

The Journal

OF AT-RISK ISSUES

National Dropout Prevention Center/Network
College of Health, Education, and Human Development
Clemson University, 209 Martin Street, Clemson, SC 29631-1555

www.dropoutprevention.org

Volume 16
Number 1



A Publication of the National Dropout Prevention Center/Network

The Journal OF AT-RISK ISSUES

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The Journal of At-Risk Issues

(ISSN1098-1608) is published biannually by the National Dropout Prevention Center/Network, College of Health, Education, and Human Development at Clemson University, 209 Martin Street, Clemson, SC 29631-1555, Telephone 864.656.2599, Fax 864.656.0136, www.dropoutprevention.org

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The Journal of At-Risk Issues

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Research reports describe original studies that have applied applications. Group designs, single-subject designs, qualitative methods, mixed methods design, and other appropriate strategies are welcome. Review articles provide qualitative and/or quantitative syntheses of published and unpublished research and other information

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A Model for Random Student Drug Testing

Judith A. Nelson, Nancy L. Rose, and Danielle Lutz

Abstract: *The purpose of this case study was to examine random student drug testing in one school district relevant to: (a) the perceptions of students participating in competitive extracurricular activities regarding drug use and abuse; (b) the attitudes and perceptions of parents, school staff, and community members regarding student drug involvement; (c) the perceptions of high school parents regarding random student drug testing and its impact on drug and alcohol use; and (d) the patterns and analyses of data collected regarding the use of random student drug testing as a preventative tool. Both quantitative and qualitative data were collected for inclusion in an analysis of the study in order to strengthen the results. The findings indicated that during a period of grant funding, the use of drugs decreased during a program of random student drug testing in the public school district studied. Furthermore, the random student drug-testing program initiated discussion among parents, school staff, community members, and students regarding drug use, community resources, and the importance of early intervention.*

Introduction

The United States has historically suffered from some of the highest rates of drug abuse in the world (Office of National Drug Control [ONDC], 2008). Most Americans agree that young people should not be exposed or involved in the unhealthy and dangerous behavior of using or abusing illegal drugs. School administrators are challenged to create learning environments in which children are free to study and grow without the pressure of drug and violence exposure (Russell, Jennings, & Classey, 2005). This foundational principle confronts our schools and communities despite the implementation of extensive prevention and intervention strategies.

Substance use and abuse problems take a terrible toll on the productivity of the nation's youth and further undermine the role of the school as a place of learning (Brady, 2007). Substance abuse is recognized as a major health issue in the education field due to the increases in student dropout rates, truancy, misconduct, fighting, and general lack of concern for others. A student's social/emotional development and academic learning is the primary goal of educators. When teachers and administrators are faced with intervening in student drug use and abuse, that goal is diverted to another primary focus of substance abuse intervention.

A Review of the Literature Educational Implications of Substance Abuse Among Students

The National Center on Addiction and Substance Abuse (CASA) (2005) reported that substance abuse adds at least \$41 billion dollars each year to the costs of elementary and secondary education

in terms of special education, truancy, dropouts, counseling, teacher turnover, property damage, injury, and other costs. It is difficult to fully understand the spread of drug use throughout a school but, much like disease, it spreads by student-to-student contact, multiplying more rapidly as more and more students are affected.

The Office of National Drug Control Policy (ONDCP) (2002) reported that with the advances in medical technology, researchers are now able to capture pictures of the human brain under the influence of drugs. Many images clearly show that pleasurable sensations produced by some drugs are due to actual physical changes in the brain. Due to the developing nature of the adolescent brain, it is particularly susceptible to these sensations and changes. Many of these changes are long lasting, and some are irreversible. Introducing chemical changes in the brain through the use of illegal drugs can therefore have far more serious adverse effects on adolescents than adults.

Results of the National Center on Addiction and Substance Abuse at Columbia University's 12th annual *National Survey of American Attitudes on Substance Abuse* (2007) were unprecedented. Joseph A. Califano, Jr., Chairman and President of CASA, stated that the survey revealed an infestation of drugs in our nation's middle and high schools. Drug use can quickly turn to dependence and addiction, trapping users in a vicious cycle that ruins lives and destroys communities. Students who use drugs or alcohol are statistically more likely to drop out of school than their peers who do not (ONDCP, 2002). Dropouts, in turn, are more likely to be unemployed, to depend on the welfare system, and to commit crimes.

A Precursor to Random Student Drug Testing

The U.S. Department of Defense began drug testing its military personnel more than 25 years ago, and during that time, the rate of positive tests among service members has fallen from 30% to less than 2% (DuPont & Graves, 2005). In addition, in 1988 the United States Department of Health and Human Services (DHHS) set up the mandatory guidelines for federal workplace drug testing programs. The DHHS established the scientific and technical guidelines for drug testing programs and standards for certification of laboratories engaged in urine drug testing for federal agencies under the authority of edition 503 of Pub. L. 100-71, 5 (USDHHS, 1988). This standard for drug testing in the workplace was revised several times which led to the establishment of standards for drug testing students in the public school setting (ONDCP, 2008).

During 1999, the National Institute on Drug Abuse funded the Student Athlete Testing Using Random Notification (SATURN) Project (Goldberg et al., 2003). This investigation studied the effects of a program similar to the U.S. Olympic Committee's No Advanced Notice Intervention, which is currently used by the U.S. Anti-Doping Agency (United States Olympic Committee, 1996). The potential value of Random Student Drug Testing (RSDT) programs to deter adolescents from using drugs is supported by this National Institute on Drug Abuse (NIDA) study of student athletes. The results of the SATURN Project indicated that of the 25% of students surveyed who used marijuana and of the 60% who used alcohol, only 9% would continue to use drugs and 12% would continue to use alcohol if mandatory drug testing were present in their schools (Goldberg, Elliott, Moe, Kuehl, & Clarke, 1999).

If the threat of drug testing can reduce initiation or curtail alcohol and other drug use, then the policy may be a viable option to supplement drug prevention efforts. The SATURN study was designed to determine whether a nonpunitive, mandatory, random, suspicionless drug testing policy is an effective deterrent to drug and alcohol use among school-aged athletes (Goldberg, et al., 2003). RSDT may help create a deterrent to drug use among adolescents and allow for a better learning environment for all students. RSDT may allow for healthy physical, social, and emotional development and an escape from the devastation of the cycle of dependence or addiction. As a new tool in preventing and intervening in drug-related issues, RSDT may further improve the safety of all students, parents, school staff, and benefit the entire community (DuPont, & Brady, 2005).

Random Student Drug Testing as an Answer

John P. Walters, Director of the Office of National Drug Control Policy, reported that the United States Supreme Court broadened the authority of public schools to test students for illegal drugs (Board of Education of Independent School District No. 92 of Pottawatomie County et al. vs. Earls et al., 2002). In June 2002, the United States Supreme Court ruled to allow RSDT for all middle and high school students participating in competitive extracurricular activities. In schools, RSDT programs are designed to (a) deter students from initiating drug use, (b) help identify students who have just begun to use drugs before dependency begins, and (c) help identify students with dependency so that they may be referred to appropriate treatment (ONDCP, 2002).

The current generation of student drug testing programs in the United States share several important features including: (a) using random student drug testing as the fairest way of identifying the students to be tested; (b) ensuring confidentiality of drug test results; (c) distinguishing prescribed medicines from illegal drug use; (d) linking positive tests to parental involvement; and (e) providing both individual evaluation and a variety of services including, when needed, drug abuse treatment. The goal of these programs is not only to retain students in school but to help them overcome their drug use problems (Dupont, Campbell, & Mazza, 2002).

Over recent years, numerous preventive strategies have been explored as possible options to address drug use by young people. In 2005, Robert DuPont, M.D., founder of the NIDA, and Harvey Graves, Ph.D., collaborated with the White House ONDCP to establish policies, priorities, and objectives which examine the use of RSDT as a drug reduction tool. RSDT is not a stand-alone prevention program. DuPont, Griffin, Siskin, Shiraki, & Katze (1995) reported that a good RSDT program will not end the problem of adolescent drug use in schools just as drug testing has not ended drug use in the U.S. military where it has been used since the early 1980s.

A comprehensive drug prevention program which includes RSDT has proven to be an effective deterrent to drug use and has had a positive impact on the school environment and ultimately student learning (Rose, 2009). Just as parents and students expect school to offer protection from violence, racism, and other forms of abuse, so they also have the right to expect a learning environment free from the influence of illegal drugs (ONDCP, 2002). A RSDT program that is carefully planned and implemented has the potential to inhibit many students from risk-taking drug experimentation that may lead to regular use, abuse, and dependency. Data that supports the use of RSDT is not abundant in the literature. The purpose of this case study was to examine one school district's experience with RSDT and the impact RSDT had on students, school staff, and the community. The results of the data collection are encouraging and are reported here, and we hope to add to the knowledge base on RSDT for future programmatic planning.

A Model Random Student Drug-Testing Program Preparing for Random Student Drug Testing

During a three-year period beginning in 2005, one large suburban school district in the southwestern United States received a substantial grant from the Department of Education to conduct random student drug testing (RSDT) and track the results of the drug-testing program. The district saw the grant as an opportunity to develop policies and procedures that would decrease the numbers of students involved in substance use and abuse and hopefully lead to increased student academic success. Careful and thoughtful planning was initiated before the implementation of the actual drug testing. Approval of the grant award was secured in 2005 including approval to accept grant processes for implementation of the grant activities by the Board of Trustees. Additionally, the creation of a student drug-testing district policy by the Board of Trustees was approved. A complete and formal Institutional Review Board was finalized, specifications regarding

testing protocol were concluded, and the drug-testing vendor was contracted.

In addition to the adoption of Board policy, parent meetings were offered throughout the district to provide information regarding random student drug testing, processes, and procedures. Administrators received training regarding confidentiality issues, escorting of students to the testing areas, and how to handle special situations such as students who refused to be tested. Students also received information regarding RSDT in formal and informal meetings. All of these activities were instrumental in the smooth transition into the actual drug testing itself and to the success of the Project.

Project Procedures for Random Student Drug Testing

The Board of Trustees of the district adopted a policy that required written consent from parents and students to participate in school-sponsored, competitive, extracurricular activities. This eligibility requirement placed a student in a districtwide RSDT pool of participants, and students were then chosen for testing by a computer-generated random selection process. The proposed student drug panel included the following: (a) Amphetamines/Methamphetamines (stimulant: speed, diet pills, uppers); (b) Cocaine metabolites (central nervous system stimulant: crack, crystal); (c) Opiates (pain killer: Oxycodone, Darvocet, Vicodin); (d) Cannabinoid (depressant: Marijuana); (e) Barbiturates (depressant; downers, sleeping pills: Amytal, Butisol); (f) Benzodiazepines (anti-anxiety medication: Valium, Xanax, Librium); (g) Ethanol (depressant: Alcohol); (h) Hallucinogens (perception alteration: shrooms, mescline, acid, LSD); (i) Phencyclidine (anesthetic, hallucinogen: PCP, angel dust); and (j) Methylenedioxymethamphetamine (MDMA, Ecstasy).

The testing was conducted through scientific means using approved practices and procedures and was accomplished by urinalysis. Student privacy was protected in accordance with all applicable laws. The drug-testing vendor provided a Medical Review Officer (MRO; MD certified toxicologist) for interpreting and verifying test results. When a student's test result indicated the presence of a prohibited substance, the parent or guardian was contacted by an MRO. The MRO conferred with a parent or guardian to determine if there was a medical explanation for the positive test result. When the medical explanation was verified by the MRO, the test result was reported as negative. However, without verification by the MRO, a confirmed positive test result was reported to the designated school official. Students who tested positive were able to request a confirmation test. Other than the confirmatory procedure above, there was no other appeal of a positive test result.

