | no             | 89.4 | 90.6 | 92.2 | 90.7        | 91.8 | 90.5 | 90.5 | 91.0 | 96.2 | 92.0       | 1.3         |
| 4        | N21           | no             | 71.3 | 74.9 | 78.7 | 75.0        | 82.0 | 82.4 | 75.7 | 84.0 | 87.4 | 82.3       | 7.3         |
| 4        | N22           | no             | 54.1 | 64.9 | 69.3 | 62.8        | 73.7 | 71.1 | 74.2 | 82.1 | 85.5 | 77.3       | 14.6        |
| 4        | N23           | no             | 67.8 | 63.6 | 72.3 | 67.9        | 79.2 | 75.4 | 69.8 | 76.9 | 84.9 | 77.2       | 9.3         |
| 4        | N24           | no             | 65.1 | 69.3 | 75.7 | 70.0        | 81.7 | 81.9 | 78.8 | 85.6 | 86.8 | 83.0       | 12.9        |
| 4        | N26           | no             | 68.3 | 68.8 | 76.6 | 71.2        | 79.0 | 75.6 | 75.9 | 87.7 | 95.5 | 82.7       | 11.5        |
| 4        | N27           | no             | 72.5 | 66.9 | 71.6 | 70.3        | 76.7 | 74.4 | 69.8 | 80.1 | 94.2 | 79.0       | 8.7         |
| 4        | N28           | no             | 66.9 | 70.8 | 75.2 | 71.0        | 76.3 | 73.4 | 68.1 | 78.0 | 82.7 | 75.7       | 4.7         |
| 4        | N29           | no             | 71.2 | 68.5 | 75.2 | 71.6        | 80.1 | 78.8 | 77.1 | 83.6 | 88.2 | 81.6       | 9.9         |
| 4        | N30           | no             | 65.2 | 68.3 | 75.1 | 69.5        | 78.0 | 74.5 | 75.5 | 81.8 | 90.1 | 79.6       | 10.0        |
| 4        | N31           | no             | 78.8 | 76.8 | 82.7 | 79.4        | 82.2 | 78.8 | 78.1 | 81.1 | 95.1 | 83.1       | 3.6         |
| 4        | N32           | no             | 64.5 | 68.4 | 73.4 | 68.8        | 74.9 | 75.5 | 71.4 | 82.0 | 88.7 | 78.5       | 9.7         |
| 5        | N33           | no             | 97.1 | 90.6 | 90.4 | 92.7        | 90.0 | 89.2 | 91.7 | 97.7 | 89.6 | 91.6       | -1.1        |
| 5        | N34           | no             | 90.9 | 77.0 | 76.3 | 81.4        | 77.1 | 78.4 | 80.7 | 82.3 | 83.3 | 80.4       | -1.0        |
| 5        | N35           | no             | 91.3 | 74.8 | 75.4 | 80.5        | 76.2 | 77.8 | 77.3 | 78.2 | 83.8 | 78.7       | -1.8        |
| 5        | N36           | no             | 93.2 | 87.7 | 86.9 | 89.3        | 87.8 | 87.3 | 89.7 | 91.4 | 92.6 | 89.8       | 0.5         |
| 5        | N37           | no             | 99.2 | 93.6 | 93.5 | 95.4        | 94.5 | 93.5 | 93.9 | 94.8 | 94.1 | 94.2       | -1.3        |
| 5        | N39           | no             | 93.0 | 79.5 | 75.3 | 82.6        | 76.3 | 81.0 | 90.9 | 92.4 | 94.4 | 87.0       | 4.4         |
| 5        | N40           | no             | 98.6 | 88.5 | 86.7 | 91.3        | 89.1 | 87.7 | 88.6 | 92.2 | 91.0 | 89.7       | -1.5        |
| 5        | N41           | no             | 94.9 | 82.5 | 80.5 | 86.0        | 82.1 | 81.7 | 79.2 | 78.4 | 82.7 | 80.8       | -5.1        |
| 5        | N42           | no             | 91.1 | 77.5 | 75.7 | 81.4        | 78.4 | 78.9 | 79.6 | 80.8 | 83.1 | 80.2       | -1.3        |
| 5        | N43           | no             | 92.5 | 76.9 | 79.3 | 82.9        | 82.2 | 79.5 | 82.8 | 80.4 | 85.1 | 82.0       | -0.9        |
| 5        | N44           | no             | 93.1 | 82.6 | 81.3 | 85.7        | 81.3 | 80.9 | 81.1 | 85.8 | 86.0 | 83.0       | -2.6        |
| 5        | N45           | no             | 94.8 | 88.4 | 89.0 | 90.7        | 87.7 | 86.2 | 84.5 | 85.0 | 86.3 | 85.9       | -4.8        |
| 5        | N46           | no             | 88.7 | 73.1 | 74.9 | 78.9        | 75.6 | 82.0 | 78.1 | 82.1 | 82.7 | 80.1       | 1.2         |
| 5        | N47           | no             | 91.6 | 78.4 | 79.9 | 83.3        | 77.6 | 79.3 | 78.1 | 79.2 | 81.1 | 79.1       | -4.2        |
| 5        | N48           | no             | 90.7 | 75.6 | 71.9 | 79.4        | 74.3 | 80.5 | 83.1 | 84.4 | 84.5 | 81.4       | 2.0         |
| 5        | N49           | no             | 94.0 | 80.1 | 76.8 | 83.6        | 78.2 | 81.1 | 85.7 | 83.1 | 88.8 | 84.4       | 0.7         |
| 6        | N50           | no             | 76.5 | 72.9 | 72.9 | 74.1        | 77.2 | 75.9 | 73.0 | 79.2 | 77.3 | 76.5       | 2.4         |
| 6        | N51           | no             | 75.9 | 68.8 | 70.8 | 71.2        | 68.9 | 73.2 | 75.9 | 78.2 | 78.9 | 75.0       | 3.9         |
| 6        | N52           | no             | 76.0 | 68.9 | 75.0 | 73.3        | 77.2 | 80.9 | 81.7 | 83.5 | 80.9 | 80.8       | 7.5         |
| 6        | N54           | no             | 78.2 | 74.9 | 75.0 | 76.0        | 80.1 | 77.9 | 79.7 | 84.6 | 81.5 | 80.8       | 4.7         |
| 7        | N55           | no             | 89.6 | 88.4 | 90.9 | 89.6        | 92.1 | 92.0 | 92.6 | 91.4 | 93.4 | 92.3       | 2.7         |
| 7        | N56           | no             | 79.1 | 70.4 | 78.1 | 75.9        | 83.1 | 82.1 | 84.4 | 80.1 | 79.4 | 81.8       | 6.0         |
| 7        | N57           | no             | 87.3 | 83.6 | 87.3 | 86.1        | 87.9 | 88.8 | 87.9 | 85.8 | 85.9 | 87.3       | 1.2         |
| 7        | N58           | no             | 76.1 | 78.7 | 79.0 | 77.9        | 81.5 | 80.0 | 82.3 | 78.5 | 82.5 | 81.0       | 3.0         |
| 7        | N59           | no             | 87.4 | 86.4 | 87.8 | 87.2        | 90.6 | 88.4 | 90.2 | 88.9 | 89.5 | 89.5       | 2.3         |
| 7        | N60           | no             | 95.6 | 77.3 | 82.2 | 85.0        | 85.4 | 86.6 | 87.2 | 83.4 | 84.5 | 85.4       | 0.4         |
| 7        | N61           | no             | 81.3 | 79.8 | 79.6 | 80.2        | 83.0 | 82.7 | 84.2 | 81.6 | 80.2 | 82.3       | 2.1         |

— No data.

Table of graduation rates by percent for all years, means before, means after and change for all schools