When the test results indicated the presence of prohibited drugs, banned substances, or adulteration, the student was suspended from participation in any school-sponsored, competitive, extracurricular performances, and competitions. Consequences were as follows: (a) first offense: 3 weeks; (b) second offense: 6 weeks; and (c) third offense: one semester. During the period of suspension, the student involved was required to practice, but not permitted to participate in competitions or performances. The parent and student were expected to attend an appointment with a Licensed Chemical Dependency Counselor (LCDC) for an assessment. Resources were available for

families who could not access this type of intervention. If the student refused to follow any procedures during suspension, he or she was denied the privilege of participation in school-sponsored, competitive, and extracurricular activities for the remainder of the school year.

Method Design

This research project was a case study in which the researchers explored a program in-depth using a variety of data collection procedures over a sustained period of time (Stake, 1995). The intent of the study was to examine the processes, activities, and events of the RSDT Project in one school district (Creswell, 2003). The RSDT Project was funded by the United States Department of Education and lasted for a period of three years. The data collected included (a) student self-reports on drug use, (b) drug testing results, (c) focus group responses, (d) results of a teacher survey, and (e) results of surveys completed by parents and community members.

Research Questions

The following research questions guided the research study.

Research Question 1. What are the present self-reporting results of high school students regarding drug and alcohol use? What is the change in the self-reporting results from the spring semester of 2006 to the spring semester of 2008?

Research Question 2. What are the attitudes and perceptions of parents, school staff, and community members in the district regarding youth involvement with drug and alcohol use?

Research Question 3. What are the attitudes and perceptions of parents of high school students in the district regarding random student drug testing and its impact on student drug and alcohol use?

Research Question 4. What patterns and analyses can be made using the data collected regarding student drug infractions as reported by the state and the district?

Research Question 5. What patterns and analyses can be made using the data collected regarding the random student drug-testing results?

Research Question 6. What are the strengths and areas of concern regarding the Random Student Drug-Testing Project in the district?

Multiple data sources were used to answer each question, and secondary data sources were combined to increase the accuracy of interpretations. The methods for data collection were selected to allow for minimal disruption to student, classroom, and school staff. The following methods and instruments were used to specifically answer each research question.

Participants

A purposeful sample was selected to gather more in-depth information for the research study. Selecting a sample of similar cases so that the particular group represented can be studied in-depth is the rationale behind the use of a purposeful sample (Gall, Borg, & Gall, 1996). The value of the research lies in the particular characteristics that the samples share. The district sample was homogeneous based on the age group studied (grades 9 – 12), and all participants in the sample received the same type of drug testing (urinalysis). Students

participating in the drug testing were actively involved in school-sponsored, competitive, extracurricular activities. In addition, each high school campus studied reported similar needs for drug prevention and had utilized the same student self-reporting survey in which to corroborate the findings.

The survey sample included not only the students in extracurricular activities who were in the testing pool, but also randomly selected students from the entire high school population in the district. Inclusion of this sample allowed the researchers to glean information about student drug use from a larger pool of participants. The self-reporting survey reflected the perceptions of students regarding their own substance use and that of their peers. A random sample of students in grades 9 through 12 were surveyed in March 2006 (N = 2641), February 2007 (N = 2769), and February 2008 (N = 2690).

Quantitative and qualitative data were also collected from parents of high school students who were and were not in the RSDT sample. These data were collected from parents who were participants in town hall meetings, focus groups, and interviews. Data were also collected from teachers and administrators who worked at the eight high schools involved in the Project and who chose to respond to a survey. The teachers and administrators participating in the survey had varying degrees of interaction with the RSDT Project.

Data Collection

Each research question was addressed using the following data collection procedures.

Question 1: Student self-reporting. The district chose a reliable and valid instrument to determine students' attitudes and perceptions of drug and alcohol use. The survey has been used in school districts since 1988. The survey is partially supported by the state's Commission on Alcohol and Drug Abuse with the remaining costs covered by participating school districts. It is conducted by the Public Policy Research Institute at a local university. This survey provides school districts with an accurate estimate of the extent and nature of substance use at the local level. It produces data to replace speculative sensational information (Public Policy Research Institute, 2006).

Administered over an extended period of time, the survey is an effective tool to evaluate the impact of special substance abuse prevention and education programs such as RSDT. The survey was designed to be responsive to questions of specific interest to educators, policymakers, parents, and community groups. Salient results of the survey from administration in 2006 and 2008 were compared for the purpose of identifying changes in students' perceptions of their own drug use and drug use among their peers since the inception of the RSDT Project.

Questions 2 and 3: Parent, school staff, and community attitudes and perceptions. Prior to the beginning of student drug testing and before each new school year, district personnel conducted communitywide informational meetings regarding the RSDT Project. The meetings were well publicized and gave parents, school staff, and community members an opportunity to provide feedback regarding the RSDT Project and to get all of the facts about the drug-testing procedures. At these meetings, parents were invited to respond to several questions in writing. The research team transcribed the information and analyzed the data.

At the 2007 Safe and Drug Free Schools (SDFS) District Board Meeting, participants were invited to respond to a ten-question survey regarding the RSDT Project and to rank order their budget priorities of the SDFS Department for 2007-2008. In addition, one of the researchers conducted a focus group consisting of students and parents. In May 2008, high school teachers and administrators were emailed a survey regarding the RSDT Project. The researchers wrote the survey questions based on the most current thinking in survey research (Dillman, 2007), and asked research faculty at a local university to read and edit the questions for understanding.

Question 4: Patterns and Analyses for DAEP Placements and Drop-out Rates. Districts are required to report and categorize all student infractions through the state's Public Education Information Management System (PEIMS). These reports for 2004-2005, 2005-2006, 2006-2007, and 2007-2008 delineated drug and alcohol offenses that resulted in Disciplinary Alternative Education Program (DAEP) placements and were used in this study as a comparison of student behavior before and during the RSTD Project. Dropout reports also are included.

Question 5: Patterns and analyses of student drug-testing results. The results of the actual drug testing were reported according to the number of students testing positive for any of the substances in the student drug panel and the number of students testing positive for specific substances in the student drug panel. The results were also reported according to ethnicity and gender, whether or not a student was in special education or gifted and talented programs, and whether or not a student was designated Limited English Proficient.

In this study, drug testing results from Year 2 (August 2006 to May 2007) were compared to results from Year 3 (August 2007 to May 2008) in order to maintain the integrity of the sample. These two time frames are equivalent to two "academic school years" which were compared rather than the actual grant cycle years which do not reflect the academic years nor the same group of students. In this way, the researchers were able to use a consistent sample each year rather than mix different samples within the same year.

Question 6: Program strengths and areas of concern. The evaluation methods of the strengths and concerns of the RSDT Project were collected from: (a) reports generated by district personnel, the Public Policy Research Institute at a local university, and the drug-testing vendor; (b) meeting agendas; (c) a survey administered to high school teachers and administrators; and (d) data analysis, direct observations, and interviews conducted by the external evaluators.

Limitations of the Evaluation

Limitations are inherent in any data collection and analysis techniques. The researchers attempted to address conditions that would bias the research process. Limitations related to data collection processes included the degree of honesty that students, parents, and district personnel provided in various self-reporting assessments. In some instances, participants may have recorded what they consider to be socially acceptable responses rather than their true feelings. A final limitation concerned the growth of the district and any other demographic changes that may have occurred and how those changes might have impacted statistical analyses and the ability to accurately compare results from year to year.

Findings

Question 1: Student Self-Report Results

Student survey results were compared from March 2006 to February 2008 in order to describe the changes in student self-reporting of drug and alcohol use from the beginning of the RSDT Project to the end of the grant cycle. Students’ survey responses indicated a decrease in the use of substances each year of the RSDT Project (see Table 1). From March 2006 to February 2008, students reported a decrease of drug use in the “past month” from 43 % to 39 %. In the same time period, students also reported a decrease in overall drug use “since school began” from 35 % to 20 %.

Questions 2 and 3: Parent, School Staff, and Community Attitudes and Perceptions

The following data were gathered at community meetings and through a school staff survey and were analyzed qualitatively and quantitatively by the researchers.

Parent and community member responses. During the first year of the RSDT Project, the data collected at the informational meetings was analyzed by the researchers and indicated that the adult participants overall had concerns about student drug use, believed that all students should be tested, and felt that parents needed to be more involved in the fight against drug use and abuse. Participants completed two surveys, and some participated in a focus group. The results of the parent survey at the end of the RSDT Project indicated that the majority parents agreed that (a) they were informed about the RSDT Project, (b) students understood the consequences of a positive test result, (c) the consequences were fair and adequate, (d) drug testing is a deterrent to drug use, and (e) random student drug testing should continue in the district. Participants were also asked to rank order the programs sponsored by the SDFS Office, and the RSDT Project was ranked number one.

The focus group responses indicated that students and parents learned about the RSDT Project from a variety of sources including meetings, classrooms, publications, the district Web site, and peers. Comments about continuing RSDT without grant funds supported the continuation of the Project.

Teacher and administrator responses. In May 2008, 1,935 high school teachers and administrators were emailed a 10-item survey to complete on the RSDT Project, and 465 responded with a response rate of 24 %. One hundred thirty-nine participants (30 %) rated themselves as “involved directly in random student drug testing,” and 326 (70 %) participants described themselves as “not involved directly in random student drug testing.” Participants responded to ten items on a Likert scale including “strongly agree,” “agree,” “disagree,” “strongly disagree,” and “no reply.” In addition, respondents had the opportunity to make additional comments at the end of the survey. In general, teacher and administrator participants agreed that (a) students had adequate information about the RSDT Project, (b) students were treated respectfully during the drug-testing process, (c) student information was held in confidence, (d) drug testing is a deterrent to drug use, and (e) the RSDT Project should continue.

Overall, teachers and administrators had a positive perception of the RSDT Project. Comments included: “I thought the program ran very smoothly.” “I have heard students make positive choices in life with direct association to the possibility of being chosen as a candidate for drug testing.” Some teacher participants indicated that they did not know much about the RSDT Project and would like to have had some training. Others felt that it gave them an opportunity to talk to students about drug use. For example: “I’ve talked with my athletes about this tactic [using drug testing as a way to say ‘no’ to peer pressure], and they say it does indeed work.” “I am glad that I knew enough about the program that I could emphatically tell her [a student who didn’t believe the testing was random] that it was random.”

Question 4: Patterns and Analyses of PEIMS Reports, DAEP Placements, and Dropout Rates

Data collected from the PEIMS were aggregated for comparative and inferential purposes. The number of students referred to a Discipline Alternative Education Placement (DAEP) for drug or alcohol use decreased from the first testing pool in August 2006 to the last testing pool in May 2008 from 604 students to 576 students. Dropout rates increased during the same time period from .9 % to 1.1 % of the overall high school population.

Table 1

Change in Drug Use as Reported by Students (2006 – 2008)

Year	N	Past Month	%	Since School Began	%
2007-2008	2,690	1,044	39 %	543	20 %
2006-2007	2,772	1,146	41 %	890	32 %
2005-2006	2,649	1,130	43 %	920	35 %

Source: *The School Survey of Drug and Alcohol Use*, CFISD 2006, 2007, and 2008.

Question 5: Patterns and Analyses of Student Drug-Testing Results

Drug-testing results for Year 2 (August 2006 to May 2007) of the RSDT Project and for Year 3 (August 2007 to May 2008) indicated a decrease in the percentage of students testing positive for illegal substances (see Table 2). The pool of participants increased from Year 2 to Year 3. Overall, fewer than 5 % of the students in the RSDT testing pool tested positive for alcohol and other drug use indicating program success. The United States DOE grant administrators established a 5 % minimum reduction standard measurement to define the success of all RSDT program grantees. This measurement included all students in the targeted student population testing positive. The number of students in the RSDT pool increased steadily throughout the grant program from 14,442 to 16,047. While the increase in student participation may be due in part to the increase in school district population, the RSDT Project did not appear to deter students from participating in school-sponsored, extracurricular activities.