| District | School Number | uniform policy | 1996  | 1997 | Mean before | 1998 | 1999  | 2000 | 2001 | 2002 | Mean after | Mean Change |
|----------|---------------|----------------|-------|------|-------------|------|-------|------|------|------|------------|-------------|
|          |               |                | %     | %    | %           | %    | %     | %    | %    | %    | %          | %           |
| 5        | U1            | yes            | 68.3  | 60.7 | 64.5        | 60.4 | 65.4  | 75.7 | 62.0 | 54.7 | 64.0       | -0.5        |
| 8        | U2            | yes            | 74.3  | 74.0 | 74.2        | 77.2 | 81.6  | 74.3 | 70.7 | 60.8 | 73.4       | -0.8        |
| 8        | U3            | yes            | 44.9  | 29.8 | 37.4        | 46.5 | 68.1  | 52.7 | 55.0 | 49.3 | 48.0       | 10.6        |
| 8        | U4            | yes            | 55.7  | 49.6 | 52.7        | 66.7 | 66.3  | 62.5 | 49.1 | 41.7 | 55.5       | 2.9         |
| 6        | U5            | yes            | ---   | ---  | ---         | ---  | 96.7  | 85.6 | 88.1 | 65.7 | 84.0       | ---         |
| 4        | U6            | yes            | ---   | ---  | ---         | ---  | ---   | 52.6 | 66.7 | 50.0 | 56.4       | ---         |
| 1        | N1            | no             | 79.6  | 73.4 | 76.5        | 74.9 | 76.8  | 67.4 | 68.8 | 71.8 | 73.7       | -2.9        |
| 1        | N2            | no             | 74.6  | 66.8 | 70.7        | 62.9 | 70.6  | 65.0 | 60.7 | 65.6 | 67.1       | -3.6        |
| 1        | N3            | no             | 61.1  | 73.1 | 67.1        | 67.4 | 70.5  | 69.0 | 62.7 | 65.0 | 67.0       | -0.1        |
| 1        | N4            | no             | 82.6  | 78.4 | 80.5        | 76.7 | 78.9  | 79.8 | 76.8 | 80.9 | 79.3       | -1.2        |
| 1        | N5            | no             | 86.9  | 90.8 | 88.9        | 87.0 | 94.4  | 91.9 | 90.6 | 94.2 | 90.6       | 1.7         |
| 1        | N6            | no             | 66.0  | 68.6 | 67.3        | 55.9 | 74.4  | 74.3 | 73.5 | 70.8 | 68.9       | 1.6         |
| 1        | N7            | no             | 63.0  | 66.1 | 64.6        | 63.9 | 66.0  | 65.1 | 64.2 | 58.9 | 64.0       | -0.6        |
| 1        | N8            | no             | 80.0  | 70.0 | 75.0        | 69.7 | 77.6  | 74.8 | 72.4 | 71.9 | 73.9       | -1.1        |
| 2        | N9            | no             | 91.3  | 91.4 | 91.4        | 84.0 | 81.7  | 60.5 | 74.7 | 69.4 | 80.5       | -10.8       |
| 2        | N10           | no             | 82.9  | 71.0 | 77.0        | 61.1 | 51.9  | 59.7 | 52.7 | 64.5 | 65.1       | -11.9       |
| 3        | N11           | no             | 100.0 | 89.2 | 94.6        | 73.3 | 49.7  | 38.6 | 37.7 | 31.7 | 64.4       | -30.3       |
| 3        | N12           | no             | 100.0 | 95.3 | 97.7        | 97.0 | 88.1  | 84.5 | 88.0 | 91.1 | 92.7       | -4.9        |
| 3        | N13           | no             | ---   | ---  | ---         | ---  | ---   | ---  | 57.6 | 57.6 | 57.6       | ---         |
| 3        | N14           | no             | 100.0 | 94.0 | 97.0        | 92.8 | 87.1  | 77.5 | 81.1 | 82.2 | 89.0       | -8.0        |
| 3        | N15           | no             | 89.4  | 72.5 | 81.0        | 54.1 | 29.5  | 26.1 | 21.3 | 24.2 | 49.8       | -31.2       |
| 3        | N16           | no             | 100.0 | 99.0 | 99.5        | 98.1 | 97.4  | 95.6 | 96.2 | 98.7 | 98.1       | -1.4        |
| 3        | N17           | no             | 96.3  | 86.1 | 91.2        | 86.2 | 81.3  | 65.1 | 62.6 | 71.5 | 80.0       | -11.2       |
| 3        | N18           | no             | 95.5  | 84.8 | 90.2        | 68.5 | 57.8  | 46.5 | 41.5 | 49.5 | 66.8       | -23.4       |
| 3        | N19           | no             | 91.0  | 70.7 | 80.9        | 55.6 | 44.3  | 21.8 | 25.4 | 32.0 | 52.7       | -28.1       |
| 4        | N20           | no             | 76.0  | 81.8 | 78.9        | 81.3 | 71.4  | 80.0 | 74.3 | 76.9 | 77.6       | -1.3        |
| 4        | N21           | no             | 40.9  | 44.5 | 42.7        | 45.6 | 44.3  | 39.5 | 45.4 | 38.1 | 42.6       | -0.1        |
| 4        | N22           | no             | 32.8  | 36.9 | 34.9        | 32.4 | 32.5  | 31.3 | 28.4 | 31.5 | 32.6       | -2.3        |
| 4        | N23           | no             | 47.2  | 44.0 | 45.6        | 36.1 | 36.0  | 22.9 | 26.9 | 39.2 | 37.2       | -8.4        |
| 4        | N24           | no             | 25.3  | 35.8 | 30.6        | 34.9 | 38.0  | 35.8 | 35.6 | 33.5 | 33.7       | 3.1         |
| 4        | N26           | no             | 31.7  | 30.6 | 31.2        | 36.0 | 28.2  | 41.5 | 44.1 | 37.6 | 35.1       | 4.0         |
| 4        | N27           | no             | 49.8  | 46.2 | 48.0        | 48.7 | 32.0  | 31.9 | 39.9 | 41.0 | 42.2       | -5.8        |
| 4        | N28           | no             | 36.9  | 33.4 | 35.2        | 32.7 | 31.1  | 41.0 | 35.5 | 41.3 | 35.9       | 0.7         |
| 4        | N29           | no             | 50.2  | 43.4 | 46.8        | 40.0 | 30.7  | 37.3 | 40.0 | 37.4 | 40.7       | -6.1        |
| 4        | N30           | no             | 28.8  | 37.7 | 33.3        | 37.4 | 25.5  | 26.5 | 25.6 | 29.7 | 30.6       | -2.7        |
| 4        | N31           | no             | 50.6  | 50.0 | 50.3        | 60.6 | 52.5  | 44.4 | 58.0 | 46.2 | 51.6       | 1.3         |
| 4        | N32           | no             | 37.3  | 59.4 | 48.4        | 53.2 | 32.9  | 27.9 | 29.7 | 31.8 | 40.1       | -8.3        |
| 5        | N33           | no             | 90.4  | 87.9 | 89.2        | 84.1 | 80.7  | 83.7 | 82.5 | 73.6 | 84.0       | -5.1        |
| 5        | N34           | no             | 70.5  | 75.0 | 72.8        | 77.5 | 77.1  | 79.5 | 72.0 | 62.8 | 73.4       | 0.6         |
| 5        | N35           | no             | 66.8  | 67.0 | 66.9        | 68.4 | 59.9  | 62.7 | 64.4 | 61.4 | 64.7       | -2.2        |
| 5        | N36           | no             | 69.5  | 77.9 | 73.7        | 75.5 | 74.1  | 78.1 | 80.7 | 81.3 | 76.4       | 2.7         |
| 5        | N37           | no             | 92.5  | 95.7 | 94.1        | 91.7 | 100.0 | 96.7 | 98.4 | 99.2 | 96.0       | 1.9         |
| 5        | N39           | no             | 67.8  | 76.2 | 72.0        | 66.1 | 67.6  | 92.7 | 94.2 | 93.0 | 78.7       | 6.7         |
| 5        | N40           | no             | 93.0  | 96.7 | 94.9        | 97.1 | 99.1  | 95.0 | 82.3 | 89.6 | 93.5       | -1.4        |
| 5        | N41           | no             | 87.0  | 85.8 | 86.4        | 79.1 | 76.9  | 83.1 | 77.4 | 83.3 | 82.4       | -4.0        |
| 5        | N42           | no             | 57.4  | 53.5 | 55.5        | 43.6 | 42.9  | 55.3 | 43.6 | 46.6 | 49.8       | -5.7        |
| 5        | N43           | no             | 66.1  | 72.4 | 69.3        | 63.9 | 70.9  | 59.7 | 51.9 | 54.4 | 63.6       | -5.7        |
| 5        | N44           | no             | 64.0  | 71.0 | 67.5        | 68.9 | 73.7  | 72.3 | 61.9 | 53.2 | 66.6       | -0.9        |
| 5        | N45           | no             | 77.7  | 81.9 | 79.8        | 80.3 | 81.3  | 86.8 | 83.0 | 80.3 | 81.4       | 1.6         |
| 5        | N46           | no             | 47.0  | 52.9 | 50.0        | 57.9 | 55.3  | 59.0 | 54.2 | 46.6 | 52.9       | 2.9         |
| 5        | N47           | no             | 79.2  | 75.0 | 77.1        | 68.4 | 70.1  | 68.9 | 59.9 | 59.7 | 69.8       | -7.3        |
| 5        | N48           | no             | 61.1  | 64.3 | 62.7        | 61.1 | 61.4  | 65.6 | 54.4 | 52.5 | 60.4       | -2.3        |
| 5        | N49           | no             | 75.7  | 75.2 | 75.5        | 76.0 | 72.9  | 80.5 | 68.1 | 66.1 | 73.7       | -1.7        |
| 6        | N50           | no             | 51.2  | 58.5 | 54.9        | 68.6 | 65.7  | 38.6 | 38.5 | 73.4 | 56.2       | 1.3         |
| 6        | N51           | no             | 50.0  | 54.6 | 52.3        | 62.2 | 44.5  | 64.8 | 53.0 | 69.1 | 56.3       | 4.0         |
| 6        | N52           | no             | 58.3  | 52.6 | 55.5        | 49.4 | 51.6  | 55.6 | 69.5 | 82.6 | 59.4       | 3.9         |
| 6        | N54           | no             | 58.7  | 55.2 | 57.0        | 55.0 | 69.0  | 53.6 | 53.6 | 78.8 | 60.1       | 3.2         |
| 7        | N55           | no             | 87.8  | 82.0 | 84.9        | 85.4 | 82.7  | 84.0 | 87.4 | 82.6 | 84.6       | -0.3        |
| 7        | N56           | no             | 48.7  | 48.8 | 48.8        | 52.0 | 52.0  | 55.1 | 48.3 | 39.9 | 49.2       | 0.4         |
| 7        | N57           | no             | 77.2  | 74.4 | 75.8        | 80.6 | 76.9  | 78.8 | 80.2 | 80.1 | 78.0       | 2.2         |
| 7        | N58           | no             | 66.0  | 57.2 | 61.6        | 59.4 | 69.1  | 60.2 | 65.6 | 73.3 | 64.1       | 2.5         |
| 7        | N59           | no             | 83.3  | 72.5 | 77.9        | 73.3 | 84.1  | 82.2 | 86.2 | 81.1 | 80.1       | 2.2         |
| 7        | N60           | no             | 61.6  | 54.1 | 57.9        | 55.7 | 58.6  | 57.1 | 59.1 | 46.6 | 56.3       | -1.5        |
| 7        | N61           | no             | 57.3  | 53.5 | 55.4        | 56.3 | 44.6  | 60.7 | 54.1 | 56.0 | 54.7       | -0.7        |

--- No Data

Table of Proficiency Test Pass rates by building for Reading 9

| District | School Number | uniform policy | 1995  | 1996  | 1997  | Mean before | 1998  | 1999  | 2000  | 2001  | 2002  | Mean after | Mean Change |
|----------|---------------|----------------|-------|-------|-------|-------------|-------|-------|-------|-------|-------|------------|-------------|
|          |               |                | %     | %     | %     | %           | %     | %     | %     | %     | %     | %          | %           |
| 5        | U1            | yes            | 58.8  | 58.3  | 58.4  | 58.5        | 60.5  | 67.0  | 55.0  | 68.8  | 73.1  | 62.0       | 3.5         |
| 8        | U2            | yes            | 91.2  | 90.4  | 91.9  | 91.2        | 85.0  | 86.6  | 89.3  | 87.8  | 93.2  | 89.6       | -1.5        |
| 8        | U3            | yes            | 65.2  | 67.8  | 69.6  | 67.5        | 57.8  | 62.3  | 61.2  | 67.5  | 70.9  | 65.5       | -2.0        |
| 8        | U4            | yes            | 85.7  | 77.0  | 75.9  | 79.5        | 73.8  | 71.9  | 67.3  | 69.7  | 71.4  | 74.7       | -4.8        |
| 6        | U5            | yes            | 74.8  | 61.2  | 72.5  | 69.5        | 68.8  | 64.7  | 63.9  | 60.3  | 16.7  | 61.4       | -8.1        |
| 4        | U6            | yes            | 40.9  | 60.0  | 72.5  | 57.8        | 81.3  | 63.6  | 78.3  |       |       | 74.4       | 16.6        |
| 1        | N1            | no             | 82.6  | 79.4  | 76.4  | 79.5        | 65.3  | 62.5  | 67.2  | 69.5  | 73.7  | 72.9       | -6.6        |
| 1        | N2            | no             | 65.4  | 80.0  | 63.8  | 69.7        | 61.3  | 67.8  | 65.5  | 69.0  | 70.5  | 68.1       | -1.6        |
| 1        | N3            | no             | 82.0  | 83.7  | 77.0  | 80.9        | 72.4  | 72.2  | 75.8  | 76.7  | 73.9  | 77.2       | -3.7        |
| 1        | N4            | no             | 84.0  | 90.5  | 81.3  | 85.3        | 83.2  | 85.0  | 88.2  | 90.1  | 91.9  | 86.6       | 1.3         |
| 1        | N5            | no             | 89.8  | 90.2  | 91.2  | 90.4        | 91.0  | 92.8  | 94.9  | 93.3  | 93.5  | 91.9       | 1.5         |
| 1        | N6            | no             | 74.5  | 84.3  | 78.1  | 79.0        | 74.2  | 74.0  | 77.8  | 79.0  | 80.9  | 78.0       | -1.0        |
| 1        | N7            | no             | ~     | 82.6  | 77.0  | 79.8        | 69.3  | 72.2  | 75.8  | 78.2  | 85.9  | 77.6       | -2.2        |
| 1        | N8            | no             | ~     | 89.1  | 76.7  | 82.9        | 76.8  | 73.6  | 75.8  | 78.2  | 78.0  | 78.9       | -4.0        |
| 2        | N9            | no             | ~     | 82.1  | 84.4  | 83.3        | 83.1  | 76.1  | 75.8  | 82.9  | 82.6  | 81.3       | -2.0        |
| 2        | N10           | no             | 66.4  | 72.8  | 66.7  | 68.6        | 67.7  | 71.3  | 72.0  | 77.4  | 76.9  | 71.1       | 2.5         |
| 3        | N11           | no             | 54.1  | 53.6  | 62.1  | 56.6        | 64.3  | 71.1  | 68.6  | 72.0  | 73.6  | 64.0       | 7.4         |
| 3        | N12           | no             | 94.5  | 99.2  | 97.9  | 97.2        | 98.2  | 97.0  | 98.3  | 97.1  | 100.0 | 97.7       | 0.5         |
| 3        | N13           | no             | 81.2  | 77.7  | 80.0  | 79.6        | 89.1  | 79.8  | 72.9  | 75.5  | 81.4  | 79.7       | 0.1         |
| 3        | N14           | no             | 83.5  | 83.9  | 83.1  | 83.5        | 89.4  | 89.7  | 88.5  | 95.0  | 95.5  | 88.0       | 4.5         |
| 3        | N15           | no             | 44.4  | 48.0  | 59.1  | 50.5        | 64.7  | 62.0  | 62.7  | 43.8  | 58.6  | 54.9       | 4.4         |
| 3        | N16           | no             | 99.4  | 100.0 | 100.0 | 99.8        | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 99.9       | 0.1         |
| 3        | N17           | no             | 100.0 | 68.7  | 68.4  | 79.0        | 68.8  | 75.4  | 75.3  | 72.0  | 78.3  | 76.2       | -2.8        |
| 3        | N18           | no             | 56.4  | 64.5  | 68.9  | 63.3        | 67.6  | 68.3  | 66.2  | 66.1  | 82.8  | 67.1       | 3.9         |
| 3        | N19           | no             | 51.3  | 44.3  | 58.5  | 51.4        | 63.8  | 62.6  | 61.3  | 56.1  | 58.6  | 56.4       | 5.1         |
| 4        | N20           | no             | 88.2  | 93.9  | 90.9  | 91.0        | 91.1  | 92.4  | 96.7  | 96.3  | 100.0 | 93.4       | 2.4         |
| 4        | N21           | no             | 54.2  | 59.0  | 60.5  | 57.9        | 58.8  | 62.4  | 62.4  | 74.1  | 72.6  | 62.4       | 4.5         |
| 4        | N22           | no             | 38.8  | 39.6  | 52.3  | 43.6        | 48.2  | 57.3  | 59.3  | 63.4  | 65.1  | 52.0       | 8.4         |
| 4        | N23           | no             | 38.5  | 45.2  | 51.7  | 45.1        | 54.2  | 59.4  | 64.6  | 74.0  | 70.5  | 55.9       | 10.8        |
| 4        | N24           | no             | 39.2  | 46.6  | 51.5  | 45.8        | 52.0  | 59.6  | 56.7  | 63.8  | 66.3  | 53.5       | 7.7         |
| 4        | N26           | no             | 42.9  | 54.4  | 60.8  | 52.7        | 63.4  | 68.8  | 78.8  | 82.5  | 89.9  | 66.0       | 13.3        |
| 4        | N27           | no             | 55.6  | 49.5  | 50.8  | 52.0        | 58.3  | 64.6  | 67.6  | 70.8  | 69.4  | 59.8       | 7.9         |
| 4        | N28           | no             | 50.9  | 52.6  | 57.6  | 53.7        | 57.1  | 62.9  | 59.7  | 76.6  | 79.8  | 61.2       | 7.5         |
| 4        | N29           | no             | 58.1  | 60.8  | 67.2  | 62.0        | 64.2  | 72.5  | 72.0  | 81.3  | 76.0  | 68.2       | 6.2         |
| 4        | N30           | no             | 41.3  | 45.6  | 49.4  | 45.4        | 45.4  | 55.1  | 61.8  | 69.5  | 70.7  | 53.8       | 8.4         |
| 4        | N31           | no             | 71.3  | 69.0  | 65.3  | 68.5        | 59.2  | 66.7  | 62.9  | 69.0  | 77.7  | 67.7       | -0.8        |
| 4        | N32           | no             | 41.6  | 50.5  | 56.0  | 49.4        | 54.5  | 65.3  | 62.1  | 70.7  | 67.0  | 57.5       | 8.1         |
| 5        | N33           | no             | 72.4  | 76.7  | 82.7  | 77.3        | 85.2  | 84.1  | 86.4  | 87.0  | 86.9  | 82.1       | 4.8         |
| 5        | N34           | no             | 69.7  | 71.9  | 73.9  | 71.8        | 79.9  | 77.5  | 77.9  | 75.2  | 85.3  | 75.9       | 4.1         |
| 5        | N35           | no             | 66.2  | 68.3  | 69.0  | 67.8        | 72.1  | 71.7  | 68.3  | 63.2  | 73.4  | 68.9       | 1.1         |
| 5        | N36           | no             | 58.0  | 68.2  | 69.5  | 65.2        | 74.8  | 79.7  | 84.3  | 81.0  | 91.0  | 74.6       | 9.4         |
| 5        | N37           | no             | ~     | 98.7  | 99.3  | 99.0        | 98.7  | 99.3  | 98.3  | 100.0 | 99.4  | 99.1       | 0.1         |
| 5        | N39           | no             | 70.1  | 70.3  | 64.9  | 68.4        | 65.6  | 69.5  | 91.4  | 98.1  | 95.6  | 77.1       | 8.7         |
| 5        | N40           | no             | 92.1  | 92.7  | 88.3  | 91.0        | 93.2  | 93.8  | 91.2  | 92.5  | 94.3  | 92.1       | 1.1         |
| 5        | N41           | no             | 73.0  | 74.3  | 74.1  | 73.8        | 78.0  | 78.4  | 81.1  | 84.3  | 75.8  | 77.0       | 3.2         |
| 5        | N42           | no             | ~     | 54.6  | 59.2  | 56.9        | 51.2  | 55.3  | 48.9  | 61.7  | 69.1  | 57.1       | 0.2         |
| 5        | N43           | no             | ~     | 73.5  | 68.4  | 71.0        | 75.4  | 73.2  | 76.7  | 80.4  | 82.7  | 75.2       | 4.2         |
| 5        | N44           | no             | ~     | 69.8  | 66.0  | 67.9        | 69.9  | 67.3  | 69.2  | 79.7  | 74.6  | 70.6       | 2.6         |
| 5        | N45           | no             | ~     | 79.0  | 84.6  | 81.8        | 84.5  | 84.5  | 82.2  | 84.6  | 86.4  | 85.5       | 1.6         |
| 5        | N46           | no             | 61.4  | 55.3  | 60.2  | 59.0        | 59.6  | 63.2  | 62.3  | 69.0  | 69.3  | 62.1       | 3.2         |
| 5        | N47           | no             | 68.5  | 68.3  | 72.8  | 69.9        | 69.9  | 80.2  | 71.9  | 72.2  | 79.3  | 72.6       | 2.7         |
| 5        | N48           | no             | 62.7  | 63.6  | 61.6  | 62.6        | 66.7  | 69.0  | 64.3  | 73.8  | 82.3  | 67.4       | 4.8         |
| 5        | N49           | no             | 72.0  | 72.7  | 72.7  | 72.5        | 72.7  | 79.7  | 79.9  | 81.8  | 84.1  | 76.5       | 4.0         |
| 6        | N50           | no             | 71.8  | 65.6  | 66.7  | 68.0        | 67.3  | 69.0  | 70.4  | 70.3  | 73.7  | 69.2       | 1.2         |
| 6        | N51           | no             | 64.9  | 65.7  | 64.4  | 65.0        | 59.8  | 70.3  | 69.2  | 64.2  | 66.0  | 65.5       | 0.5         |
| 6        | N52           | no             | 66.3  | 65.8  | 70.7  | 67.6        | 69.5  | 72.8  | 75.4  | 68.7  | 70.5  | 69.7       | 2.1         |
| 6        | N54           | no             | 68.8  | 70.4  | 72.6  | 70.6        | 74.9  | 70.9  | 67.1  | 79.1  | 79.4  | 72.6       | 2.0         |
| 7        | N55           | no             | 88.8  | 87.1  | 87.9  | 87.9        | 92.7  | 90.4  | 89.5  | 90.9  | 92.9  | 89.8       | 1.9         |
| 7        | N56           | no             | 66.5  | 62.9  | 66.3  | 65.2        | 67.3  | 70.9  | 67.0  | 73.0  | 68.1  | 67.5       | 2.2         |
| 7        | N57           | no             | ~     | 79.7  | 81.1  | 80.4        | 87.5  | 90.3  | 83.3  | 87.7  | 86.7  | 84.6       | 4.2         |
| 7        | N58           | no             | 61.1  | 64.4  | 68.9  | 64.8        | 70.3  | 72.6  | 67.4  | 73.7  | 77.6  | 69.0       | 4.2         |
| 7        | N59           | no             | 85.9  | 85.7  | 88.1  | 86.6        | 86.5  | 89.3  | 90.9  | 87.8  | 88.2  | 87.7       | 1.1         |
| 7        | N60           | no             | 71.3  | 70.7  | 75.7  | 72.6        | 79.9  | 82.2  | 76.6  | 77.0  | 78.4  | 76.0       | 3.5         |
| 7        | N61           | no             | 70.5  | 64.6  | 67.8  | 67.6        | 72.2  | 76.0  | 66.7  | 72.6  | 78.4  | 70.7       | 3.1         |

~ No data

Table of Proficiency Test Pass rates by building for Reading 12

| District | School Number | uniform policy | 1996 | 1997 | Mean before | 1998 | 1999 | 2000 | 2001 | Mean after | Mean Change |
|----------|---------------|----------------|------|------|-------------|------|------|------|------|------------|-------------|
|          |               |                | %    | %    | %           | %    | %    | %    | %    | %          | %           |
| 5        | U1            | yes            | 51.0 | 52.9 | 52.0        | 48.8 | 49.5 | 36.5 | 35.2 | 42.5       | -9.5        |
| 8        | U2            | yes            | 63.5 | 73.4 | 68.5        | 66.7 | 59.5 | 58.6 | 73.3 | 64.3       | -3.9        |
| 8        | U3            | yes            | 53.2 | 50.7 | 52.0        | 40.0 | 41.3 | 33.3 | 47.9 | 40.6       | -11.3       |
| 8        | U4            | yes            | 56.2 | 59.7 | 58.0        | 58.4 | 47.4 | 58.2 | 67.4 | 57.9       | -0.1        |
| 6        | U5            | yes            | 39.4 | 51.3 | 45.4        | 51.5 | 41.1 | 22.4 | 48.7 | 40.9       | -4.4        |
| 4        | U6            | yes            | ---  | ---  | ---         | ---  | ---  | ---  | ---  | ---        | ---         |
| 1        | N1            | no             | 49.5 | 49.2 | 49.4        | 38.0 | 46.5 | 26.6 | 49.5 | 40.2       | -9.2        |
| 1        | N2            | no             | 55.8 | 64.8 | 59.3        | 47.9 | 41.4 | 37.3 | 49.4 | 44.0       | -15.3       |
| 1        | N3            | no             | 64.8 | 63.9 | 64.4        | 46.0 | 47.1 | 48.7 | 55.1 | 49.2       | -15.1       |
| 1        | N4            | no             | 70.7 | 60.6 | 65.7        | 58.3 | 70.1 | 59.1 | 60.5 | 62.0       | -3.7        |
| 1        | N5            | no             | 76.7 | 82.1 | 79.4        | 76.7 | 78.1 | 76.9 | 80.4 | 78.0       | -1.4        |
| 1        | N6            | no             | 62.9 | 56.4 | 59.7        | 49.0 | 37.3 | 42.7 | 59.7 | 47.2       | -12.5       |
| 1        | N7            | no             | 62.9 | 55.9 | 59.4        | 43.0 | 50.4 | 53.5 | 59.0 | 51.5       | -7.9        |
| 1        | N8            | no             | 60.1 | 57.6 | 58.9        | 48.4 | 55.7 | 47.5 | 65.3 | 54.2       | -4.6        |
| 2        | N9            | no             | 63.8 | 53.7 | 58.8        | 58.7 | 59.5 | 51.4 | 71.0 | 60.2       | 1.4         |
| 2        | N10           | no             | 37.0 | 34.5 | 35.8        | 33.0 | 41.8 | 50.0 | 54.9 | 44.9       | 9.2         |
| 3        | N11           | no             | 45.9 | 53.5 | 49.7        | 43.2 | 46.3 | 38.3 | 57.8 | 46.4       | -3.3        |
| 3        | N12           | no             | 85.5 | 85.0 | 85.3        | 80.4 | 80.5 | 78.7 | 86.0 | 81.4       | -3.8        |
| 3        | N13           | no             | ---  | ---  | ---         | ---  | ---  | ---  | ---  | ---        | ---         |
| 3        | N14           | no             | 54.5 | 64.6 | 59.6        | 55.3 | 59.7 | 50.7 | 69.5 | 58.8       | -0.8        |
| 3        | N15           | no             | 34.5 | 50.9 | 42.7        | 28.8 | 30.8 | 19.6 | 26.7 | 26.5       | -16.2       |
| 3        | N16           | no             | 96.1 | 96.0 | 96.1        | 98.1 | 95.6 | 92.2 | 96.5 | 95.6       | -0.5        |
| 3        | N17           | no             | 58.3 | 50.7 | 54.5        | 48.6 | 43.0 | 50.5 | 61.1 | 50.8       | -3.7        |
| 3        | N18           | no             | 52.1 | 62.2 | 57.2        | 40.2 | 50.0 | 36.4 | 61.0 | 46.9       | -10.3       |
| 3        | N19           | no             | 42.1 | 27.1 | 34.6        | 21.6 | 28.9 | 18.0 | 25.0 | 23.4       | -11.2       |
| 4        | N20           | no             | 40.5 | 77.4 | 59.0        | 67.3 | 64.4 | 66.1 | 66.7 | 66.1       | 7.2         |
| 4        | N21           | no             | 65.6 | 46.2 | 55.9        | 27.2 | 48.7 | 45.0 | 44.5 | 41.4       | -14.6       |
| 4        | N22           | no             | 50.0 | 30.9 | 40.5        | 28.2 | 30.7 | 33.3 | 58.7 | 37.7       | -2.7        |
| 4        | N23           | no             | 50.0 | 33.5 | 41.7        | 36.8 | 28.8 | 26.4 | 48.7 | 35.2       | -6.5        |
| 4        | N24           | no             | 50.8 | 50.0 | 50.4        | 23.3 | 35.1 | 40.7 | 56.0 | 38.8       | -11.6       |
| 4        | N26           | no             | 55.6 | 49.1 | 52.4        | 43.3 | 46.6 | 52.7 | 61.1 | 50.9       | -1.4        |
| 4        | N27           | no             | 46.9 | 37.1 | 42.0        | 24.0 | 35.0 | 34.6 | 47.1 | 35.2       | -6.8        |
| 4        | N28           | no             | 62.3 | 50.0 | 56.2        | 46.0 | 41.8 | 35.8 | 62.1 | 46.4       | -9.7        |
| 4        | N29           | no             | 72.8 | 53.4 | 63.1        | 47.2 | 46.5 | 56.5 | 65.6 | 54.0       | -9.2        |
| 4        | N30           | no             | 42.3 | 34.6 | 38.5        | 27.5 | 34.3 | 42.4 | 39.5 | 35.9       | -2.5        |
| 4        | N31           | no             | 58.8 | 38.5 | 48.7        | 40.0 | 53.5 | 25.8 | 63.6 | 45.2       | -3.4        |
| 4        | N32           | no             | 45.0 | 25.2 | 35.1        | 2.1  | 29.0 | 20.0 | 39.4 | 22.6       | -12.5       |
| 5        | N33           | no             | 52.7 | 52.3 | 52.5        | 38.5 | 45.2 | 35.5 | 52.0 | 42.8       | -9.7        |
| 5        | N34           | no             | 56.5 | 53.3 | 55.9        | 54.0 | 47.7 | 41.3 | 51.0 | 48.5       | -7.4        |
| 5        | N35           | no             | 45.0 | 58.8 | 51.9        | 47.5 | 40.2 | 46.3 | 47.8 | 45.5       | -6.5        |
| 5        | N36           | no             | 63.0 | 67.3 | 65.2        | 55.3 | 55.4 | 58.8 | 70.3 | 60.0       | -5.2        |
| 5        | N37           | no             | 84.5 | 81.5 | 83.0        | 71.9 | 80.7 | 74.6 | 86.4 | 78.4       | -4.6        |
| 5        | N39           | no             | 56.4 | 43.8 | 50.1        | 38.9 | 53.4 | 49.6 | 77.2 | 54.8       | 4.7         |
| 5        | N40           | no             | 81.7 | 73.1 | 77.4        | 79.1 | 77.1 | 80.0 | 78.2 | 78.6       | 1.2         |
| 5        | N41           | no             | 45.7 | 39.2 | 42.5        | 39.3 | 37.4 | 26.9 | 38.1 | 35.4       | -7.0        |
| 5        | N42           | no             | 50.0 | 21.5 | 35.8        | 30.2 | 50.0 | 25.0 | 21.4 | 31.7       | -4.1        |
| 5        | N43           | no             | 46.2 | 44.9 | 45.6        | 44.6 | 47.8 | 49.0 | 53.5 | 48.7       | 3.2         |
| 5        | N44           | no             | 39.5 | 37.7 | 38.6        | 41.3 | 42.2 | 36.9 | 40.0 | 40.1       | 1.5         |
| 5        | N45           | no             | 79.1 | 70.5 | 74.8        | 63.5 | 63.9 | 52.1 | 59.0 | 59.6       | -15.2       |
| 5        | N46           | no             | 36.5 | 55.7 | 46.1        | 37.8 | 43.6 | 26.4 | 50.6 | 39.6       | -6.5        |
| 5        | N47           | no             | 58.0 | 43.8 | 51.9        | 37.4 | 50.9 | 37.7 | 42.7 | 42.2       | -9.7        |
| 5        | N48           | no             | 54.9 | 45.1 | 50.0        | 52.5 | 40.1 | 28.4 | 63.2 | 46.1       | -4.0        |
| 5        | N49           | no             | 61.2 | 66.7 | 64.0        | 63.9 | 72.3 | 67.9 | 73.3 | 69.4       | 5.4         |
| 6        | N50           | no             | 54.1 | 64.2 | 59.2        | 41.2 | 70.3 | 55.7 | 57.3 | 56.1       | -3.0        |
| 6        | N51           | no             | 87.1 | 66.1 | 76.6        | 50.8 | 67.7 | 41.8 | 67.3 | 56.9       | -19.7       |
| 6        | N52           | no             | 30.3 | 48.6 | 39.5        | 42.9 | 58.2 | 31.6 | 66.1 | 49.7       | 10.3        |
| 6        | N54           | no             | 68.9 | 94.7 | 81.8        | 60.8 | 85.9 | 41.9 | 70.0 | 64.7       | -17.2       |
| 7        | N55           | no             | 85.1 | 93.5 | 89.3        | 94.6 | 93.6 | 92.6 | 93.7 | 93.6       | 4.3         |
| 7        | N56           | no             | 46.0 | 43.8 | 44.9        | 35.4 | 33.3 | 28.4 | 50.6 | 36.9       | -8.0        |
| 7        | N57           | no             | 59.8 | 53.0 | 56.4        | 47.2 | 55.3 | 35.5 | 46.5 | 46.1       | -10.3       |
| 7        | N58           | no             | 42.9 | 36.4 | 39.7        | 27.9 | 32.2 | 18.5 | 25.9 | 26.1       | -13.5       |
| 7        | N59           | no             | 61.4 | 56.7 | 59.1        | 40.6 | 51.5 | 45.1 | 51.7 | 47.2       | -11.8       |
| 7        | N60           | no             | 41.7 | 42.0 | 41.9        | 39.1 | 48.8 | 41.2 | 38.8 | 42.0       | 0.1         |
| 7        | N61           | no             | 52.4 | 46.9 | 49.7        | 41.8 | 47.3 | 35.3 | 30.9 | 38.8       | -10.8       |