Table 2
Change in Students Testing Positive for Any Substance: Year 2 and Year 3

Year	N	Positives	%
2007-2008	16,047	332	2.1
2006-2007	14,442	312	2.2

Source: Drug Testing Vendor Annual Report, 2007 and 2008.

Question 6: Project Strengths and Challenge Areas

Strengths. The district completed a successful RSDT Project with students testing positive for alcohol and other drugs below 5 % of the RSDT pool. The district found that the number of students participating in extracurricular activities increased steadily throughout the Project. Many opportunities were available for stakeholders to access information about RSDT, to provide feedback regarding the impact of RSDT, and to voice concerns about RSDT. In addition, educational programs were available to stakeholders throughout the grant cycles, culminating with a regional conference entitled *The Future of RSDT*. Additionally, the number of referrals to the DAEP decreased during the grant cycle. Overall, district personnel, students, parents, and community members reported that they perceived RSDT Project as a successful student drug use deterrent.

Challenge areas. While the strengths of the RSDT Program are impressive, several challenge areas were noted. One of the most significant challenges in RSDT is protecting student instructional time. Parents and teachers do not want students out of class during instruction for almost any reason. Districts must work diligently to insure that RSDT minimizes disruptions from academics. Another

challenge is supporting parents as they decide what action to take once a student has a positive test result. Students and parents should be encouraged to make an appointment for a drug assessment with a Licensed Chemical Dependency Counselor when contact is made by district personnel concerning a positive test result. On another note, according to the results of the teacher and administrator survey emailed in May, some participants felt that they did not have the information necessary to discuss drug use and drug testing with students. Having each high school dedicate staff development time at the beginning of the school year to educate all staff members about random student drug testing, resources available in the community, and basic drug information to share with students may strengthen the overall effects of a RSDT Project.

Discussion
Student Self-Reporting

The data from the self-reporting survey could support the strategy of using RSDT to decrease drug use among high school students. However, self-report surveys should always be interpreted cautiously due to the evaluators’ inability to know whether or not some participants chose not to respond, therefore creating bias (Tanur, 1994). Also, other variables may account for behavior changes among the sample population.

Drug and alcohol use among teens will continue to be a concern for students, parents, school staff, and the community. Clearly, the use of alcohol is a great concern to the school district and community specifically because of the large percentages of students, particularly older students, reporting alcohol use recently or in the past. In 2008, 12th grade students reported that 42.8 % of them had used alcohol in the “past month.” There are a number of interventions and programs that address student use of alcohol, and districts may want to incorporate these programs in the overall budget for school safety.

Perceptions of Parents, School Staff, and Community

Data were gathered through interviews, focus groups, and survey responses during the course of staff meetings and advisory board meetings, through a teacher/administrator email survey, and at a culminating conference. The district extended many opportunities to all stakeholders to be involved in, to be fully vested in, and to be informed completely about RSDT through these various activities. The commitment to the Project is exemplified in the time and energy that was put forth in the meetings and programs offered. The initial energy and effort of informing all stakeholders about RSDT may have been a direct influence of the success of the Project.

DAEP Placements and Dropout Rates

It should be noted that the district always honors the DAEP Placements of students moving into the district from other districts in the state. Therefore, some reported drug offenses may have occurred in other school districts, but were reported as DAEP placements in this district. In addition, some of the numbers were duplicated as a result of multiple placements during one academic year. Student dropout data indicated that there was an increase in high school student dropout rates overall in the district. One of the reasons for this increase

was a change in the definition of dropout and reporting of dropout by the state's education agency.

Student Drug Testing Results

All grade levels with the exception of 9th grade reduced the number of positives reported during drug testing. Younger students appear to be more at risk for taking chances with illegal substances, being influenced by peers in a negative way, and not following the rules and suggestions of authority figures than their older peers. Positive results of drug testing of the at-risk population of the pool decreased for grades 10 and 11, but increased for grades 9 and 12. Ninth grade at-risk students may have additional reasons for using illegal substances such as not having a positive peer group with which to associate, anxiety about the rigor of high school work, and not having the resources to be involved in extracurricular activities. Twelfth graders who are at risk may feel uncertain about the future, have feelings of depression about what to do after high school, and feel that they are now adults and can engage in the behaviors they desire.

Positive drug-testing results of female participants decreased while they increased for male participants. These results could portray a desire on the part of female high school students to resist negative consequences, to be part of the social groups associated with extracurricular activities, or to listen to the suggestions of coaches and authority figures more readily than their male counterparts. Positive drug-testing results of White, African American, and Asian participants decreased, and positive results of Hispanic participants increased. The Hispanic population has been the fastest growing ethnic group in the district, which may account in part for the increase in positive results in this population.

Implications and Recommendations

The RSDT Project in this district impacted many students, parents, school staff, and community members. Project personnel, results of students testing positive and the student perception survey, data collection at the informational meetings for parents, observation of the drug-testing protocol, teacher and administrator surveys, and anecdotal notes have supported the implementation of the RSDT Project. In other statewide district studies utilizing RSDT as a deterrent, a reduction in drug use and availability through anonymous self-reporting student survey data was also reported (Rose, 2009). The US DOE grant performance report (ED524B) "gives information on the extent to which the expected outcomes and performance measures were achieved, with highlights of the projects goals, the contributions that the project has made to research, knowledge, practice, and/or policy" (Rose, 2009, p. 91). Further research might include longitudinal studies that track the impact over time of RSDT on students who tested positive during high school. It would be important to gather data relevant to whether or not these students continued in counseling, graduated from high school, applied to colleges or universities, and/or became employed.

The following recommendations are offered to other school districts to support a RSDT Project" (a) obtain school employees, parental, and community support through educational and informational meetings; (b) conduct follow-up training at the campus and district level to ensure effective and respectful collection of student samples;

(c) collect data that will add to the understanding of the effectiveness of random student drug testing in schools; (d) administer a research-based survey to monitor the self-reports of students regarding their own and their peers' drug use; (e) continue to communicate as needed with parents new to the Project or the district and any other interested parents or community members; (f) consider collecting qualitative data to determine factors that influence student choices regarding drug use; (g) administer a districtwide survey of high school teachers and administrators regarding their perceptions of the effectiveness of the RSDT Project; and (h) create and maintain a task force to discuss the maintenance of the RSDT Project.

Conclusion

There is much controversy over the use of RSDT among legislators, school administrators, parents, mental health care providers, and community leaders. The results of this study and similar research in other districts may give educators more information about how to design a program that deters and supports students and their academic advancement (Rose, 2009). As a nation Americans agree that students have the right to attend school free from the influences of drugs and violence, but administrators have few tools to ensure this reality. The district received local, statewide, and national attention as a leader in drug prevention among adolescents through RSDT.

The implications of this and other similar studies in education are considerable (Rose, 2009). Faced with the growing problems of increased drug use and the need for students to perform at their optimum level academically while the increased level of drug-related incidents continue to create safety concerns, RSDT has the ability to deter drug use and intervene with students currently using. The interruption of instructional time is minimal, and the benefits are reported in the data as successful.

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Cultural Dynamics in an Economically Challenged, Multiethnic Middle School: Student Perceptions

Carolyn Hughes, Allison Page, and Donna Y. Ford

Abstract: Cultural dynamics in school may contribute to disaffiliation and inhibited academic performance among diverse student populations (Marx, 2008). We queried 16 special education students in a low-income, ethnically diverse English Language Learner-cluster middle school about their perceptions of the cultural dynamics at their school and the occurrence of culturally responsive practices. Although most students reported the occurrence of some culturally responsive practices, students overwhelmingly responded that their race and culture were not acknowledged by teachers. Students also indicated that their teachers rarely, if ever, gave information or taught about other cultures or races. The majority of students also believed that animosity and violence among racial groups were a problem at school. Implications of the study are discussed and suggestions are given for future research and practice.

Introduction

In just over 30 years, the student population of U.S. public schools has drastically changed. In 1972, White students comprised 78 % of the K-12 population; by 2008, Whites represented just 56 % of students (National Center for Education Statistics, 2010). During that time, Hispanics increased from 6 % to 22 % of the school population and Blacks maintained at approximately 15 %. Asian, American Indian, Alaska Native, and Pacific Islander students and students of more than one race represented an additional 7 % of the 2008 population (National Center for Education Statistics, 2010). Increasing diversity is particularly evident in the southern and western states where White students are now in the minority (National Center for Education Statistics, 2007a; Orfield, 2009). Indeed, by 2020, the majority of U.S. public school students are expected to be of color (Ball, 2009; Sable, Hoffman, & Garofano, 2006). In addition, growing numbers of the school population are English Language Learners (ELL). During the 2003-04 school years, 11 % of students were receiving ELL services versus only 5 % of students during 1993-94 (U.S. Department of Education, 2004; U.S. Department of Education, 2006). Further, in 2005-06, 20 % of the school population was reported to speak a language other than English at home while 5 % spoke English with difficulty (National Center for Education Statistics, 2007b).

Additional demographic changes are occurring in American public schools. In 2007, the South became the first region in the U.S. in which low-income students were the majority of the school population, increasing from 37 % in 1989 to 54 % (Southern Education Foundation, 2007). Three western states also reported a majority of low-

income students: California, New Mexico, and Oregon. Several additional geographically diverse states reported nearing a majority of low-income students, while the nation as a whole nears this point at 46 % of the school population (Southern Education Foundation, 2007). Children and youth of color are disproportionately represented in low-income families; approximately 25 % of Black, Hispanic, and Native American young people live in poverty compared to less than 10 % of their Asian American and White counterparts (U.S. Census Bureau, 2006). In addition, the families of ELL students are also overrepresented at the lower end of the economic spectrum (Markham & Gordon, 2007).

Unfortunately, such demographic characteristics can place students at risk for school failure. Increasing numbers of racially and ethnically diverse students are attending segregated, high-poverty, failing schools where they are less likely to be taught using effective, evidence-based instruction (Cartledge & Kourea, 2008; Orfield, 2009). For example, 40 % of Hispanic and 59 % of Black (vs. 11 % of White) students attend high-poverty secondary schools with limited resources and dropout rates of 50 % or more (Balfanz & Legters, 2004). Not surprisingly, therefore, both Hispanic and Black children and youth are more likely to experience grade retention and less likely than their White or Asian counterparts to be enrolled in advanced placement courses, gifted and talented programs, or postsecondary education (Kohler & Lazarin, 2007).

In contrast to the growing diversity of the student population is the striking and persistent lack of diversity of the teaching force. Whites constituted 87 % of public school teachers in 1993-94 while Blacks represented 7 %, Hispanics 4 %, and other

ethnicities 2% (Kirby, Berends, & Naftel, 1999). Little had changed by the 2003-04 school year when Whites represented 83%, Blacks, 8%, Hispanics 6%, and other ethnicities 3% of teachers (Snyder, 2009). Moreover, at 75%, teaching has continued to be a predominantly female occupation drawn primarily from the middle class (Ball, 2009; Snyder, 2009).

To what extent might lack of diversity among teachers be a problem? Researchers (e.g., Bacon, Jackson, & Young, 2005; Ball, 2009; Cartledge & Kourea, 2008; Ladson-Billings, 2000; Sleeter, 2001) have argued that one factor associated with the low academic achievement frequently reported for many low-income students who are racially and ethnically diverse (e.g., Barton & Cooley, 2009) is the disparity in cultural backgrounds between students and their teachers. If ethnically, racially, and economically diverse students do not believe that their culture and background are acknowledged or accepted at school by teachers of the dominant culture, they will likely disengage from instruction and expected academic and social activities at school. For example, Hispanic youth report leaving school because teachers disenfranchise them, disrespect their culture, neglect their language differences, and lower expectations for them (Headden, 1997; Thompson, 2008). Further, if teachers and staff do not help foster an atmosphere of acceptance at school, animosity and distrust may form among culturally diverse groups of students (Bondy, Ross, Galligane, & Hambacher, 2007; Padilla & Perez, 2003). Consequently, education legislation (e.g., No Child Left Behind Act of 2001 and Individuals with Disabilities Education Act of 2004) and teacher education programs are increasingly focused on raising the competence of preservice and in-service teachers in using culturally responsive classroom practices with all students (Trent, Kea, & Oh, 2008).