--- No data



Table of Proficiency Test Pass rates by building for Math 9

| District | School Number | uniform policy | 1995 | 1996 | 1997 | Mean before | 1998  | 1999 | 2000 | 2001 | 2002 | Mean after | Mean Change |
|----------|---------------|----------------|------|------|------|-------------|-------|------|------|------|------|------------|-------------|
|          |               |                | %    | %    | %    | %           | %     | %    | %    | %    | %    | %          | %           |
| 5        | U1            | yes            | 28.7 | 24.8 | 18.4 | 24.0        | 18.5  | 24.2 | 21.7 | 35.3 | 43.9 | 28.7       | 4.8         |
| 8        | U2            | yes            | 57.1 | 58.6 | 64.0 | 59.9        | 54.5  | 59.5 | 60.6 | 66.6 | 79.8 | 64.2       | 4.3         |
| 8        | U3            | yes            | 22.7 | 17.6 | 11.6 | 17.3        | 18.0  | 18.7 | 23.0 | 25.3 | 28.3 | 22.7       | 5.4         |
| 8        | U4            | yes            | 37.2 | 39.7 | 37.2 | 38.0        | 29.7  | 29.0 | 27.5 | 23.9 | 28.9 | 27.8       | -10.2       |
| 6        | U5            | yes            | 32.0 | 31.5 | 31.5 | 31.7        | 28.3  | 31.8 | 26.3 | 27.7 | 0.0  | 22.8       | -8.8        |
| 4        | U6            | yes            | 13.6 | 26.0 | 32.5 | 24.0        | 28.1  | 27.3 | 17.4 |      |      | 24.3       | 0.2         |
| 1        | N1            | no             | 34.5 | 26.9 | 24.7 | 28.7        | 22.6  | 27.5 | 26.0 | 26.4 | 22.7 | 25.0       | -3.7        |
| 1        | N2            | no             | 29.6 | 32.1 | 22.1 | 27.9        | 24.6  | 26.7 | 26.8 | 39.3 | 32.0 | 29.9       | 1.9         |
| 1        | N3            | no             | 45.4 | 44.6 | 39.4 | 43.1        | 38.8  | 40.8 | 43.7 | 49.5 | 44.7 | 43.5       | 0.4         |
| 1        | N4            | no             | 64.4 | 64.4 | 46.0 | 58.3        | 50.4  | 51.1 | 57.9 | 60.3 | 66.7 | 57.3       | -1.0        |
| 1        | N5            | no             | 68.0 | 68.5 | 59.7 | 65.4        | 66.1  | 70.5 | 72.8 | 74.3 | 77.0 | 72.1       | 6.7         |
| 1        | N6            | no             | 39.1 | 48.8 | 42.3 | 43.4        | 38.3  | 37.6 | 44.7 | 43.0 | 43.7 | 41.5       | -1.9        |
| 1        | N7            | no             | ~    | 36.5 | 32.0 | 34.3        | 24.4  | 36.0 | 43.0 | 47.6 | 53.6 | 40.9       | 6.7         |
| 1        | N8            | no             | ~    | 53.0 | 41.0 | 47.0        | 42.7  | 38.7 | 47.2 | 46.1 | 49.5 | 44.8       | -2.2        |
| 2        | N9            | no             | ~    | 48.8 | 52.5 | 50.7        | 49.2  | 50.7 | 51.8 | 53.6 | 53.0 | 51.7       | 1.0         |
| 2        | N10           | no             | 25.1 | 31.4 | 32.1 | 29.5        | 29.4  | 34.4 | 42.0 | 42.6 | 44.4 | 38.6       | 9.0         |
| 3        | N11           | no             | 15.5 | 13.6 | 20.0 | 16.4        | 19.4  | 21.0 | 21.4 | 24.7 | 25.2 | 22.3       | 6.0         |
| 3        | N12           | no             | 80.4 | 75.9 | 69.7 | 75.3        | 73.5  | 77.8 | 79.1 | 78.1 | 81.7 | 78.0       | 2.7         |
| 3        | N13           | no             | 57.1 | 59.5 | 54.7 | 57.1        | 62.2  | 57.1 | 45.5 | 42.4 | 46.0 | 50.6       | -6.5        |
| 3        | N14           | no             | 39.4 | 39.5 | 39.6 | 39.5        | 37.7  | 48.3 | 54.6 | 63.4 | 62.2 | 53.2       | 13.7        |
| 3        | N15           | no             | 14.4 | 15.6 | 20.2 | 16.7        | 22.2  | 21.6 | 24.3 | 14.2 | 17.7 | 20.0       | 3.3         |
| 3        | N16           | no             | 97.5 | 96.9 | 97.4 | 97.3        | 97.3  | 98.9 | 99.7 | 98.7 | 99.1 | 98.7       | 1.5         |
| 3        | N17           | no             | 29.5 | 33.7 | 32.3 | 31.8        | 33.6  | 39.5 | 35.8 | 36.0 | 41.4 | 37.3       | 5.4         |
| 3        | N18           | no             | 19.9 | 25.2 | 26.3 | 23.8        | 24.2  | 26.9 | 31.9 | 26.6 | 35.8 | 29.1       | 5.3         |
| 3        | N19           | no             | 18.5 | 15.3 | 18.9 | 17.6        | 19.7  | 18.9 | 20.9 | 18.7 | 17.3 | 19.1       | 1.5         |
| 4        | N20           | no             | 42.1 | 46.5 | 46.4 | 45.0        | 56.4  | 52.2 | 59.8 | 56.1 | 82.4 | 61.4       | 16.4        |
| 4        | N21           | no             | 14.8 | 23.0 | 21.3 | 19.7        | 21.0  | 25.9 | 26.1 | 32.5 | 20.3 | 25.2       | 5.5         |
| 4        | N22           | no             | 7.7  | 8.8  | 14.9 | 10.5        | 12.8  | 18.8 | 17.3 | 14.0 | 19.0 | 16.4       | 5.9         |
| 4        | N23           | no             | 14.6 | 17.5 | 25.0 | 19.0        | 19.8  | 28.3 | 27.6 | 42.0 | 26.5 | 28.8       | 9.8         |
| 4        | N24           | no             | 9.5  | 17.3 | 15.5 | 14.1        | 16.2  | 20.4 | 21.3 | 22.8 | 30.7 | 22.3       | 8.2         |
| 4        | N26           | no             | 13.3 | 16.7 | 27.0 | 19.0        | 28.1  | 33.3 | 45.2 | 46.9 | 60.9 | 42.9       | 23.9        |
| 4        | N27           | no             | 15.0 | 15.9 | 16.7 | 15.9        | 22.9  | 26.0 | 29.6 | 29.4 | 29.0 | 27.4       | 11.5        |
| 4        | N28           | no             | 16.5 | 16.7 | 19.5 | 17.6        | 18.9  | 21.7 | 23.7 | 28.2 | 29.2 | 24.3       | 6.8         |
| 4        | N29           | no             | 15.3 | 25.5 | 33.2 | 24.7        | 32.7  | 39.1 | 41.1 | 49.8 | 43.1 | 41.2       | 16.5        |
| 4        | N30           | no             | 10.3 | 15.8 | 20.3 | 15.5        | 17.3  | 23.8 | 28.1 | 31.2 | 31.1 | 26.3       | 10.8        |
| 4        | N31           | no             | 18.9 | 22.5 | 24.8 | 22.1        | 22.3  | 19.1 | 19.4 | 17.9 | 34.3 | 22.6       | 0.5         |
| 4        | N32           | no             | 11.0 | 16.9 | 21.8 | 16.6        | 21.2  | 25.4 | 20.1 | 29.2 | 22.9 | 23.8       | 7.2         |
| 5        | N33           | no             | 40.5 | 42.9 | 41.8 | 41.7        | 42.6  | 44.8 | 49.8 | 54.6 | 49.3 | 48.2       | 6.5         |
| 5        | N34           | no             | 31.9 | 40.1 | 35.2 | 35.7        | 39.5  | 41.2 | 48.9 | 52.0 | 55.8 | 47.5       | 11.7        |
| 5        | N35           | no             | 23.2 | 26.3 | 27.5 | 25.7        | 30.5  | 29.7 | 29.9 | 37.1 | 32.6 | 32.0       | 6.3         |
| 5        | N36           | no             | 32.4 | 37.4 | 45.4 | 38.4        | 56.8  | 60.4 | 61.3 | 65.2 | 64.7 | 61.7       | 23.3        |
| 5        | N37           | no             | ~    | 75.5 | 87.7 | 81.6        | 73.7  | 85.6 | 78.7 | 89.6 | 86.7 | 82.9       | 1.3         |
| 5        | N39           | no             | 27.4 | 36.1 | 38.4 | 34.0        | 34.8  | 33.6 | 72.0 | 83.0 | 74.1 | 59.5       | 25.5        |
| 5        | N40           | no             | 62.0 | 57.1 | 61.7 | 60.3        | 65.3  | 68.9 | 60.7 | 66.5 | 70.1 | 66.3       | 6.0         |
| 5        | N41           | no             | 29.8 | 32.9 | 35.5 | 32.7        | 32.7  | 40.1 | 45.6 | 57.0 | 44.2 | 43.9       | 11.2        |
| 5        | N42           | no             | ~    | 25.6 | 21.0 | 23.3        | 206.0 | 21.5 | 20.7 | 29.1 | 26.5 | 60.8       | 37.5        |
| 5        | N43           | no             | ~    | 39.1 | 37.5 | 38.3        | 34.8  | 41.3 | 41.6 | 36.3 | 45.0 | 39.8       | 1.5         |
| 5        | N44           | no             | ~    | 26.8 | 23.9 | 25.4        | 29.5  | 27.4 | 31.8 | 49.6 | 39.2 | 35.5       | 10.2        |
| 5        | N45           | no             | 46.2 | ~    | 47.2 | 46.7        | 53.9  | 64.5 | 60.1 | 53.1 | 54.0 | 57.1       | 10.4        |
| 5        | N46           | no             | 24.0 | 22.7 | 21.2 | 22.6        | 25.5  | 27.3 | 23.1 | 35.1 | 29.5 | 28.1       | 5.5         |
| 5        | N47           | no             | 26.5 | 28.4 | 38.1 | 31.0        | 32.7  | 37.1 | 35.7 | 37.4 | 38.0 | 36.2       | 5.2         |
| 5        | N48           | no             | 33.8 | 30.2 | 29.3 | 31.1        | 32.8  | 43.0 | 42.9 | 48.1 | 55.2 | 44.4       | 13.3        |
| 5        | N49           | no             | 49.7 | 51.1 | 43.6 | 48.1        | 49.4  | 49.8 | 59.8 | 56.8 | 53.3 | 53.8       | 5.7         |
| 6        | N50           | no             | 32.3 | 31.1 | 27.8 | 30.4        | 35.7  | 37.1 | 31.6 | 33.7 | 31.9 | 34.0       | 3.6         |
| 6        | N51           | no             | 26.3 | 30.7 | 26.3 | 27.8        | 25.1  | 30.9 | 32.4 | 22.0 | 25.8 | 27.2       | -0.5        |
| 6        | N52           | no             | 25.4 | 24.8 | 35.4 | 28.5        | 36.2  | 29.3 | 30.1 | 28.7 | 27.5 | 30.4       | 1.8         |
| 6        | N54           | no             | 25.4 | 28.2 | 31.3 | 28.3        | 33.5  | 30.9 | 25.1 | 35.8 | 29.0 | 30.9       | 2.6         |
| 7        | N55           | no             | 53.7 | 52.4 | 60.5 | 55.5        | 63.7  | 64.3 | 64.5 | 62.3 | 64.7 | 63.9       | 8.4         |
| 7        | N56           | no             | 25.7 | 22.3 | 25.8 | 24.6        | 24.9  | 27.2 | 25.7 | 33.5 | 28.8 | 28.0       | 3.4         |
| 7        | N57           | no             | ~    | 36.5 | 42.2 | 39.4        | 43.4  | 48.6 | 57.5 | 58.4 | 54.6 | 52.5       | 13.2        |
| 7        | N58           | no             | 23.4 | 20.5 | 22.3 | 22.1        | 27.0  | 27.0 | 26.0 | 30.5 | 28.8 | 27.9       | 5.8         |
| 7        | N59           | no             | 55.2 | 57.3 | 62.3 | 58.3        | 57.9  | 63.1 | 62.0 | 60.7 | 56.5 | 60.0       | 1.8         |
| 7        | N60           | no             | 31.2 | 33.3 | 35.5 | 33.3        | 42.4  | 44.8 | 41.3 | 43.1 | 39.3 | 42.2       | 8.8         |
| 7        | N61           | no             | 25.7 | 22.6 | 30.3 | 26.2        | 30.5  | 32.6 | 33.4 | 31.7 | 37.2 | 33.1       | 6.9         |

~ No data

Table of Proficiency Test Pass rates by building for Math 12

| District | School Number | uniform policy | 1996 | 1997 | Mean before | 1998 | 1999 | 2000 | 2001 | Mean after | Mean Change |
|----------|---------------|----------------|------|------|-------------|------|------|------|------|------------|-------------|
|          |               |                | %    | %    | %           | %    | %    | %    | %    | %          | %           |
| 5        | U1            | yes            | 22.4 | 21.6 | 22.0        | 25.6 | 34.4 | 23.0 | 13.0 | 24.0       | 2.0         |
| 8        | U2            | yes            | 25.1 | 41.7 | 33.4        | 40.0 | 36.3 | 43.2 | 56.8 | 44.1       | 10.7        |
| 8        | U3            | yes            | 29.0 | 14.5 | 21.8        | 31.7 | 18.2 | 22.2 | 28.1 | 25.1       | 3.3         |
| 8        | U4            | yes            | 27.9 | 24.8 | 26.4        | 31.9 | 25.5 | 47.3 | 36.0 | 35.2       | 8.8         |
| 6        | U5            | yes            | 7.7  | 14.4 | 11.1        | 21.6 | 23.1 | 22.4 | 48.7 | 29.0       | 17.9        |
| 4        | U6            | yes            | ---  | ---  | ---         | ---  | ---  | ---  | ---  | ---        | ---         |
| 1        | N1            | no             | 18.9 | 20.7 | 19.8        | 18.1 | 13.6 | 21.2 | 23.2 | 19.0       | -0.8        |
| 1        | N2            | no             | 24.0 | 29.9 | 27.0        | 23.6 | 28.3 | 27.8 | 24.7 | 26.1       | -0.8        |
| 1        | N3            | no             | 33.7 | 31.4 | 32.6        | 26.8 | 30.1 | 34.8 | 46.9 | 34.7       | 2.1         |
| 1        | N4            | no             | 43.6 | 29.7 | 36.7        | 30.7 | 47.2 | 39.6 | 43.2 | 40.2       | 3.5         |
| 1        | N5            | no             | 54.8 | 57.9 | 56.4        | 55.8 | 58.2 | 57.8 | 54.7 | 56.6       | 0.3         |
| 1        | N6            | no             | 30.6 | 27.9 | 29.3        | 31.3 | 28.9 | 35.5 | 32.4 | 32.0       | 2.8         |
| 1        | N7            | no             | 30.7 | 23.2 | 27.0        | 26.4 | 21.5 | 38.3 | 32.4 | 29.7       | 2.7         |
| 1        | N8            | no             | 34.1 | 30.4 | 32.3        | 28.0 | 45.9 | 38.7 | 46.3 | 39.7       | 7.5         |
| 2        | N9            | no             | 38.5 | 31.2 | 34.9        | 38.5 | 43.1 | 44.7 | 44.4 | 42.7       | 7.8         |
| 2        | N10           | no             | 15.1 | 11.0 | 13.1        | 18.7 | 19.8 | 23.0 | 26.8 | 22.1       | 9.0         |
| 3        | N11           | no             | 18.5 | 20.9 | 19.7        | 17.3 | 23.2 | 26.2 | 32.2 | 24.7       | 5.0         |
| 3        | N12           | no             | 50.9 | 52.5 | 51.7        | 53.3 | 62.8 | 62.5 | 66.0 | 61.2       | 9.5         |
| 3        | N13           | no             | ---  | ---  | ---         | ---  | ---  | ---  | ---  | ---        | ---         |
| 3        | N14           | no             | 28.7 | 23.6 | 26.2        | 31.0 | 30.6 | 38.9 | 50.5 | 37.8       | 11.6        |
| 3        | N15           | no             | 16.7 | 14.5 | 15.6        | 4.0  | 10.3 | 25.5 | 16.7 | 14.1       | -1.5        |
| 3        | N16           | no             | 89.5 | 87.2 | 88.4        | 88.1 | 87.6 | 93.5 | 95.5 | 91.2       | 2.8         |
| 3        | N17           | no             | 25.8 | 25.9 | 25.9        | 25.8 | 30.4 | 41.2 | 35.3 | 33.2       | 7.3         |
| 3        | N18           | no             | 26.5 | 29.4 | 28.0        | 14.7 | 23.3 | 35.1 | 32.0 | 26.3       | -1.7        |
| 3        | N19           | no             | 8.5  | 11.5 | 10.0        | 5.3  | 11.8 | 21.6 | 10.7 | 12.4       | 2.4         |
| 4        | N20           | no             | 19.5 | 28.3 | 23.9        | 40.4 | 33.3 | 44.1 | 44.4 | 40.6       | 16.7        |
| 4        | N21           | no             | 22.2 | 22.0 | 22.1        | 10.9 | 25.7 | 30.2 | 38.2 | 26.3       | 4.2         |
| 4        | N22           | no             | 12.9 | 1.1  | 7.0         | 8.2  | 11.4 | 23.5 | 43.5 | 21.7       | 14.7        |
| 4        | N23           | no             | 27.7 | 16.9 | 22.3        | 14.3 | 18.6 | 17.1 | 22.4 | 18.1       | -4.2        |
| 4        | N24           | no             | 27.0 | 15.4 | 21.2        | 15.5 | 18.9 | 32.7 | 26.7 | 23.5       | 2.3         |
| 4        | N26           | no             | 19.7 | 21.2 | 20.5        | 25.2 | 35.3 | 42.7 | 30.5 | 33.4       | 13.0        |
| 4        | N27           | no             | 12.0 | 6.0  | 9.0         | 7.8  | 14.7 | 22.1 | 33.7 | 19.6       | 10.6        |
| 4        | N28           | no             | 28.1 | 21.9 | 25.0        | 22.2 | 27.2 | 18.9 | 31.0 | 24.8       | -0.2        |
| 4        | N29           | no             | 33.8 | 22.6 | 28.2        | 32.1 | 31.4 | 45.5 | 51.1 | 40.0       | 11.8        |
| 4        | N30           | no             | 21.0 | 15.7 | 18.4        | 19.0 | 19.4 | 35.4 | 30.9 | 26.2       | 7.8         |
| 4        | N31           | no             | 17.1 | 12.8 | 15.0        | 22.2 | 23.3 | 33.3 | 18.2 | 24.3       | 9.3         |
| 4        | N32           | no             | 10.0 | 10.8 | 10.4        | 2.1  | 10.9 | 16.2 | 16.7 | 11.5       | 1.1         |
| 5        | N33           | no             | 21.4 | 27.3 | 24.4        | 16.3 | 33.3 | 23.1 | 30.4 | 25.8       | 1.4         |
| 5        | N34           | no             | 17.4 | 27.4 | 22.4        | 29.6 | 22.4 | 28.8 | 36.0 | 29.2       | 6.8         |
| 5        | N35           | no             | 15.7 | 18.6 | 17.2        | 14.3 | 24.7 | 28.0 | 26.7 | 23.4       | 6.3         |
| 5        | N36           | no             | 45.2 | 38.8 | 42.0        | 32.9 | 40.2 | 56.7 | 54.9 | 46.2       | 4.2         |
| 5        | N37           | no             | 48.3 | 56.5 | 52.4        | 53.3 | 55.6 | 59.0 | 68.8 | 59.2       | 6.8         |
| 5        | N39           | no             | 25.3 | 25.0 | 25.2        | 15.8 | 25.2 | 44.4 | 59.6 | 36.3       | 11.1        |
| 5        | N40           | no             | 48.1 | 50.0 | 49.1        | 63.6 | 61.9 | 59.1 | 65.5 | 62.5       | 13.5        |
| 5        | N41           | no             | 16.0 | 15.5 | 15.8        | 12.0 | 18.1 | 13.9 | 21.4 | 16.4       | 0.6         |
| 5        | N42           | no             | 30.4 | 17.2 | 23.8        | 16.3 | 38.1 | 21.7 | 19.5 | 23.9       | 0.1         |
| 5        | N43           | no             | 19.8 | 18.0 | 18.9        | 25.9 | 18.6 | 31.0 | 36.6 | 28.0       | 9.1         |
| 5        | N44           | no             | 19.7 | 18.4 | 19.1        | 22.8 | 13.4 | 22.6 | 20.0 | 19.7       | 0.7         |
| 5        | N45           | no             | 45.0 | 37.8 | 41.4        | 35.8 | 37.2 | 40.8 | 45.5 | 39.8       | -1.6        |
| 5        | N46           | no             | 10.8 | 14.8 | 12.8        | 20.4 | 20.5 | 20.8 | 24.7 | 21.6       | 8.8         |
| 5        | N47           | no             | 24.1 | 19.6 | 21.9        | 25.2 | 28.4 | 29.2 | 37.1 | 30.0       | 8.1         |
| 5        | N48           | no             | 27.0 | 21.5 | 24.3        | 33.9 | 21.9 | 21.3 | 36.8 | 28.5       | 4.2         |
| 5        | N49           | no             | 35.9 | 42.7 | 39.3        | 50.5 | 45.1 | 58.1 | 62.1 | 54.0       | 14.7        |
| 6        | N50           | no             | 37.2 | 27.8 | 32.5        | 32.5 | 47.3 | 44.3 | 43.9 | 42.0       | 9.5         |
| 6        | N51           | no             | 53.1 | 38.7 | 45.9        | 36.4 | 30.1 | 29.1 | 46.9 | 35.6       | -10.3       |
| 6        | N52           | no             | 19.5 | 42.9 | 31.2        | 28.6 | 34.5 | 36.8 | 33.9 | 33.5       | 2.3         |
| 6        | N54           | no             | 33.8 | 78.9 | 56.4        | 48.1 | 60.9 | 31.5 | 42.0 | 45.6       | -10.7       |
| 7        | N55           | no             | 42.6 | 48.8 | 45.7        | 47.9 | 42.3 | 46.6 | 8.6  | 36.4       | -9.4        |
| 7        | N56           | no             | 21.0 | 12.5 | 16.8        | 19.2 | 22.6 | 16.7 | 27.0 | 21.4       | 4.6         |
| 7        | N57           | no             | 37.9 | 23.6 | 30.8        | 24.1 | 25.3 | 31.3 | 29.6 | 27.6       | -3.2        |
| 7        | N58           | no             | 8.7  | 7.7  | 8.2         | 11.4 | 13.2 | 14.8 | 14.3 | 13.4       | 5.2         |
| 7        | N59           | no             | 29.5 | 36.4 | 33.0        | 33.0 | 34.9 | 41.1 | 43.4 | 38.1       | 5.2         |
| 7        | N60           | no             | 24.0 | 16.3 | 20.2        | 19.5 | 28.1 | 33.1 | 29.9 | 27.7       | 7.5         |
| 7        | N61           | no             | 19.4 | 26.6 | 23.0        | 21.3 | 18.8 | 24.8 | 22.0 | 21.7       | -1.3        |