Culturally Responsive Practice

Culturally responsive practice refers to modifying curricula and materials, classroom interactions, teaching approaches, and parent outreach in response to students' cultural and linguistic backgrounds to create an environment more conducive to effective learning (Rueda, Lim, & Velasco, 2007). Teachers are urged to expand their understanding of students' cultural backgrounds, values, customs, and traditions in order to increase their teaching effectiveness by welcoming students' cultural differences (e.g., discipline methods, religious beliefs, health, and hygiene practices) and accepting that their own worldview is not universal (Asimeng-Boahene & Klein, 2004; Ball, 2009; Cartledge & Kourea, 2008; Trent et al., 2008). Students should not be expected to discard their culture and ethnicity at the schoolhouse door because only cultural practices of the dominant group are taken as the norm (Gutiérrez & Rogoff, 2003; Hughes, Hollander, & Martinez, 2009). Culturally responsive practice is considered appropriate means of addressing the nation's increasingly diverse school population because it focuses on the attainment of cultural understanding at the societal level and integration of educational practices with the ethnic, racial, cultural, and economic diversity that characterizes U.S. society (Banks, 2005; Gay, 2004).

Although teachers are urged to tailor their instruction in response to students' cultural backgrounds, the literature reveals limited empirically-based guidelines for doing so (Rueda et al., 2007; Trent et

al., 2008). For example, culturally responsive teachers are described as caring, affirmative, flexible, and nurturing. However, observable measures of these teacher behaviors are lacking while a causal relation between these behaviors and student achievement is elusive (Cartledge & Kourea, 2008). In addition, researchers may be tempted to gain a limited knowledge about a culture and then assign stereotyped characteristics to all members of a cultural "group" rather than view diversity as individualistic and dynamic (Gutiérrez & Rogoff, 2003).

Concerns Related to Research and Practice

Three concerns related to culturally responsive practice are of particular relevance to the present study. First, it is widely acknowledged that racially and ethnically diverse students are overrepresented in special education (Skiba et al., 2008), arguing for developing empirically-based culturally responsive practices for these students. However, reviews of the empirical literature on culturally responsive practice indicate that studies have overwhelmingly been conducted among general versus special education populations (e.g., Trent et al., 2008; Voltz, Dooley, & Jefferies, 1999). As such, Trent and colleagues argued that over the past decade the empirical database shows little improvement in training special education teachers to use culturally responsive practices despite the increased challenges typically faced by special education students in achieving expected academic standards and fitting in socially with peers.

Second, most of the literature on culturally responsive practice addresses early childhood or elementary students (Cartledge & Kourea, 2008). Studies are needed that address the unique needs of middle and high school students who are culturally diverse. Third, rarely have the voices of students from racially, ethnically, linguistically, and economically diverse backgrounds been heard regarding their views of culturally responsive practice and cultural dynamics in their schools (Howard, 2002; Hughes et al., 2009; Nieto, 1992). Unless efforts are made by teachers to acknowledge students' cultural backgrounds and respond to students' cultural differences, it is unlikely that students will feel accepted at school, and a process of student disengagement from the school environment is likely to ensue (Marx, 2008).

Purpose of the Study

Our study adds to the literature on culturally responsive practice by addressing several shortcomings of the literature. First, we sought the perspective toward culturally responsive practice of racially, ethnically, and linguistically diverse middle school students with learning disabilities, including low-income, ELL, and immigrant students. Rarely, if ever, have the voices of these students regarding culturally responsive practice and cultural dynamics in school been reported in the published literature. Second, we investigated students' views toward their own acculturation and cultural background and traditions, as well as their feelings of acceptance of their culture at school. Third, we asked students about their perceptions of the cultural dynamics existing among the racial and ethnic groups that comprised their school. Fourth, we included middle school students versus younger children as participants, addressing a gap in the research literature regarding secondary students.

Method Setting

Participants attended a Title I middle school located in a large urban school district in southeastern U.S. The school enrolled 751 students in grades 5 - 8, of which 41 % were Hispanic, 31 % White, 24 % Black, and 4 % other ethnicities; 79 % of students received free or reduced lunches. Students attending this ELL-cluster school spoke a total 21 different languages at home and 29 % participated in ELL classes. Of the school's 40 teachers, 78 % were White, 15 % Black, 7 % Asian, and 0 % Hispanic.

Participants

Participants were all 16 students enrolled in two special education pull-out reading resource classes for grades 5 - 7. All other classes attended by these students were in general education. Mean age of students was 11 years (range = 10 to 13) and 10 were male. Six students were identified as Black, five Hispanic, three White, one Asian, and one Native American. Students were identified as having learning disabilities ($n = 13$) and speech ($n = 1$) or other health impairments ($n = 2$). Reported reading level for students was approximately two grade levels below their current grade (six, seven, and three students were in grades 5, 6, & 7, respectively).

Measures

A questionnaire was developed to assess students' perceptions of (a) acceptance of their culture at school and the school's cultural dynamics and (b) the presence in school of culturally responsive practices. Items on the questionnaire were drawn from the literature on models of acculturation (e.g., Doná & Berry, 1994; Hughes et al., 2009; Padilla & Perez, 2003) and culturally responsive educational practices (e.g., Banks, 2005; Gay, 2004; Ladson-Billings, 2000; Siwatu, 2005). Ten yes/no questions drawn from acculturation models (e.g., "Do I identify with and maintain traditions from my culture of origin?" [Hughes et al., 2009]) asked students about (a) their feelings about their own culture (e.g., "Are there traditions or rituals specific to your family or community?"); (b) the extent of their feelings of acculturation or separation (e.g., "Do you feel different from other students because of your race or ethnicity?"); and (c) their perceptions of the cultural dynamics at school (e.g., "Is there animosity between racial groups in your school?") (see Table 1).

Twelve questions assessed students' perceptions toward culturally responsive practices in their school (e.g., "Do you learn or read about other cultures in your textbooks?") using a 3-point Likert-type scale where 2 = often, 1 = sometimes, and 0 = no (see Table 2). These questions were selected and adapted from the Culturally Responsive Teaching Self-Efficacy Scale (CRTSE; Siwatu, 2005), a self-report measure of preservice teachers' perceptions of their own competence at implementing components of culturally responsive instruction as found in the theoretical and empirical literature (e.g., Gay, 2004). Selected questions addressed the role of the classroom teacher in implementing culturally responsive practice, were consistent with and representative of recommended practices (e.g., Banks, 2005; Ladson-Billings, 2000), and were reworded to elicit students' perspectives (e.g., "Do teachers spend time in your community?").

Finally, students were also asked open-ended questions about their demographic background, including place of birth and language spoken at home.

Four members of the research staff and two university professors who were experts in the area of cultural diversity reviewed a candidate form of the questionnaire to evaluate wording and to determine comprehensiveness and consistency of items with our research questions. Field testing with three students not participating in the study was conducted to further determine clarity of wording of items. Based on feedback, a final form of the questionnaire was established.

Table 1

Students' Cultural Perspectives

Item	N	%
Are there traditions or rituals specific to your family or community?		
Yes	12	75
No	4	25
Are members of your community predominantly of the same race as you?		
Yes	6	38
No	10	62
Do you embrace your cultural background?		
Yes	10	62
No	6	38
Is your culture embraced among your friends?		
Yes	14	88
No	2	12
Is your culture embraced at school?		
Yes	15	94
No	1	6
Are there advantages to being of one race or ethnicity?		
Yes	2	12
No	14	88
Do you feel different from other students because of your race or ethnicity?		
Yes	0	0
No	16	100
Do you dislike any ethnic groups?		
Yes	0	0
No	16	100
Is there animosity between racial groups in your school?		
Yes	10	62
No	6	38
Is violence an issue in your school?		
Yes	14	88
No	2	12

Table 2

Students' Perceptions Toward Culturally Responsive Practices

Item	Often	Some-times	No	M
Do teachers change their teaching styles to fit with the way you learn best?	9	5	2	1.44
Do you learn about the languages of your classmates?	9	3	4	1.31
Do you learn or read about other cultures in your textbooks?	8	5	3	1.31
Is it important for teachers to be familiar with the cultural backgrounds of students?	7	4	5	1.13
Is a student's teacher important in his or her achievement?	5	8	3	1.13
Do teachers give information about different cultures and cultural groups?	6	6	4	1.13
Do teachers spend time in your community?	6	6	4	1.13
Is there a good connection between your home culture and school?	7	3	6	1.06
Do teachers give information about the different cultures of your classmates?	1	11	4	.81
Do teachers teach about other races and cultures?	3	7	6	.81
Do your classrooms have pictures or posters of people from different cultures displayed?	3	3	10	.56
Do teachers acknowledge your race or cultural background?	3	1	12	.44

Note. Often = 2, sometimes = 1, no = 0.

Data Collection Procedures

The questionnaire was administered during the two reading classes in which students were enrolled. First, the second author, a special education graduate student, stated that she was interested in the students' views about their classes and school. The author then held a discussion about the concepts of race, culture, and culturally responsive instruction defining terms such as culture, race, and ethnicity. The questionnaire was distributed to students, and they were informed that there were no right or wrong answers and that their responses would not affect their treatment or evaluation in class. In addition, students were instructed to base their answers on all their classes and teachers in the school versus one class or teacher. Next, the author read each question aloud to the class providing examples and clarification for each and allowing time for students to respond.

Data Analysis

Descriptive statistics were used to summarize participants' demographic information and responses to questionnaire items. In addition, responses to items related to culturally responsive practices were rank-ordered by mean score. Finally, all questionnaire responses were analyzed by students' gender, race, and ethnicity.

Results
Students' Demographic Background

Students self-identified as Black (n = 5), Hispanic (n = 5), White (n = 3), Asian (n = 1), Biracial (Black/White) (n = 1), and Kurdish (n = 1). Twelve students reported that they were born in the U.S. and four reported that their birthplace was Mexico. Spanish was the spoken language at home reported by all of the Mexican-born students and one U.S.-born student. Kurdish and Vietnamese were each reported to be spoken in one home while English was the spoken language at home reported by the remaining nine students. All but one student reported that religion was important in their lives, although four students did not know their religious affiliation. Six students reported that their families were Baptist, five Catholic, and one Muslim.

Students' Cultural Perspectives

Table 1 displays students' responses to questions regarding their perceptions toward their own cultural affiliation and the cultural dynamics of their school. Twelve of the 16 students reported that there were traditions or rituals specific to their family or community, although 10 students said that their community was predominately of a different race than theirs. Most agreed that they (n = 10) or their friends (n = 14) embraced their cultural background and all but one indicated that their school did. Only two suggested that there was an advantage to their race or ethnicity and none claimed to feel different from their friends because of their race or ethnicity. Although no student acknowledged disliking any ethnic group, 10 students reported that there was animosity between racial groups at school, and 14 indicated that violence was an issue at school.

In addition, an analysis of responses across gender, race, and ethnicity revealed several interesting patterns. All five Black students and the one student identifying as Biracial (Black and White) were the only racial or ethnic group members all responding "yes" when asked if there were traditions or rituals specific to their family or

community. In contrast, Hispanic students (one U.S.-born and four born in Mexico) were the only ethnic group members all responding “yes” when asked if they embrace their cultural background. Half of all male students, regardless of race or ethnicity, responded “no” when asked if there was animosity between racial groups at school, whereas all but one female reported “yes.” No other pattern related to gender, race, or ethnicity was identified across responses.

Students’ Perceptions Toward Culturally Responsive Practices

Students’ responses to queries regarding culturally responsive practices in their school are shown in Table 2 rank-ordered by mean score. The greatest agreement with indicators of culturally responsive practices was that (a) teachers changed teaching styles to match students’ learning styles, (b) students learned about classmates’ languages, and (c) students read about other cultures in their books. However, half of students either disagreed with these indicators or said they occurred only sometimes. Although few students disagreed with the importance of teachers being familiar with students’ cultural backgrounds ($n = 5$) or their importance to student achievement ($n = 3$), only six students indicated that their teachers often gave information about different cultures or spent time in students’ communities.

Students were almost evenly split between whether there was often ($n = 7$) or never ($n = 6$) a good connection between their culture at home and their school. The majority of students ($n = 11$) indicated that teachers sometimes gave information about their classmates’ cultures although only one student reported that this happened often. Similarly, seven students said that their teachers sometimes taught about other races and cultures, but only three students indicated that this happened often. The two indicators prompting the greatest number of disagreements were whether classrooms displayed pictures of different cultures ($no = 10$) and whether teachers acknowledged the student’s race or culture ($no = 12$).

An additional analysis of responses across gender, race, and ethnicity revealed that the only ethnic group members all responding that teachers often changed their teaching styles to fit the way the student learned best were Hispanics (U.S.- and Mexican-born). Hispanic students were also the only ethnic group members all responding affirmatively when asked (a) if they learned about the languages of classmates, (b) if they learned or read about other cultures in their textbooks, and (c) if it is important for teachers to be familiar with the cultural backgrounds of students. All four Black males responded that it was not important for teachers to be familiar with their students’ backgrounds. Although some members of all other racial and ethnic groups responded that their teachers often gave information about different cultures and cultural groups and spent time in their community, no Black students responded similarly. No other patterns in responding were evident across gender, race, or ethnicity.

Discussion

It is important to obtain the perspective of students attending culturally diverse schools to determine if they perceive that culturally responsive instruction is being practiced and if they believe their classroom and school environments are welcoming and accepting of their culture and traditions. We asked special education students in a

low-income, racially and ethnically diverse ELL-cluster middle school about their feelings toward their own culture and the cultural dynamics of their school, and whether they perceived that culturally responsive practices occurred at school. Students, in general, reported embracing their own culture and believing that their friends and school did, as well. Although no student reported disliking another ethnic group or feeling different from others because of race or ethnicity, the majority of students believed that animosity and violence among racial groups were problems at school. In addition, although most students and, in particular, Hispanics, reported the occurrence of some culturally responsive practices at least sometimes, students overwhelmingly responded that their race or culture was not acknowledged by their teachers. Students also indicated that their teachers rarely, if ever, gave information or taught about other cultures or races. Our findings contribute to the literature on culturally responsive practice and cultural dynamics in multiethnic schools in several important ways.

First, we addressed specific gaps in the research literature investigating culturally responsive practice. To date, we have not found one study in the published literature in which culturally diverse special education students attending a racially and ethnically diverse middle school were queried about the occurrence of recommended culturally responsive practices in their school. Previous studies (a) primarily have focused on preschool and elementary school general education versus secondary special education; (b) rarely have sought student input, or, in the rare case of seeking such, have asked only open-ended questions not specific to culturally responsive practices recommended in the literature; or (c) have investigated student populations predominately of one race or ethnicity (Bacon et al., 2005; Cartledge & Kourea, 2008; Trent et al., 2008). Our study fills a gap in the literature with respect to participant population, setting, and methodology. In addition, we asked students their views about their own and their classmates’ cultures and family traditions, as well as their views toward the cultural dynamics existing at school. Variability in individual students’ responding across questionnaire items, in which they expressed both positive (e.g., “my culture is embraced at school”) and negative (e.g., “violence is an issue at school”) views of their school, suggests that students likely were responding honestly to the questionnaire and that their answers were valid. In addition, we analyzed students’ responses by individual students’ gender, race, and ethnicity to determine possible patterns of responding related to these factors.

Second, asking students about their own acculturation and analyzing responses by gender, race, and ethnicity, allowed us to relate students’ cultural perceptions to their views of the cultural dynamics of their school. Students, especially Blacks and Hispanics, did report identifying with a particular culture, despite most living in a community where the dominant culture differed from their own. However, students overwhelmingly did not feel that their race and cultural background were acknowledged by teachers at their school. Failure to address students’ race and culture can have dire consequences—such as disengagement—for students, particularly those who are not of the dominant culture and those attending a school comprised of multiple ethnicities (Gutiérrez & Rogoff, 2003). Most students indicated that there were traditions and rituals specific to their families, which likely were important to their cultural identity. However, if students do not feel that their cultural identity is acknowledged at school, they are

not likely to feel a part of that school in a holistic sense (Valenzuela, 2000). This may be why only two students in our study believed there was an advantage to their race or ethnicity. In contrast, Hughes et al. (2009) found that Hispanic secondary students believed that their ethnicity was an advantage because of (a) achieving status by fitting into a unique social niche or (b) being bilingual.

Researchers have argued for creating communities of students in which cultural and individual differences are acknowledged and the total person is accepted (Valenzuela, 2000). Teachers' perceived failing to acknowledge students' race and ethnicity in this study may have related to the animosity between racial groups and violence that participants reported was an issue with respect to the cultural dynamics in their school. A likely cause of racial discord in schools occurs when racially and ethnically diverse students do not have opportunities to learn about each other. Fear, suspicion, and prejudice may develop if students are not introduced to each others' differences in dress, hygiene, language, religious practices, food preferences, or musical tastes (Banks, 2005). For example, unless teachers discuss the reason that females generally cover their hair in Moslem cultures, classmates may be confused or even angry when Moslem classmates wear a scarf on their heads while other students are not allowed to wear their favorite baseball cap in class. Or some students may become frustrated with another student's poor English without realizing that the student speaks Portuguese or Chinese at home and is just learning English for the first time. Or some students whose culture values assertiveness and playfulness may become frustrated in their interactions with peers who, because of their cultural upbringing, appear soft-spoken and passive.

In our study, although slightly over half of participants indicated that they often learned about the language of their classmates, few reported that teachers gave information or taught about the races or cultures of their classmates or that classrooms had posters or pictures displaying other cultures. Our findings suggest that teachers in similarly diverse schools must be especially vigilant in their responsiveness to all cultures of their students. Doing so may be even more challenging than, say, to a White teacher in an all-Black school. Teachers need to develop the cultural competence and awareness to address the cultural dynamics among racial and ethnic groups and to educate and include students of all cultures equally and equitably (Bennett, 2002).

Third, study participants attended a "majority-minority" school in which White students were less than one-third of the population, Hispanics 41 %, Blacks 24 %, and 4 % other ethnicities. Almost one-third of students received ELL services, 21 languages were spoken at students' homes, and the majority of students (79 %) were from low-income families. The 16 participants in this study were representative of the racial, ethnic, and linguistic diversity of the school as a whole; in addition, four students were immigrants, and three different languages were spoken at students' homes (only nine families spoke English at home). In contrast, 78 % of teachers were White, and there were no Hispanic teachers. The cultural dissonance between teachers and students at this school argues for the need to educate and support teachers to practice culturally responsive instruction. Nevertheless, our sample of the school's student population indicated that there was not widespread application of culturally responsive instruction and that students did not feel their race or culture was acknowledged

at school. Our findings corroborate Trent et al.'s (2008) call for more teacher preparation and support in practicing culturally responsive instruction. Teachers need training to prevent adopting a "subtractive cultural assimilation process" (Valenzuela, 2000), in which students are expected to discard their ethnicity when they enroll in school. Failing to acknowledge and accept students' cultural differences and address the cultural dynamics of a school's population exacerbates the already existing vulnerability of ethnic and racial minority students in a dominate White society, perhaps resulting in disengagement and lowered academic performance in school.

Limitations and Suggestions for Future Research

Several limitations of this study suggest areas for future research. First, our sample size was small and represented only one school in one metropolitan area. Future studies should include a larger sample of students across schools and geographic areas. Second, although our questionnaire was adapted from the empirical and theoretical literature and from an assessment of culturally responsive practice (i.e., CRTSE; Siwatu, 2005) for which the psychometric properties were established, the validity and reliability of our adapted questionnaire were not tested. Further analysis should be conducted to investigate the psychometric properties of our questionnaire. Third, our data were based only on student self-report. Although student input is critical, no direct observation of culturally responsive practices in the school or of cross-cultural student interactions was reported, although the graduate student provided anecdotal evidence that culturally responsive practices rarely occurred. Future researchers should corroborate student input with measures of direct observation, as well as input from other stakeholders including teachers and parents. Fourth, no comparative data were provided. In the future, researchers should compare findings across schools that represent different racial and ethnic compositions, such as predominately Black schools or schools with a greater White or Asian population. Finally, no information was provided with respect to possible training in culturally responsive practice that teachers at the school may have received prior to the study. Future studies should investigate the effect of training in culturally responsive practice by evaluating schools before and after training or comparing schools that did or did not receive training.

Conclusion and Implications for Practice

Simply learning about their and classmates' languages in a culturally diverse school or reading about their and other cultures in textbooks is not enough for students to feel that their own race or culture is acknowledged in their school. Teachers must develop the competence and confidence to learn about their students' diverse cultures and ethnicities and the cultural dynamics that exist among students, particularly considering that U.S. schools are rapidly becoming more and more diverse. Teachers need training and ongoing support to bring issues of cultural diversity to the table with students, administration, co-workers, and parents. Students need to feel that their cultural traditions, views, and background are understood and accepted at school and that they do not have to hide their ethnicity when they enter the schoolhouse door. Unspoken fears or resentments across cultural groups need to be brought out into the open

,and students should have opportunities to learn about each others' cultures to prevent feelings of distrust and animosity that may result in violence. The likelihood that a teacher in a public school in the U.S. will be instructing students who are not of her own race or cultural background is extremely high. Pre- and in-service training for teachers in culturally responsive practice is critical to fostering communities of students who feel totally accepted at school, who are knowledgeable of and respectful of each others' diversity, and who are being taught with effective instructional practices likely to promote their academic engagement and achievement.

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The Impact of Mobility on Student Performance and Teacher Practice

Jody C. Isernhagen and Nadia Bulkin

Abstract: This article examines the effects that high mobility can have on highly mobile students, non-mobile students, teachers, and schools, with particular focus on the effect of high mobility on academic achievement. A mixed-methods study with data collected from public schools in Nebraska during the 2007-2008 and 2008-2009 school years finds that highly mobile students scored lower on criterion-referenced assessments than their non-highly mobile peers. The article also provides recommendations of strategies that can be implemented to help address mobility-related issues based on data from qualitative interviews. These strategies are grouped into categories of transition programs, administrative procedures, classroom strategies, and support for teachers.

Introduction

Between 2006 and 2007, 14% of all school-aged children in the United States changed their residence (Rhode Island KIDS COUNT, 2009). According to the 2004 Annual Social and Economic Supplement to the U.S. Census, 15 to 20% of all school-aged children moved in 2003 (EPE Research Center, 2004). In a study conducted by the National Assessment of Educational Progress (NAEP) 1998 Math Assessment, “34% of 4th graders, 21% of 8th graders, and 10% of 12th graders changed schools at least once in the previous two years” (Rumberger, 2003, p. 6-7). Student mobility, defined as a “non-promotional school change” (Rumberger, Larson, Ream, & Palardy, 1999, p. vi), affects many students and classrooms each year. Often, this impact is negative—for mobile students, non-mobile students, teachers, and schools. At highest risk for failure are the highly mobile students themselves. The U.S. Government Accounting Office reveals that students “who change schools more than three times before eighth grade are at least four times more likely to drop out of school” (Paik & Phillips, 2002, p. 7). The problems that correlate with high mobility have forced schools to take steps to alleviate the situation.