--- No data

Table of suspensions per 100 students year by year

| District | School Number | uniform policy | 1995             | 1996             | 1997             | Mean before      | 1998             | 1999             | 2000             | 2001             | 2002             | Mean after       | Mean Change      |
|----------|---------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|          |               |                | per 100 students | per 100 students | per 100 students | per 100 students | per 100 students | per 100 students | per 100 students | per 100 students | per 100 students | per 100 students | per 100 students |
| 5        | U1            | yes            | ---              | ---              | 30.77            | 30.77            | 60.33            | 49.75            | 44.46            | 65.03            | 20.61            | 48.04            | 17.27            |
| 8        | U2            | yes            | 0                | 113.31           | 99.89            | 71.07            | 92.26            | 71.94            | 68.50            | 48.03            | 36.19            | 63.38            | -7.69            |
| 8        | U3            | yes            | 0                | 210.89           | 205.37           | 138.75           | 102.38           | 125.85           | 84.26            | 77.54            | 61.50            | 90.31            | -48.45           |
| 8        | U4            | yes            | 0                | 342.26           | 307.11           | 216.46           | 68.87            | 27.91            | 32.13            | 33.03            | 36.90            | 39.77            | -176.69          |
| 6        | U5            | yes            | ---              | ---              | ---              | ---              | 4.22             | 5.42             | 0.90             | 1.98             | 17.39            | 5.98             | ---              |
| 4        | U6            | yes            | ---              | 1.54             | 0.72             | 1.13             | 2.16             | 1.67             | 1.96             | ---              | ---              | 1.93             | 0.80             |
| 1        | N1            | no             | 2.04             | 1.97             | 1.54             | 1.85             | 1.17             | 2.32             | 1.87             | 0.80             | 0.39             | 1.31             | -0.54            |
| 1        | N2            | no             | 0.42             | 2.02             | 1.07             | 1.17             | 0.65             | 1.46             | 0.67             | 0.72             | 0.63             | 0.82             | -0.35            |
| 1        | N3            | no             | 128.5            | 162.9            | 216.5            | 169.32           | 185.91           | 9.85             | 10.67            | 49.26            | 113.13           | 73.76            | -95.56           |
| 1        | N4            | no             | 35.9             | 65.2             | 60.8             | 53.99            | 65.71            | 77.98            | 52.58            | 65.05            | 69.90            | 66.24            | 12.25            |
| 1        | N5            | no             | 124.3            | 107.3            | 137.6            | 123.05           | 142.52           | 93.60            | 99.38            | 109.16           | 111.99           | 111.33           | -11.72           |
| 1        | N6            | no             | 63.1             | 80.7             | 77.4             | 73.76            | 82.63            | 82.47            | 74.73            | 62.25            | 47.59            | 69.93            | -3.82            |
| 1        | N7            | no             | 67.6             | 64.0             | 58.3             | 63.28            | 61.75            | 47.17            | 33.10            | 25.44            | 40.71            | 41.63            | -21.65           |
| 1        | N8            | no             | 110.4            | 82.5             | 99.4             | 97.43            | 85.33            | 106.72           | 68.19            | 81.35            | 70.06            | 82.33            | -15.10           |
| 2        | N9            | no             | ---              | ---              | 24.3             | 24.26            | 24.50            | 19.95            | 18.98            | 16.56            | 21.68            | 20.33            | -3.93            |
| 2        | N10           | no             | ---              | ---              | 24.9             | 24.87            | 27.45            | 30.76            | 37.05            | 38.89            | 33.89            | 33.61            | 8.73             |
| 3        | N11           | no             | 68.09            | 111.67           | 50.65            | 76.80            | 53.23            | 38.01            | 54.51            | 48.37            | 43.55            | 47.53            | -29.27           |
| 3        | N12           | no             | 18.70            | 21.97            | 15.02            | 18.56            | 9.25             | 6.84             | 11.43            | 7.21             | 8.69             | 8.68             | -9.88            |
| 3        | N13           | no             | 108.83           | 114.43           | 91.23            | 104.83           | 69.72            | 61.94            | 92.55            | 76.29            | 48.14            | 69.73            | -35.10           |
| 3        | N14           | no             | 46.68            | 41.17            | 42.15            | 43.33            | 43.55            | 44.57            | 85.58            | 65.76            | 50.63            | 58.02            | 14.69            |
| 3        | N15           | no             | 42.83            | 30.46            | 31.99            | 35.09            | 37.21            | 38.34            | 22.04            | 34.69            | 32.69            | 32.99            | -2.10            |
| 3        | N16           | no             | 4.73             | 3.02             | 3.80             | 3.85             | 1.72             | 2.26             | 3.76             | 2.50             | 2.62             | 2.57             | -1.28            |
| 3        | N17           | no             | 69.56            | 67.93            | 65.39            | 67.63            | 62.49            | 63.07            | 103.16           | 89.00            | 82.93            | 80.13            | 12.50            |
| 3        | N18           | no             | 47.75            | 87.00            | 47.18            | 60.65            | 46.62            | 34.53            | 51.80            | 43.40            | 38.51            | 42.97            | -17.68           |
| 3        | N19           | no             | 44.66            | 57.03            | 66.46            | 56.05            | 38.93            | 37.98            | 75.74            | 47.24            | 39.42            | 47.86            | -8.19            |
| 4        | N20           | no             | ---              | ---              | 27.08            | 27.08            | 27.08            | 18.70            | 15.14            | 17.37            | 13.82            | 18.42            | -8.66            |
| 4        | N21           | no             | ---              | ---              | 9.01             | 9.01             | 9.01             | 7.00             | 7.92             | 4.89             | 5.98             | 6.96             | -2.05            |
| 4        | N22           | no             | ---              | ---              | 32.15            | 32.15            | 32.15            | 15.05            | 0.11             | 0.12             | 31.50            | 15.79            | -16.36           |
| 4        | N23           | no             | ---              | ---              | 32.35            | 32.35            | 32.35            | 29.55            | 25.93            | 36.59            | 38.17            | 32.52            | 0.16             |
| 4        | N24           | no             | ---              | ---              | 14.47            | 14.47            | 14.47            | 10.13            | 13.82            | 11.93            | 26.39            | 15.35            | 0.88             |
| 4        | N26           | no             | ---              | ---              | 1.54             | 1.54             | 31.99            | 21.54            | 17.68            | 11.35            | 9.97             | 18.51            | 16.97            |
| 4        | N27           | no             | ---              | ---              | 31.99            | 31.99            | 18.40            | 15.67            | 8.62             | 10.34            | 9.03             | 12.41            | -19.58           |
| 4        | N28           | no             | ---              | ---              | 18.40            | 18.40            | 44.32            | 37.95            | 36.64            | 35.78            | 27.40            | 36.42            | 18.02            |
| 4        | N29           | no             | ---              | ---              | 44.32            | 44.32            | 34.84            | 34.15            | 21.19            | 23.95            | 21.99            | 27.22            | -17.10           |
| 4        | N30           | no             | ---              | ---              | 34.84            | 34.84            | 40.35            | 29.98            | 16.69            | 16.19            | 17.46            | 24.13            | -10.71           |
| 4        | N31           | no             | ---              | ---              | 40.35            | 40.35            | 85.84            | 108.63           | 99.24            | 130.88           | 40.15            | 92.95            | 52.59            |
| 4        | N32           | no             | ---              | 85.84            | 16.49            | 51.16            | 34.22            | 26.80            | 34.11            | 43.54            | 31.74            | 34.08            | -17.08           |
| 5        | N33           | no             | ---              | 34.22            | 21.02            | 27.62            | 79.01            | 67.77            | 51.08            | 81.89            | 49.19            | 65.79            | 38.16            |
| 5        | N34           | no             | ---              | 37.60            | 23.31            | 30.45            | 52.95            | 57.56            | 55.93            | 139.11           | 58.32            | 72.78            | 42.32            |
| 5        | N35           | no             | ---              | 15.36            | 29.02            | 22.19            | 97.04            | 85.73            | 101.73           | 167.35           | 79.72            | 106.31           | 84.12            |
| 5        | N36           | no             | ---              | 4.35             | 22.40            | 13.38            | 44.85            | 51.61            | 59.59            | 125.66           | 47.70            | 65.88            | 52.51            |
| 5        | N37           | no             | ---              | 30.77            | 23.67            | 27.22            | 26.45            | 31.99            | 32.20            | 31.23            | 30.84            | 30.54            | 3.32             |
| 5        | N39           | no             | ---              | 28.80            | 28.80            | 28.80            | 69.19            | 83.27            | 44.38            | 56.50            | 29.69            | 56.61            | 27.81            |
| 5        | N40           | no             | ---              | 6.82             | 6.82             | 6.82             | 51.32            | 66.72            | 63.43            | 89.53            | 52.03            | 64.60            | 57.79            |
| 5        | N41           | no             | ---              | 35.23            | 35.23            | 35.23            | 52.86            | 61.81            | 40.60            | 92.04            | 37.98            | 57.06            | 21.83            |
| 5        | N42           | no             | ---              | 56.75            | 56.75            | 56.75            | 99.39            | 148.55           | 81.98            | 137.05           | 56.48            | 104.69           | 47.94            |
| 5        | N43           | no             | ---              | 22.07            | 22.07            | 22.07            | 76.18            | 68.82            | 89.30            | 168.44           | 72.90            | 95.13            | 73.06            |
| 5        | N44           | no             | ---              | 16.49            | 16.49            | 16.49            | 50.07            | 48.85            | 114.78           | 63.35            | 41.50            | 63.71            | 47.22            |
| 5        | N45           | no             | ---              | 21.02            | 21.02            | 21.02            | 65.47            | 57.04            | 66.56            | 112.38           | 57.10            | 71.71            | 50.68            |
| 5        | N46           | no             | ---              | 23.31            | 23.31            | 23.31            | 74.30            | 72.27            | 68.35            | 92.84            | 60.65            | 73.68            | 50.37            |
| 5        | N47           | no             | ---              | 29.02            | 29.02            | 29.02            | 71.13            | 88.90            | 96.64            | 133.49           | 60.88            | 90.21            | 61.19            |
| 5        | N48           | no             | ---              | 22.40            | 22.40            | 22.40            | 58.90            | 76.58            | 77.82            | 110.36           | 73.91            | 79.52            | 57.12            |
| 5        | N49           | no             | ---              | 23.67            | 23.67            | 23.67            | 77.62            | 72.44            | 64.42            | 116.62           | 60.66            | 78.35            | 54.68            |
| 6        | N50           | no             | ---              | ---              | 0.00             | 0.00             | 13.86            | 35.07            | 47.79            | 55.94            | 49.46            | 40.42            | 40.42            |
| 6        | N51           | no             | ---              | ---              | 41.71            | 41.71            | 78.10            | 48.76            | 78.58            | 85.09            | 107.40           | 79.59            | 37.87            |
| 6        | N52           | no             | ---              | ---              | 0.00             | 0.00             | 42.56            | 42.58            | 60.28            | 62.77            | 44.59            | 50.56            | 50.56            |
| 6        | N54           | no             | ---              | ---              | 0.00             | 0.00             | 20.24            | 12.01            | 7.18             | 8.89             | 9.87             | 11.64            | 11.64            |
| 7        | N55           | no             | 59.59            | 44.68            | 42.04            | 48.77            | 28.90            | 28.90            | 25.53            | 29.86            | 24.22            | 27.48            | -21.29           |
| 7        | N56           | no             | 79.98            | 84.40            | 92.58            | 85.65            | 46.97            | 64.30            | 79.25            | 61.86            | 86.52            | 67.78            | -17.87           |
| 7        | N57           | no             | 53.46            | 57.23            | 71.91            | 60.87            | 55.59            | 44.25            | 39.10            | 50.35            | 47.16            | 47.29            | -13.58           |
| 7        | N58           | no             | 61.05            | 60.93            | 65.15            | 62.38            | 55.56            | 38.89            | 34.00            | 38.99            | 68.32            | 47.15            | -15.22           |
| 7        | N59           | no             | 42.60            | 42.81            | 49.25            | 44.89            | 47.42            | 36.64            | 22.86            | 35.82            | 36.22            | 35.79            | -9.09            |
| 7        | N60           | no             | 58.26            | 59.80            | 66.74            | 61.60            | 52.75            | 49.78            | 55.54            | 66.92            | 67.89            | 58.58            | -3.02            |
| 7        | N61           | no             | 96.90            | 102.77           | 84.04            | 94.57            | 90.85            | 91.62            | 148.01           | 180.36           | 154.94           | 127.71           | 33.14            |