Effects of Student Mobility

Much of the research conducted on mobility and achievement concludes that mobility is a large threat to academic achievement and the school environment (Biernat & Jax, 2000; Kaase & Dulaney, 2005; Reynolds, Chen, & Herbers, 2009). Indeed, some research reports testify that an achievement gap between mobile and non-mobile students is irreparable (Texas Education Agency, 1997). Forty-one percent of highly mobile students are low achievers, compared with 26% of non-highly

mobile students (Paik & Phillips, 2002). Mobility also contributes to the likelihood of a student dropping out (EPE Research Center, 2004; Kennelly & Monrad, 2007; Osher, Morrison, & Bailey, 2003; Reynolds et al., 2009). In one study, 13 of 158 high school dropouts cited frequent moves as their reason for dropping out (Meeker, Edmonson, & Fisher, 2009). One 22-year-old who had moved from out of state explained, “I was an outsider, I didn’t fit in. I lost credit moving in from out of state. I missed all of my friends and I just didn’t want to go. I was so far behind and had lots of problems.” A 17-year-old stated, “Too far behind and not financially stable enough to stay in one school, so it was harder to learn having to move so much” (pp. 44, 48). Another study cited transfer to a new school as a warning sign that a student could disengage and eventually drop out (Bridgeland, Dilulio, & Morison, 2006). The more frequent changes to schools, the greater the threat to academic achievement. High mobility can also have a negative impact on classrooms and schools. Mobility is “a ‘chaos’ factor that impacts classroom learning activities, teacher morale and administrative burdens” (Rumberger, 2003, p. 11). A lack of funding and the pressure of academic performance measures compound the problem for administrators.

It is difficult to definitively conclude that a high level of mobility directly causes academic underachievement. Some studies argue that highly mobile students fail academically because of other factors, such as IQ, socioeconomic status, or minority status (Alexander, Entwisle, & Dauber, 1996). Other studies conclude that mobile students’ underperformance was caused by preexisting underachievement (Heinlein & Shinn, 2000; Temple & Reynolds, 1999). However, Osher et al. (2003) determined that mobility is “likely to have a negative impact on student development.”

Highly Mobile Students

Current research has found that “students can suffer psychologically, socially, and academically from mobility” (Rumberger, 2003, p. 8). Learning gaps not only make achievement in a new classroom more difficult, but can also reduce student motivation. Sanderson (2003a) reports that mobility students are largely disengaged, with little or no vested interest in the school or the educational process. Mobile students make academic progress slower and lose knowledge quicker than their non-mobile peers (Mao, Whitsett, & Mellor, 1998; Texas Education Agency, 1997). Studies have also revealed that students are highly unlikely to compensate for their knowledge gap because their knowledge deficiency increases every consecutive year (Reynolds, 1991). Mobile students must also adjust to new classmates in a new social environment (Rumberger, 2003).

Classrooms

Research indicates that teachers perceive mobility as a major barrier that prevents students from succeeding. Teachers in highly mobile classes blamed mobility for their inability to effectively preserve the learning environment and deliver quality instruction (Bruno & Isken, 1996; Kerbow, 1996; Lash & Kirkpatrick, 1990; Sanderson, 2003a). Often, teachers demonstrate frustration and hopelessness while teaching mobile students. They feel mobile students display negative attitudes and bad behavior (Sanderson, 2003a), and they say there are “no benefits of working with children who move” (Lash & Kirkpatrick, 1990, p. 185). Studies have found that teachers rarely know in advance how many new students will enter their classrooms during a school year and how many more will exit before the last day of school (Bruno & Isken, 1996; Lash & Kirkpatrick, 1990). Such unexpected classroom changes make it difficult for teachers to adjust and deliver quality instruction. This leads to high mobility “adversely impact[ing] non-mobile students” (Rumberger, 2003, p. 11) because of the amount of time spent reviewing old material in class. In a California study, test scores of non-mobile students were significantly lower in high schools with high student mobility rates (Rumberger et al., 1999). Offenber (2004) theorized that a school’s poor or positive performance might be attributable to the school’s high or low mobility rate, and not to the school’s characteristics (e.g., highly qualified teachers, well-developed teaching and learning programs, school policies, etc.), indicating that mobility may be a decisive factor in overall school performance.

The Problem

Student mobility is a nationwide phenomenon, but there is a perception that student mobility is more likely to impact urban schools in the United States. However, according to the U.S. Government Accounting Office, students in rural areas have an approximate mobility rate of 15%—comparable to the national average (Reynolds, et al., 2009). Mobility in rural areas may be linked to the strong correlation between poverty and the risk of academic failure, as well as the strong correlation between poverty and frequent mobility (Wright, 1999). An examination of schools participating in Nebraska’s Reading First initiative found that low-income students were 80% more likely to be mobile than their peers (Trainin, 2005). When poor families move, it

is often out of necessity, and can be more traumatic for children (Lesisko & Wright, 2009). In 2007, the event dropout rate of students in low-income families was 10 times greater than the event dropout rate of students in high-income families (Cataldi, Laird, & KewalRamani, 2009). Recent reports have found that “nearly half a million children in the rural Midwest are living in poverty, and thousands more are living just above the poverty line,” leading to the conclusion that “the risk of frequent mobility and academic failure is heightened” (Paik & Phillips, 2002, p. 6).

The average rates of student mobility in Nebraska public schools have slowly decreased from 13.82% in 2004-2005 to 12.02% in 2008-2009 (Nebraska Department of Education, 2009). However, a large number of Nebraska schools report mobility at a higher percentage than the state average. For example, some rural schools in Nebraska have a mobility rate as high as 43.10% (Nebraska Department of Education, 2009).

This mixed-methods research study was aimed at examining the impact of student mobility on student performance and teacher practice in the state of Nebraska. Quantitative data were gathered during the 2007-2008 school year, and qualitative data were gathered during the 2008-2009 school year.

Methodology

Quantitative data were gathered by the Nebraska Department of Education (NDE) and provided to the researchers for this study. Data from 212 out of 254 school districts in Nebraska were used. Additionally, criterion-referenced individual student data were aggregated statewide and reported for fourth, eighth, and eleventh grades for the first time in 2008. Qualitative data were collected through interviews conducted at schools with high mobility rates and high student performance, and at schools with high mobility and low student performance. The purpose of these selections was to gain information on what schools are doing to support highly mobile students. Classroom teachers, specialized teachers, and administrators were interviewed.

Results

Highly Mobile vs. Non-Highly Mobile Student Achievement

The quantitative portion of this study found that high mobility students in Nebraska demonstrated a persistent pattern of lower achievement scores on criterion-referenced assessments versus their non-highly mobile classmates. These findings corresponded to research conclusions that mobility is associated with lower achievement.

As shown in Table 1, the fourth-grade criterion-referenced assessment in math showed the largest percentage of highly mobile students scoring proficient or better, at 90%. On this test, 95% of non-highly mobile students scored proficient or better, and the state average was 94%. The eighth-grade science test showed the smallest percentage of highly mobile students scoring proficient or better, at 67%. By contrast, 88% of non-highly mobile students scored proficient or better on this test, while the state average was 86%. This was also the largest discrepancy between highly mobile and non-highly mobile students.

The data results indicate that a larger percentage of non-highly mobile students scored proficient or better on all the locally defined

Table 1

Students Scoring Proficient or Better on Criterion-Referenced Assessments

Criterion-Referenced Assessment	Grade Level	Total Students Scoring Proficient or Better (%)	Non-Highly Mobile Students Scoring Proficient or Better (%)	Highly Mobile Students Scoring Proficient or Better (%)
Reading	4th	91	94	86
	8th	92	94	79
	11th	89	92	76
Math	4th	94	95	90
	8th	90	92	76
	11th	86	89	72
Science	4th	88	89	79
	8th	86	88	67
	11th	83	87	70
Writing	4th	91	91	83
	8th	93	94	84
	11th	94	95	85

criterion-referenced assessments in 2007-2008 compared to their highly mobile peers. As shown in Figure 1, eighth- and eleventh-grade highly mobile students in Nebraska performed on average 10 to 15 percentile points below their non-highly mobile peers statewide in Reading, Math, Science and Writing assessments. Fourth-grade highly mobile students scored an average of 5-10 percentile points below their non-highly mobile peers in these assessments.

Qualitative results confirmed the academic difficulties that can face highly mobile students. One seventh/eighth grade math teacher stated, "I get frustrated with it. I see kids that aren't getting what they need to get. They have [attended] 6 different schools and they're in the 7th grade, and I feel like I'm always trying to help that child play catch up. I would like to think that I was helping them catch up, but I don't feel very successful at times." A special education teacher noted

that language barriers can intensify the problem: "A lot of them are shy and the language is hard for them [to use] to communicate what they're thinking."

It is important to note that the presence of other moderating factors in this study, such as high ELL populations and high Free/Reduced Lunch rates, made it impossible to prove a causal relationship between high mobility and low achievement. However, researchers noted that when districts provided more support services to account for high mobility, all students benefited. Additionally, a middle school principal acknowledged, "There's a lot of factors outside of the school that also impact the students and we just have to provide a safe and secure environment."

Addressing Mobility Issues

In order to address the achievement gap between highly mobile and non-highly mobile students, Nebraska schools implemented a variety of strategies. Schools that were successful in dealing with mobility had: (a) solid transition programs for mobile students, (b) administrative procedures that increased the overall quality of the school, (c) flexible classroom strategies, and (d) collaborative support and effective communication.

Transition Programs

Many schools that had high mobility rates also had transition programs in place in order to better support highly mobile students. A principal shared one such transition procedure: "The counselor interviews the student and the parents about their school and past experiences." Common steps in these transition programs included (a) obtaining records, (b) connecting the student to a new environment, and (c) connecting the student to peers.

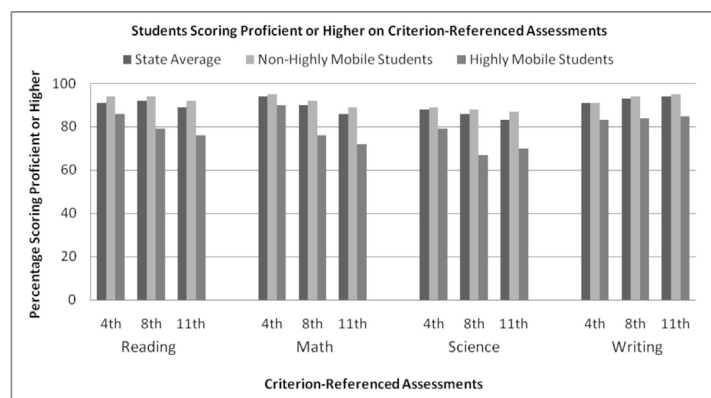


Figure 1. Students scoring proficient or better on criterion-referenced assessments.

Obtaining Records

An eighth grade math teacher explained that “if a student is gone for an extended amount of time,” then the school had to identify what skills, knowledge and information the student possesses and what academic gaps exist. This initial step in a mobile student’s transition consumed a great deal of the school’s energy. One principal shared, “We’re spending a lot of time trying to find out where they are and what we need to give the student to get them caught up to where they need to be.” Therefore, local transitions definitely had their advantages, as noted by a principal: “If they’re from inside the district it’s easier to find out where they are and if it’s from outside the district there has to be many phone calls to find out what’s been done and what hasn’t been done.” Missing information and miscommunication could result in students being placed “in programs for the gifted and talented or in remedial classes when neither is appropriate” (Biernat & Jax, 2000). Therefore, a middle school principal suggested, “A centralized records system for the state would be a huge help.” Such a system was recently implemented in Nebraska by the Nebraska Department of Education.

The challenge is greater when mobile students were also special education students. Personnel from one school shared that they often had to wait for special education placement due to the need for access to records, “In our district, we have access to information; if they come from someplace else we don’t really have access, we have to wait for their records to come.”

Often times they’re coming with no grades or records, [so we are] just trying to get a feel if there is any kind of special needs. If they indicate anything that might be special needs, then we do a temporary placement, so the student can receive special education services until we actually get the paperwork, which can be a month away. We don’t really know. (Middle School Principal)

Connecting the Student to a New Environment

A study by Fisher, Matthews, Stafford, Nakagawa, and Durante (2002) found that 89% of the participants believed that transition programs needed to be focused on providing a consistent but caring educational environment, as these traits were essential for establishing quality relationships with students. An eighth grade math teacher explained, “Because once they’re comfortable with that, you’re going to be able to make that next step to the academic piece.” Other suggestions were made to encourage the new student to see the counselor or principal, or to have a translator on hand, depending on the new student’s language of origin. One middle school math teacher shared, “When trying to help them transition, we put together a packet. They can just look at this packet and it tells them what each one of their core classes or expectations are.”