-- No data



Table of expulsions year by year

| District | School Number | uniform policy | 1995             | 1996             | 1997             | Mean before      | 1998             | 1999             | 2000             | 2001             | 2002             | Mean after       | Mean Change      |
|----------|---------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|          |               |                | per 100 students | per 100 students | per 100 students | per 100 students | per 100 students | per 100 students | per 100 students | per 100 students | per 100 students | per 100 students | per 100 students |
| 5        | U1            | yes            | 0                | 2.3              | 1.01             | 1.1              | 1.36             | 1.09             | 0.23             | 0.56             | 0.9              | 0.8              | -0.2             |
| 8        | U2            | yes            | 1.34             | 1.37             | 1.36             | 1.4              | 1.18             | 0.95             | 0.44             | 0.99             | 1.0              | 0.9              | -0.4             |
| 8        | U3            | yes            | 2.08             | 1.88             | 1.98             | 2.0              | 2.24             | 0.93             | 0.75             | 1.57             | 1.5              | 1.4              | -0.6             |
| 8        | U4            | yes            | 4.28             | 3.75             | 4.02             | 4.0              | 2.16             | 1.24             | 0.69             | 2.68             | 2.2              | 1.8              | -2.2             |
| 6        | U5            | yes            | 0.00             | 0.00             | 0.00             | 0.0              | 0.8              | 0.27             | 0.50             | 2.77             | 0.9              | 1.0              | 1.0              |
| 4        | U6            | yes            | 0.00             | 0.00             | 0.00             | 0.0              | 0.00             | 0.65             | 0.2              |                  |                  | 0.3              | 0.3              |
| 1        | N1            | no             | 2.0              | 1.5              | 1.76             | 1.8              | 2.3              | 1.9              | 0.8              | 0.4              | 1.4              | 1.4              | -0.4             |
| 1        | N2            | no             | 2.0              | 1.1              | 1.55             | 1.5              | 1.5              | 0.7              | 0.7              | 0.6              | 1.0              | 0.9              | -0.7             |
| 1        | N3            | no             | 2.0              | 1.5              | 1.76             | 1.8              | 2.3              | 1.9              | 0.8              | 0.4              | 1.4              | 1.4              | -0.4             |
| 1        | N4            | no             | 2.0              | 1.1              | 1.55             | 1.5              | 1.5              | 0.7              | 0.7              | 0.6              | 1.0              | 0.9              | -0.7             |
| 1        | N5            | no             | 1.6              | 1.3              | 1.46             | 1.5              | 1.1              | 1.5              | 0.9              | 1.3              | 1.2              | 1.2              | -0.3             |
| 1        | N6            | no             | 2.0              | 1.4              | 1.71             | 1.7              | 0.3              | 0.6              | 0.5              | 1.0              | 0.8              | 0.6              | -1.1             |
| 1        | N7            | no             | 0.4              | 1.3              | 0.88             | 0.9              | 1.1              | 0.4              | 0.3              | 0.5              | 0.6              | 0.6              | -0.3             |
| 1        | N8            | no             | 1.0              | 1.0              | 1.00             | 1.0              | 1.6              | 2.5              | 1.4              | 1.5              | 1.6              | 1.7              | 0.7              |
| 2        | N9            | no             | 3.8              | 4.3              | 4.04             | 4.0              | 2.6              | 1.6              | 1.9              | 2.5              | 2.5              | 2.2              | -1.8             |
| 2        | N10           | no             | 4.0              | 5.7              | 4.84             | 4.8              | 6.2              | 7.2              | 5.0              | 4.4              | 5.5              | 5.6              | 0.8              |
| 3        | N11           | no             | 13.84            | 6.32             | 10.80            | 10.3             | 6.28             | 4.95             | 6.05             | 7.22             | 7.0              | 6.3              | -4.0             |
| 3        | N12           | no             | 3.56             | 2.26             | 2.91             | 2.9              | 4.02             | 1.50             | 1.64             | 0.97             | 2.2              | 2.1              | -0.8             |
| 3        | N13           | no             | 10.07            | 7.56             | 8.80             | 8.8              | 5.67             | 6.02             | 1.84             | 2.43             | 5.0              | 4.2              | -4.6             |
| 3        | N14           | no             | 7.67             | 5.59             | 6.63             | 6.6              | 5.21             | 5.41             | 3.10             | 2.39             | 4.5              | 4.1              | -2.5             |
| 3        | N15           | no             | 4.40             | 3.26             | 3.83             | 3.8              | 5.32             | 6.13             | 4.45             | 3.88             | 4.7              | 4.9              | 1.1              |
| 3        | N16           | no             | 1.37             | 1.22             | 1.30             | 1.3              | 0.74             | 0.63             | 0.83             | 0.62             | 0.8              | 0.7              | -0.6             |
| 3        | N17           | no             | 9.87             | 8.07             | 8.97             | 9.0              | 6.45             | 6.50             | 3.42             | 4.12             | 5.9              | 5.3              | -3.7             |
| 3        | N18           | no             | 10.78            | 5.89             | 8.34             | 8.3              | 5.70             | 4.70             | 5.42             | 6.38             | 6.1              | 5.7              | -2.7             |
| 3        | N19           | no             | 9.86             | 7.92             | 8.89             | 8.9              | 4.48             | 5.12             | 3.10             | 3.13             | 4.9              | 4.2              | -4.7             |
| 4        | N20           | no             | 0.00             | 0.00             | 0                | 0.0              | 0.00             | 0.00             | 0.15             | 0.00             | 0.0              | 0.0              | 0.0              |
| 4        | N21           | no             | 0.00             | 0.00             | 0                | 0.0              | 0.00             | 0.00             | 0.08             | 0.25             | 0.1              | 0.1              | 0.1              |
| 4        | N22           | no             | 0.00             | 0.00             | 0                | 0.0              | 0.00             | 0.53             | 0.37             | 0.51             | 0.3              | 0.3              | 0.3              |
| 4        | N23           | no             | 0.00             | 0.00             | 0                | 0.0              | 0.00             | 0.00             | 0.42             | 0.45             | 0.2              | 0.2              | 0.2              |
| 4        | N24           | no             | 0.00             | 0.00             | 0.0              | 0.0              | 0.00             | 0.00             | 0.24             | 0.37             | 0.1              | 0.1              | 0.1              |
| 4        | N26           | no             | 0.00             | 0.00             | 0.0              | 0.0              | 0.00             | 0.00             | 0.17             | 0.16             | 0.1              | 0.1              | 0.1              |
| 4        | N27           | no             | 0.00             | 0.00             | 0.0              | 0.0              | 0.00             | 0.00             | 0.17             | 0.06             | 0.0              | 0.1              | 0.1              |
| 4        | N28           | no             | 0.00             | 0.00             | 0.0              | 0.0              | 0.00             | 0.00             | 0.16             | 0.32             | 0.1              | 0.1              | 0.1              |
| 4        | N29           | no             | 0.00             | 0.00             | 0.0              | 0.0              | 0.00             | 0.00             | 0.25             | 0.37             | 0.1              | 0.1              | 0.1              |
| 4        | N30           | no             | 0.00             | 0.00             | 0.0              | 0.0              | 0.00             | 0.00             | 0.60             | 0.35             | 0.2              | 0.2              | 0.2              |
| 4        | N31           | no             | 0.00             | 0.00             | 0.0              | 0.0              | 0.00             | 0.00             | 1.10             | 1.93             | 0.6              | 0.7              | 0.7              |
| 4        | N32           | no             | 0.00             | 0.00             | 0.0              | 0.0              | 0.00             | 0.00             | 0.33             | 0.45             | 0.2              | 0.2              | 0.2              |
| 5        | N33           | no             | 0.00             | 0.7              | 1.06             | 0.6              | 0.66             | 0.41             | 0.21             | 0.22             | 0.5              | 0.4              | -0.7             |
| 5        | N34           | no             | 0.00             | 0.6              | 0.34             | 0.3              | 0.56             | 0.63             | 0.41             | 0.32             | 0.4              | 0.5              | 0.1              |
| 5        | N35           | no             | 0.00             | 1.0              | 0.89             | 0.6              | 1.05             | 0.92             | 0.69             | 0.57             | 0.8              | 0.8              | -0.1             |
| 5        | N36           | no             | 0.00             | 0.8              | 0.17             | 0.3              | 0.77             | 0.55             | 0.63             | 0.51             | 0.5              | 0.6              | 0.4              |
| 5        | N37           | no             | 0.00             | 0.0              | 4.04             | 1.3              | 0.00             | 0.00             | 0.00             | 0.00             | 0.9              | 0.2              | -3.9             |
| 5        | N39           | no             | 0.00             | 0.8              | 1.68             | 0.8              | 0.80             | 0.00             | 0.00             | 0.13             | 0.6              | 0.3              | -1.4             |
| 5        | N40           | no             | 0.00             | 0.3              | 0.99             | 0.4              | 0.32             | 0.16             | 0.00             | 0.33             | 0.4              | 0.2              | -0.7             |
| 5        | N41           | no             | 0.00             | 0.2              | 0.48             | 0.2              | 0.16             | 0.53             | 0.18             | 0.09             | 0.3              | 0.2              | -0.2             |
| 5        | N42           | no             | 0.00             | 1.4              | 1.38             | 0.9              | 1.37             | 1.24             | 0.87             | 1.87             | 1.3              | 1.3              | -0.1             |
| 5        | N43           | no             | 0.00             | 1.1              | 0.40             | 0.3              | 1.10             | 0.20             | 0.48             | 0.43             | 0.5              | 0.5              | 0.1              |
| 5        | N44           | no             | 0.00             | 0.6              | 1.82             | 0.8              | 0.64             | 0.64             | 0.26             | 0.36             | 0.8              | 0.5              | -1.3             |
| 5        | N45           | no             | 0.00             | 0.4              | 0.98             | 0.5              | 0.41             | 0.32             | 0.40             | 0.33             | 0.5              | 0.4              | -0.6             |
| 5        | N46           | no             | 0.00             | 0.4              | 0.23             | 0.2              | 0.39             | 0.77             | 0.46             | 0.56             | 0.4              | 0.5              | 0.3              |
| 5        | N47           | no             | 0.00             | 0.3              | 0.77             | 0.4              | 0.28             | 0.75             | 0.37             | 1.12             | 0.6              | 0.6              | -0.1             |
| 5        | N48           | no             | 0.00             | 0.3              | 0.40             | 0.2              | 0.33             | 0.58             | 0.17             | 0.18             | 0.3              | 0.3              | -0.1             |
| 5        | N49           | no             | 0.00             | 0.4              | 0.21             | 0.2              | 0.41             | 0.66             | 0.19             | 1.07             | 0.5              | 0.6              | 0.3              |
| 6        | N50           | no             | 0.00             | 2.29             | 3.0              | 1.8              | 3.01             | 2.73             | 3.10             | 2.80             | 2.7              | 2.9              | 1.1              |
| 6        | N51           | no             | 0.00             | 1.08             | 0.54             | 0.5              | 0.93             | 1.32             | 1.33             | 1.13             | 1.1              | 1.2              | 0.6              |
| 6        | N52           | no             | 0.00             | 0.48             | 0.24             | 0.2              | 0.90             | 0.84             | 0.88             | 0.70             | 0.7              | 0.8              | 0.6              |
| 6        | N54           | no             | 0.00             | 0.0              | 0.0              | 0.0              | 1.45             | 1.69             | 0.37             | 0.31             | 0.8              | 0.9              | 0.9              |
| 7        | N55           | no             | 2.08             | 1.41             | 1.75             | 1.7              | 0.63             | 0.85             | 1.99             | 1.07             | 1.3              | 1.2              | -0.6             |
| 7        | N56           | no             | 3.25             | 2.74             | 3.00             | 3.0              | 0.19             | 3.11             | 2.21             | 2.78             | 2.3              | 2.1              | -0.9             |
| 7        | N57           | no             | 1.88             | 2.73             | 2.31             | 2.3              | 0.68             | 1.97             | 2.10             | 2.13             | 1.8              | 1.7              | -0.6             |
| 7        | N58           | no             | 2.12             | 3.62             | 2.87             | 2.9              | 1.31             | 1.85             | 1.46             | 1.44             | 1.8              | 1.6              | -1.3             |
| 7        | N59           | no             | 1.61             | 1.43             | 1.52             | 1.5              | 1.18             | 0.84             | 1.58             | 2.40             | 1.5              | 1.5              | 0.0              |
| 7        | N60           | no             | 2.31             | 1.56             | 1.94             | 1.9              | 1.09             | 2.47             | 2.26             | 1.91             | 1.9              | 1.9              | 0.0              |
| 7        | N61           | no             | 2.69             | 2.40             | 2.55             | 2.5              | 0.58             | 1.70             | 2.00             | 1.55             | 1.7              | 1.5              | -1.0             |

- No data

APPENDIX C

Communications to Schools

# [YSU letterhead]

Department of Human Ecology  
Bitonte College of Health and Human Services

Dear High School Principal:

I am conducting a statewide study of all urban secondary schools to assess how the presence or absence of school uniforms policies and certain other school policies, programs and practices may impact various critical student and school outcomes including: 1) Attendance, 2) Graduation rate, 3) Discipline, and 4) Proficiency Test results. Your cooperation in completing a brief questionnaire is needed for this important study that will benefit urban high schools. I need your assistance in confirming which of the policies or programs being examined have been implemented in your school.

Your participation in this study for my doctoral dissertation is purely voluntary. Should you decide not to participate; it will not result in any penalty. You may discontinue your participation at any time. The information collected through this survey will be entered into a database and used to compare urban high school performance measures collected independently with the types of policies and programs in effect in the group of high schools being studied.

I am asking you to do several of the following on the return FAX request:

1. Indicate your email address and a link to an online version of the survey will be emailed to you OR
2. Indicate a mailing address for yourself where I can send a paper-pencil version of the survey with a return envelope.
3. Indicate whether or not your school building requires students to wear a school uniform OR did require a school uniform at some time between 1994-95 school year and the 2000-01 school year.
4. Indicate the number of suspensions and expulsions in your school for the years indicated.

The survey will probably take about 10 minutes of your time; perhaps less if you complete the electronic version. My contact information and that of my dissertation advisor appears below.

Thank you for your cooperation in this important research project.

Virginia Bendel Draa, Instructor  
Department of Human Ecology  
Phone: 330-941-2975, 330-941-3344,  
FAX: 330-941-1824  
email: vadraa@ysu.edu

Dissertation Advisor:  
Dr. Charles B. Vergon, Professor,  
Department of Educational Leadership  
Youngstown State University  
Youngstown, OH 44555  
Phone: 330-941-1574, 330-941-3034

## [YSU letterhead]

Department of Human Ecology  
 Bitonte College of Health and Human Services

|                                                   |                                                 |
|---------------------------------------------------|-------------------------------------------------|
| <b>To:</b> [School Principal]                     | <b>From:</b> Virginia Draa                      |
| <b>FAX NUMBER:</b> [school Fax number]            | <b>Date:</b> May 30, 2004                       |
| <b>ORGANIZATION:</b> [School Name]<br>High School | <b>Phone:</b> (330)941-2975                     |
| <b>PHONE NUMBER:</b> [school phone number]        | <b>FAX:</b> (330)941-1824                       |
| <b>Re:</b><br>Urban High School Improvement Study | <b>TOTAL NO. OF PAGES INCLUDING COVER:</b><br>3 |

**URGENT****PLEASE REPLY**

Dear [School principal name]:

I am conducting a study of uniform and dress code policies in Ohio urban high schools. For most of the schools in Ohio, I have been able to communicate with the school administrator through email. However, my research assistant was unable to verify email addresses for all of the high schools in the [School District Name] School District.

In order to complete this study I need the following information from you:

- Your email address where I can send you a link to an online survey OR
- A mail address for June and July where I can correspond with you and send you a paper copy of the survey I am using for this study
- A copy of your school building's dress code/ uniform policy
- If you have the information available – I am in need of suspension and expulsion numbers for high school students in your building from 1994-95 school year through 1999-2000 school year (before the data was reported by the Ohio Department of Education.). If you have that information on file or can inform me of where to get it, I would greatly appreciate it.

Please read the following letter about my study, complete the form and return FAX it to me as soon as possible.

Thank you for your cooperation.

# [YSU letterhead]

Department of Human Ecology  
 Bitonte College of Health and Human Services

RETURN FACSIMILE TRANSMITTAL SHEET

|                                                     |                            |
|-----------------------------------------------------|----------------------------|
| <b>To:</b><br>Virginia Draa                         | <b>From:</b>               |
| <b>FAX NUMBER:</b><br>(330) 941-1824                | <b>FAX NUMBER:</b>         |
| <b>ORGANIZATION:</b><br>Youngstown State University | <b>SCHOOL:</b>             |
| <b>PHONE NUMBER:</b><br>330-941-2975                | <b>PHONE NUMBER:</b>       |
| <b>Re:</b> Urban Schools Study                      | <b>TOTAL NO. of PAGES:</b> |
|                                                     | <b>DATE:</b>               |

Please provide the following information:

My school building had the following number of expulsions in each of the indicated years:

|               |                 |
|---------------|-----------------|
| _____ 1994-95 | _____ 1998-99   |
| _____ 1995-96 | _____ 1999-2000 |
| _____ 1996-97 | _____ 2000-01   |
| _____ 1997-98 | _____ 2001-02   |

My school building had the following number of suspensions in each of the indicated years:

|               |                 |
|---------------|-----------------|
| _____ 1994-95 | _____ 1998-99   |
| _____ 1995-96 | _____ 1999-2000 |
| _____ 1996-97 | _____ 2000-01   |
| _____ 1997-98 | _____ 2001-02   |

**PLEASE SEND A COPY OF YOUR SCHOOL DRESS CODE WITH THIS COMMUNICATION!**

APPENDIX D

School Improvement Survey

### Urban School Policy Study



The purpose of this questionnaire is to acquire information about the adoption and implementation of policies and procedures implemented within your school building that may have had a positive or negative impact on certain performance measures within your school building, serving the grades 9-12 student population. Thank you for completing this survey. Your cooperation is essential to the success of this study. By completing the contact information, you are consenting to participate in this study. Please complete this survey and return it by June 25, 2004.

- 1) Please complete the following contact information. By completing this information, you are giving your consent to participate in this study.

School District Name \_\_\_\_\_

School Building Name \_\_\_\_\_

School Phone Number \_\_\_\_\_

Your position \_\_\_\_\_

Your name (optional) \_\_\_\_\_

Please blacken the circle for the appropriate responses

- 2) For any year between the 1994-95 school year and the 2001-2002 school year, did your school building require students to wear a uniform to school?

- Yes
 No

- 3) If you answered "Yes" to Question #2, What year did your school implement a mandatory school uniform policy?

- 1994-95  1999-2000
 1995-96  2000-01
 1996-97  2001-02
 1997-98  2002-03
 1998-99  2003-04

- 4) If you answered "No" to question #2, does your school enforce a strict dress code that substantially limits wearing certain types or styles of clothing but does not require a prescribed uniform?

- Yes
 No

- 5) If you answered "Yes" to question #3, what year did your school implement a strict dress code policy?

- 1994-95  1999-2000
 1995-96  2000-01
 1996-97  2001-02
 1997-98  2002-03
 1998-99  2003-04



6) According to current and recent literature, there are several **POLICY MEASURES** that schools have implemented in the last several years to improve student conduct, prevent school violence, and improve student academic performance. Which of the following has your school building implemented?

|                                                         | Before the 1997-98 School Year | During the 1997-98 School Year | After the 1997-98 School Year | Not implemented       |
|---------------------------------------------------------|--------------------------------|--------------------------------|-------------------------------|-----------------------|
| Mandatory uniform policies                              | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Strict Dress Codes (other than uniforms)                | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| School attendance incentives                            | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Stiff Attendance Penalties                              | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Zero tolerance policies for weapons                     | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Zero tolerance policies for aggressive student behavior | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| In-School Suspensions                                   | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Alternative Education programs                          | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |

7) According to current and recent literature, there are several **SECURITY MEASURES** that schools have implemented in the last several years to improve student conduct and prevent school crime and violence. Which of the following has your school building implemented?

|                                | Before the 1997-98 School Year | During the 1997-98 School Year | After the 1997-98 School Year | Not implemented       |
|--------------------------------|--------------------------------|--------------------------------|-------------------------------|-----------------------|
| Metal detectors                | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Video surveillance             | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Security guards (SSO's)        | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Increased police presence      | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Mandatory ID's                 | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Use of Police dogs             | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Increased lighting             | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Phones or Alarms in classrooms | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |



8) According to current and recent literature, there are **CURRICULAR OR INSTRUCTIONAL MEASURES** that schools have implemented in the last several years to improve student academic performance. Which of the following has your school building implemented?

|                                                                            | Before the 1997-98 School Year | During the 1997-98 School Year | After the 1997-98 School Year | Not implemented       |
|----------------------------------------------------------------------------|--------------------------------|--------------------------------|-------------------------------|-----------------------|
| Recruitment/placement of teachers with major/minor in the academic subject | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Curriculum Alignment for Reading Skills                                    | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Curriculum Alignment for Math Skills                                       | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Reduced class size                                                         | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Academic oriented cluster programs within the school                       | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Intensive use of test preparation study guides                             | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Block Scheduling                                                           | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Other scheduling change                                                    | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Lengthened school day                                                      | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Lengthened school year                                                     | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Increased number of Honors and/or AP courses                               | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Increased student access to technology                                     | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Summer remediation program                                                 | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Remedial courses during the school day                                     | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| After school remediation                                                   | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |

) According to current and recent literature, there are several types of **STUDENT SUPPORT PROGRAMS AND SERVICES** that schools have implemented in the last several years for intervention and management of student behavior problems. Which of the following has your school building implemented?

|                                                  | Before the 1997-98 School Year | During the 1997-98 School Year | After the 1997-98 School Year | Not implemented       |
|--------------------------------------------------|--------------------------------|--------------------------------|-------------------------------|-----------------------|
| Increased Counseling Services                    | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Peer Mediation/ Conflict Resolution programs     | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Drug/Alcohol/ Sexual Assault Prevention programs | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| ATGM (Alternative to Gang Membership)            | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| Character Education programs                     | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |
| After school Recreational activities             | <input type="radio"/>          | <input type="radio"/>          | <input type="radio"/>         | <input type="radio"/> |

If you have the information available, please complete the information request on the attached page. If not, please indicate who in your district will be able to provide that information.

Thank you for taking the time to respond to this survey. If you would like to receive a copy of this survey when it is completed, please enter your name and contact information below

Your Name \_\_\_\_\_

Your Position \_\_\_\_\_

Your School Building Name \_\_\_\_\_

Your School District \_\_\_\_\_

Your email address \_\_\_\_\_

APPENDIX E

Survey Data for Matched Schools

Matched Schools Responses  
Survey of School Improvement Strategies  
School Policy Measures

| Matched School Survey Responses for School Policy Measures indicating tpe and time of implementation |   | POLICY-B | POLICYD | POLICY-A | POLICY-total    |
|------------------------------------------------------------------------------------------------------|---|----------|---------|----------|-----------------|
| U1                                                                                                   | y | 1        | 1       | 1        | 0.5 0.4 0.0 0.9 |
| N47                                                                                                  | n | 1        | 1       | 1        | 0.5 0.0 0.3 0.8 |
| U2                                                                                                   | y | 1        | 1       | 1        | 0.8 0.1 0.0 0.9 |
| N8                                                                                                   | n | 1        | 1       | 1        | 0.4 0.1 0.0 0.5 |
| U3                                                                                                   | y | 1        | 1       | 1        | 0.8 0.1 0.0 0.9 |
| N11                                                                                                  | n | 1        | 1       | 1        | 0.4 0.0 0.1 0.5 |
| U4                                                                                                   | y | 1        | 1       | 1        | 0.5 0.4 0.0 0.9 |
| N18                                                                                                  | n | 1        | 1       | 1        | 0.9 0.0 0.0 0.9 |
| U5                                                                                                   | y | 1        | 1       | 1        | 0.4 0.1 0.3 0.8 |
| N54                                                                                                  | n | 1        | 1       | 1        | 0.4 0.0 0.4 0.8 |
| U6                                                                                                   | y | 1        | 1       | 1        | 0.5 0.1 0.0 0.6 |
| N31                                                                                                  | n | 1        | 1       | 1        | 0.8 0.0 0.0 0.8 |

Matched Schools Responses  
Survey of School Improvement Strategies  
Security Measures

| Matched School Survey Responses for Security Measures indicating type and time of implementation |   | SECURITY-B | SECURITY-A | SECURITY-total |     |
|--------------------------------------------------------------------------------------------------|---|------------|------------|----------------|-----|
| U1                                                                                               | y | 0.0        | 0.5        | 0.1            | 0.6 |
| N47                                                                                              | n | 0.0        | 0.0        | 0.4            | 0.4 |
| U2                                                                                               | y | 0.5        | 0.0        | 0.1            | 0.6 |
| N8                                                                                               | n | 0.5        | 0.0        | 0.1            | 0.6 |
| U3                                                                                               | y | 0.5        | 0.0        | 0.3            | 0.8 |
| N11                                                                                              | n | 0.6        | 0.0        | 0.1            | 0.8 |
| U4                                                                                               | y | 0.6        | 0.0        | 0.0            | 0.6 |
| N18                                                                                              | n | 0.8        | 0.1        | 0.1            | 1.0 |
| U5                                                                                               | y | 0.8        | 0.0        | 0.0            | 0.8 |
| N54                                                                                              | n | 0.3        | 0.0        | 0.4            | 0.6 |
| U6                                                                                               | y | 0.1        | 0.0        | 0.3            | 0.4 |
| N31                                                                                              | n | 0.3        | 0.0        | 0.5            | 0.8 |





Matched Schools Responses  
 Survey of School Improvement Strategies  
 Student Support Services Measures

| Matched Schools Survey Responses for Student Support Measures indicating type and time of implementation |   | STUDENT SUPPORT-B | STUDENT SUPPORT-D | STUDENT SUPPORT-A | STUDENT SUPPORT-total |
|----------------------------------------------------------------------------------------------------------|---|-------------------|-------------------|-------------------|-----------------------|
| U1                                                                                                       | Y |                   | 0.0               | 0.3               | 0.3                   |
| N47                                                                                                      | n |                   | 0.0               | 0.0               | 0.2                   |
| U2                                                                                                       | Y | 1                 | 0.5               | 0.0               | 0.3                   |
| N8                                                                                                       | n |                   | 0.7               | 0.0               | 0.7                   |
| U3                                                                                                       | Y | 1                 | 0.8               | 0.0               | 0.2                   |
| N11                                                                                                      | n |                   | 0.7               | 0.0               | 0.7                   |
| U4                                                                                                       | Y | 1                 | 0.7               | 0.0               | 0.7                   |
| N18                                                                                                      | n |                   | 0.7               | 0.0               | 0.7                   |
| U5                                                                                                       | Y | 1                 | 0.2               | 0.0               | 0.2                   |
| N54                                                                                                      | n |                   | 0.0               | 0.0               | 0.2                   |
| U6                                                                                                       | Y | 1                 | 0.0               | 0.0               | 0.0                   |
| N31                                                                                                      | n |                   | 0.3               | 0.0               | 0.5                   |