Connecting the Student to Peers

Reynolds et al. (2009) reported that mobile students’ weaker peer relationships increase their risk for underachievement. A special education/language arts teacher explained the challenges faced by a mobile student in a new environment: “They’ve got to make friends, they’ve got to get online with what we’re learning. It’s not easy for those students coming here. It’s not like this just comes easy for

the kids.” One common method used to help a new student adjust involved helping them make connections with their peers. An eighth grade math teacher described the method their school called “first friends” to help new students adjust:

On the first morning that they’re here, the counselors pick students that they know are pretty friendly and outgoing [to] show them around the school, take them to their teachers and get them to their lockers, make sure they can do the combinations.

Administrative Procedures

According to Rumburger (2003), the most effective strategy to reduce mobility is to increase the overall quality of the school. A variety of initiatives were introduced at the schoolwide level throughout the state to diminish the negative impact of student mobility and at the same time improve the entire school. They included (a) counselor support, (b) social support, (c) teaching teams, and (d) extra programming.

Counselor Support

Counselors often play instrumental roles in helping ease transitions. They team new students up with other students, follow up on the new student’s academic history, and work with teachers to determine in which class to place the student. A seventh/eighth-grade math teacher described the role of counselors in helping new students: “The counselor will take a student into their team area and then once they give them a tour of the building, they will walk the schedule with them and show them exactly where they are to enter each day and where everything is that they have to know.” Counselors could also help to determine the appropriate class for the student:

The counselor is very involved in pairing the student up with buddies and working with the teachers on getting the student in the right classes and looking at what’s the best fit. I mean [for example], “This kid has already missed four weeks, is this a better class to go into, instead of that class?” “What classes are going to be easier for the student to adapt to and not be behind?” Those decisions are made everyday just because that’s the way it is in our building. (Middle School Principal)

Social Support

Successful schools also put an emphasis on healthy socialization. As an eighth grade math teacher stated, “I don’t want them to feel they’re so different from everybody else.” This goal was applicable for all students, as described by this high school principal:

I wanted the students to develop a sense of belonging and so whether it’s called home rooms or learning communities, we have developed that and it is a check and balance of attendance and academics. They can go in and build a relationship with one staff member. Staff members can address their downfall in academics with them as they meet once a week for a full period. That has been quite favorable. (High School Principal)

Ideally, administrative teams sought to develop a climate in their schools similar to the one featured in this middle school principal's school: "I see kids in our school being very accepting, I really do, and I think it's because it's just so much a part of a routine."

Teaching Teams

Teaching teams met in order to discuss problems and solutions on a variety of issues—one of which can be mobility. Teachers helped each other ensure that mobile students are at grade level and share past experiences. A seventh/eighth-grade math teacher shared, "I could call on another teacher and say, 'In this math class I have a new kid. They're working on this, they're not understanding it, what have you done in the past?'" A middle school principal explained the advantages of teaching teams: "I think that in our school we're so lucky to have the teaming approach that teachers can share those stresses together and share their concerns but then also work together on how to resolve it."

We [the grade level team] try to brainstorm what we see them doing, their patterns, or if they miss school a lot or if they are sick a lot. Then we try to work with those issues, get them here, work one on one with them, provide peer tutoring and as much help and assistance as we can. (Sixth-Grade Math Teacher)

Extra Programming

Sometimes the best way to help a mobile student catch up involved extra programming (ex., ELL programs, Individual Education Plans). An eighth-grade math teacher suggested, "After school study sessions, maybe lunchtime study sessions so that we can reach as many students as possible." This may be a matter of simply finding a convenient time for teachers and students. One special education/resource teacher explained, "There are a lot of us here at 6:30 and there are a lot of students waiting outside to get in at 6:30. The access works both ways." Some educators whose schools have already implemented extra programming reported positive results. A middle school principal shared, "At least half of the kids [in extra classes] have already gotten to the [goal] level and are ready to go back to their regular classrooms." Extra programming was also directed at teachers who needed to learn skills for dealing with mobility in their classrooms:

Mobility is probably the biggest issue that we do deal with. The school district does a very good job letting us work together and giving us the opportunity to give each other feedback and ideas on how to deal with mobility. We have the opportunity to access our ESU, to go to workshops or seminars on how to deal with mobility. (Middle School Math Teacher)

Classroom Strategies

Classrooms with highly mobile students could sometimes suffer due to the need to review and reteach material. A high school principal explained, "With high mobility, the amount of material that is presented even to our best students has been minimized. They [mobile students] are playing so much catch up every day that your non-mobile students are not challenged to the degree that they

should be." This potentially led to situations where neither highly mobile nor non-highly mobile students achieve academically. However, Rumberger (2003) indicated that "schools can undertake some specific strategies to help address problems associated with mobility" (p. 15). Principals and teachers provided the researchers with insight into some of the strategies that are being used in Nebraska. These strategies included (a) building classroom community, (b) placing mobile students within the classroom, (c) teacher flexibility, and (d) accommodation of students' home lives.

Building Classroom Community

A healthy and supportive classroom community ensured that a new student will be comfortable and more able to succeed. It also guaranteed that the new student will have multiple sources of support in the classroom. In a classroom with highly mobile new students, however, this can be a tricky process. An eighth-grade math teacher stated that "it's a challenge to get the students a rapport with the other students in the classroom." In order to develop an inclusive classroom community, one seventh/eighth-grade math teacher used "a buddy system." An eighth-grade math teacher elaborated on this cooperative method: "We're almost always in groups and [students] feel a little more comfortable saying [to the new student], 'she said to get this out,' 'that's what she means,' or if there is something that I forgot to explain, they lean over and do it for me." Classroom communities benefited the entire classroom—mobile and non-mobile students alike.

It's all about relationships; developing personal relationships with them. The community building that I do at the beginning of the year, and knowing that they have a comfort level with me, that they can come in and talk to me whenever they want. (Sixth-Grade Math Teacher)

Placing Mobile Students Within the Classroom

Even after a mobile student was assigned to a class, the teacher had to place the new student within the classroom at an appropriate level. Often, this had to be accomplished quickly and without the help of standard classroom assessments. A middle school principal shared the use of "a short reading assessment," while an eighth grade math teacher stated that "I just get out a book and I point some things out and see if they look familiar." When the student moved within the same district, however, this process was simplified. A seventh/eighth-grade teacher explained that in this situation, "criterion-referenced assessments that they've taken in previous schools transfer over into my class."

When the kids come in, I have them fill out a little circle for me [about] where they've been, what they remember talking about previously. I try to pull the kid in after school right away for a couple of days, just to see where they've been. (Seventh/Eighth-Grade Math Teacher)

Teacher Flexibility

Teachers needed to be flexible in teaching mobile students. A special education teacher explained: "You've got new people coming

in. What is that person's learning style? How can they learn best? That also impacts how a teacher can teach." This required teachers to be imaginative and brainstorm new ways of teaching and learning. A sixth-grade math teacher offered some suggestions for teachers with mobile students: "You have to be constantly monitoring their progress and different ways to teach them. For example, think of different words, different ways, repetition."

I have to be flexible, I have to be able to work with the student. I pop to the side and say, "Do you know where you are at?" If it's no, then I need to start going through my resources and say, "What are we going to do to either (a) get this student caught up, or (b) look at the other services that we could get for this student." (Eighth-Grade Math Teacher)

Accommodation of Students' Home Lives

In successful schools, teachers and staff demonstrated empathy for mobile students' families who are often in difficult situations. A special education/resource teacher explained, "A lot of my students' parents are not at home at night because they're working another job. So we try to do everything in my classroom. I don't send homework home. If they have any questions they can come to me." This helped to reduce the students' stress. A special education teacher shared that an after-school tutoring program was one way to accommodate students' home lives: "The parent just has to sign a permission slip."

I don't expect the parents to sit down and do homework with the kids because that's just not possible for most parents. Things are taught so much differently now than when they were in school. But I expect them to get the kids here and if they have to stay after school, enforce that they stay after school. (Special Education/Resource Teacher)

Support for Teachers

In addition to these classroom strategies, teachers with mobile students in their classes had to review material often (Sanderson, 2003b). This could compel teachers to devote attention to remedial work rather than new lessons (Stover, 2000). Each move to and from the classroom disrupts the ebb and flow of classroom routines. Thus teachers of mobile students often needed support from their colleagues and their administration, as well as additional classroom resources. A seventh/eighth-grade special education teacher stated, "It's a little bit stressful, but you know, you just kind of do what you've got to do."

They keep me on my toes. I have to continuously revise things that I'm doing. I include a lot of review in my lessons daily. Constant revision of my lesson plans. When I find out what they haven't had [something] or what they're not very good at, then I have to include that for everybody in my lesson, rather than single them out. (Eighth-Grade Math/Algebra Teacher)

Staff Collaboration

Paraprofessionals and special education teachers could help classroom teachers with mobile students in the classroom. A special education teacher explained, "Since there's two of us, the teacher would probably be giving instructions to the kids who already have the system down. I'd probably go over and help the new person and explain what the teachers saying." Teachers also sought advice and support from other classroom teachers, as one seventh/eighth grade math teacher described, "I have the assistance of other teachers, math department-wise, even nondepartmentalized on my teams. We often talk about our kids who are new to our teams and discuss what's working with them and what's not working with them." Co-teaching is another option available to teachers. A special education language arts teacher explained, "I'm lucky enough to work with two co-teachers who are very open to me being out of the classroom because I have to work with another student."

Conclusion

This study determined that mobility has a negative correlation with student achievement. In examining student performance results for the state of Nebraska, high mobility was found to correlate with lower test scores in reading, math, science, and writing, particularly in the eighth and eleventh grades. It is also clear that mobility is a problem for both urban and rural schools. A principal in Nebraska stated, "I don't care if it's in the city or wherever it is. With high mobility students, teachers have to start back at square one depending on the needs of the student. It does hinder performance!" Interviews confirmed that non-mobile students, teachers, and schools as a whole are also impeded by high mobility. A middle school principal pointed out perhaps the greatest challenge in dealing with high mobility: "The frustration is we'll barely get this student right where they need to be in school, [and] that student may move again."

At the same time, educators understood that mobility was a challenge they needed to embrace. A middle school math teacher explained:

It's a big problem, but you can overcome that. They're not any different than any other student; they're just as deserving of an education. But it is very challenging and I think as educators we just need to understand that. It's not their fault that they're going from district to district to district. It's a cultural issue for some, it's an economic issue for some, and as educators we just need to do the best we can.

This study also found that Nebraska schools were employing diverse strategies—ranging from administrative procedures to classroom instruction—to address the academic and social gaps caused by mobility. With the help of a flexible approach and innovative thinking, schools were able to ensure that all of their students are able to achieve.

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Academic and School Behavioral Variables as Predictors of High School Graduation Among At-Risk Adolescents Enrolled in a Youth-Based Mentoring Program

Gregory P. Hickman and Deiedre Wright

Abstract: Using official school data, this study examined a sample of 447 at-risk students enrolled over a 10-year period in a youth-based mentoring program. The primary objective of the program was to ensure high school graduation. Participants were identified by indices of academic and school behaviors that rendered them less likely to graduate from high school. This study used logistic regression to examine the extent to which academic (i.e., GPA, grade retention, and math and reading proficiency scores) and behavioral (i.e., expulsions) variables, as well as age at entry of program, and duration in the program predicted high school graduation. Results indicated that GPA and participants' age at time of enrollment in the program were significant predictors of graduating high school. Implications are drawn for designers of diversion, intervention, and mentoring programs.

Introduction

Research has demonstrated that approximately one third of all students in the United States are labeled as at-risk for academic failure (Schargel & Smink, 2001). Many of such at-risk students tend to experience academic and behavioral problems such as dropping out of school, low proficiency scores, increased grade retention, and discipline problems in school (Hickman, Bartholomew, Mathwig, & Heinrich, 2008; Hickman & Garvey, 2006; Schargel & Smink, 2001). Furthermore, at-risk adolescents tend to experience family involvement indicative of divorce, poverty, teen pregnancy, drug abuse, violence, and/or stress (Schargel & Smink, 2001). Given such environmental experiences, at-risk adolescents tend to be less likely to graduate and/or leave school without the basic skills necessary to succeed in life and overcome basic life adjustments (Hickman & Garvey, 2006; Orfeld, Losen, Wald, & Swanson, 2004).

Presently, our society is teeming with universal intervention programs designed to inoculate a broad audience (Andrews & Hickman, 1998; Children's Defense Fund, 2002; Kemple & Herlihy, 2004; Smink & Schargel, 2004). Although beneficial for the general population of adolescents, such universal strategies may not be effective for adolescents targeted as academically and/or behaviorally at risk (Andrews & Hickman, 1998; Bailey & Stegelin, 2003). As a result, professionals in various arenas have employed targeted intervention programs designed and tailored to the specific needs of an identified audience (Schargel & Smink, 2001).

Today, mentoring is one of the most popular strategies commissioned among intervention, diversion, and prevention specialists (Schargel & Smink, 2001). Mentoring programs have surfaced in arenas such as primary and secondary schools, colleges, local community centers, churches, neighborhoods, and various peer networks. Indeed, it would be difficult for an individual to wander throughout life without being positively steered by a mentor (Cuomo, 1999). The basic premise of mentoring is that providing at-risk adolescents a mature adult role model who can purvey support, nurturance, and guidance outside the immediate or extended family will lower the probability of such adolescents from experiencing and engaging in problematic behaviors (Schargel & Smink, 2001).

Although it is often assumed that mentoring increases the likelihood of at-risk adolescents graduating from high school, very little research has inferentially examined those factors associated with improving program completion objectives as related to high school graduation (Hickman et al., 2008). The purpose of this study was to examine whether academic and behavioral variables, as well as participants' age at entry of program and duration in the program, predicted completing the mentoring program and graduating from high school between at-risk male and female adolescents. As set forth by the mentoring program and for purposes of this study, the singular objective of program completion was high school graduation as opposed to quitting the mentoring program because of earlier program termination and/or dropping out of high school.

Research Questions

Several research questions were suggested. First, to what extent do behavioral factors (i.e., expulsions) increase the prediction of high school graduation among male and female adolescents enrolled in the mentoring program? Second, to what extent do academic factors (i.e., grade retention, grade point average, and proficiency tests) increase the prediction of high school graduation between male and female adolescents enrolled in the mentoring program? Finally, to what extent does duration in the mentoring program and participants' age at entry of program increase the prediction of high school graduation between male and female adolescents enrolled in the mentoring program?

Mentoring and the Relationship to Academic and Behavioral Variables Dropout Rate

Educators agree that the idea of dropping out of school may be prominent as early as elementary school (Alexander, Entwisle, & Kabbani, 2001; Hickman & Heinrich, in press; Henderson & Mapp, 2002; Lehr, Sinclair, & Christenson, 2004). Indeed, a recent study by Hickman et al. (2008) found that the path of dropping out of school started as early as kindergarten as dropouts were significantly behind in all academic subjects compared to their peers who eventually graduated high school. Although dropout rates are decreasing both geographically and nationally, those students who continue to suffer academically may drop out as they feel alienated and rejected by their teachers and/or peers (Abbott et al., 2000; Bailey & Stegeline, 2003).

Through tutoring and modeling, mentoring programs have been commissioned to help at-risk adolescents acquire germane academic skills needed to enhance school performance. One such program entitled Linking Individual Students To Educational Needs (LISTEN) conducted a two-year pre- and postcomparative evaluation on educational and behavioral variables of at-risk middle school students (Lampley & Johnson, 2010). The results of this study found that mentoring had a positive effect through behavioral adjustments and academic progress of such at-risk middle school students compared to similar at-risk middle school students who did not participate in LISTEN. Moreover, not one participant in the LISTEN program dropped out of school (Lampley & Johnson, 2010).

Grade Point Average

Research has consistently demonstrated that academic success is essential for academic achievement and school completion (Alexander et al., 2001; Christensen & Thurlow, 2004; Lehr et al., 2004). Anderson (2007) studied African American third through eighth grade children enrolled in the Helping Hands mentoring program. Program variables of interest included end-of-year grade point average, standardized tests score, special education status, and socioeconomic status. Results concluded that there was a positive effect of mentoring on this population for grade point average and standardized testing regardless of other variant factors such as special education and socioeconomic status (Anderson, 2007).

Other research on the relationship between mentoring and academic achievement has reported unfavorable findings. For example, in a study of a large mentoring program, 447 at-risk middle school and

high school students were matched with mentors. After spending on average over 27 months interacting with their mentor, the student's grades actually decreased and behavior problems increased (Hickman & Garvey, 2006). Moreover, Hickman and Garvey (2006) found that other academic variables such as standardized testing, absenteeism, grade point average, grade overage, and graduation rates decreased after being enrolled in the mentoring program.

Grade Retention

Research on the effects of grade retention has demonstrated a plethora of negative effects for students who have been retained (Allensworth, 2004; Hauser, Pager, & Simons, 2004; Jimmerson, Anderson, & Whipple, 2002; Roderick, Bryk, Jacob, Easton, & Allensworth, 1999). For example, Hickman et al. (2008) found that students that dropped out of high school were 15 times more likely to have been held back than students that graduated. Those students who graduated were held back between kindergarten and first grade whereas students that dropped out of school were held back between fifth grade and sixth grades. Moreover, not one student who was held back past the first grade graduated from high school (Hickman et al., 2008).

Jent & Niec (2009) evaluated the effectiveness of a cognitive behavioral group mentoring program for a sample of 86 8- to 12-year-old at-risk students. More specifically, the aim of this study was to demonstrate that group mentoring was an avenue for providing support for such students and effective at decreasing problematic behaviors and increasing problem solving and self-efficacy for students at risk for grade retention. Parents were asked to evaluate the variables of study for their children upon program completion. Results indicated that after completing the cognitive behavioral group mentoring program; parents reported that their children exhibited a reduction in disruptive behavioral problems and increased their self-efficacy and problem-solving skills (Jent & Niec, 2009).

Queen (1994) examined the impact that mentoring had on at-risk students. At-risk students were defined as students who demonstrated academic failure, grade retention, suspensions and expulsions from school, drug and alcohol use, and truancy. Of the 27 students recruited for the sample, 20 students admitted to using drugs and alcohol, 22 students evidenced low self-esteem, and 22 students experienced depression. After meeting with mentors in a group setting for 30 minutes at the beginning of each school day over a one-semester period, only 3 individuals still used drugs, 10 individuals still used alcohol, 5 individuals still evidenced low self-esteem, and 4 individuals still experienced depression. Finally, the academic performance and grade retention of all individuals improved (Queen, 1994).

Slicker and Palmer (1993) evaluated a school-based mentoring program for at-risk high school adolescents. Participants included 86 at-risk 10th grade students from a large suburban Texas school district. At-risk students were identified as students demonstrating the propensity to leave school before graduation, failure of two or more courses in their most recent semester, minimal reading and math achievement scores, and grade retention. Results of the study failed to yield statistically significant differences between the mentored at-risk group and the nonmentored control group across the variables of study (Slicker & Palmer, 1993).

Proficiency Tests

Typically, educators focus on standardized tests of reading and math as accurate indicators of students’ overall achievement level (National Center for Educational Statistics 2008; Orfeld et al., 2004). Such a procedure seems appropriate, as recent research suggested students who graduated from high school tended to have higher proficiency scores than those students who did not graduate from high school (Hickman & Garvey, 2006; Hickman et al., 2008). Moreover, not only did high school dropouts have lower standardized tests scores but the gap between classroom performance and standardized tests scores increased as students progressed from elementary school through high school (Hickman et al., 2008). Despite the predictive nature of proficiency tests on academic achievement and graduation rates, such a significant factor has remained absent from the curriculum and design of mentoring programs.

School Behavioral Problems

Rendering Educational Assistance through Caring Hands (R.E.A.C.H) was developed as a peer support group mentoring program that met once a week and included additional one-on-one meetings with a mentor on a daily basis. Results found that teachers reported improvements in tardiness, class preparation, peer interactions, and grades among those students involved in the program. Moreover, those students involved in R.E.A.C.H. demonstrated less school behavior problems (Reglin, 1998).

For a six-month study conducted on the Brothers’ project, 36 adolescents were randomly assigned to an experimental group (mentoring) and a control group (Reglin, 1998). Variables studied included self-esteem, attitude toward drug and/or alcohol use, GPA, attendance, and disciplinary problems. Comparative analyses demonstrated that mentoring had little, if any, effect on the adolescents’ grades, attendance, suspensions, and expulsions (Reglin, 1998).

Given the mixed findings surrounding mentoring programs and the lack of empirical and longitudinal evaluative studies, a closer examination of mentoring appears to be warranted. More specifically, research that targets variables associated with program completion and high school graduation improvement is greatly needed. The ability to recognize factors associated with high school graduation may facilitate the adoption of such factors among program designers in an effort to improve program objectives. In doing so, this study aims to provide valuable information from which intervention, diversion, and mentoring agencies can adopt to increase the likelihood of at-risk adolescents graduating high school.

Method
Participants

Participants consisted of 447 males and females who participated in a large youth-based mentoring program and who were enrolled in the Cincinnati Public School system (CPS). Complete data were obtained from 174 males and 273 females. Their ages ranged from 10 to 18 years old. The ethnic breakdown included African Americans (79.4 %), Caucasian (19.9 %), and Asian (.7 %). Gender of the participants included 38.9 % female and 61.1 % male. Grade levels of the participants were high school (72.9 %), middle school (23.5 %),

and elementary school (3.6 %). Of the youth who participated in this study, 66.9 % graduated from high school, and 33.1 % either dropped out of high school and/or dropped out of the mentoring program. The mean duration of participation in the mentoring program was approximately 26 months. A demographic profile of the participants is presented in Table 1.

Table 1

Demographic Characteristics of Participants

Variable	n	Percent
Gender		
Male	273	61.1
Female	174	38.9
Ethnicity		
African American	355	79.4
Caucasian	89	19.9
Asian	3	.7
Grade Level Started Program		
High School	326	72.9
Middle School	105	23.5
Elementary School	16	3.6
Program Results		
Graduated High School	299	66.9
Dropped Out of School or the Program	148	33.1

Procedures

Participants in this study were students enrolled, at any given time, in both the Cincinnati Public School (CPS) system and a large Cincinnati youth-based mentoring program over a 10-year period. The participants of this study were identified as at risk via teacher academic and behavioral reports. For purposes of this study, at risk was defined as those students who have demonstrated academic and/or school behavioral problems that render them less likely to graduate from high school.

In a collaborative effort, CPS provided the mentoring program official school records for participants in this study as they recorded data such as grade point average, grade retention, proficiency test scores, and expulsions over this 10-year period. Only those students who were matched with a volunteer mentor from the local community were tracked, recorded, and evaluated. All mentors were recruited, screened, and trained before the matching process was conducted. To ensure a positive match, both mentor and mentee interests were evaluated by mentoring program representatives. Once a prospective match was identified, an introductory interview was arranged for the mentor and mentee to decide if either party was interested in proceeding further. If both parties agreed, the mentor-mentee relationship began. Typically,

mentors met with their mentees approximately twice per month and engaged in a variety of activities. Further training (i.e., mentor feedback, communication skills, interaction skills) was offered to mentors on a quarterly basis. Participation in these training seminars was not mandatory.

All participants in this study were officially categorized as “inactive” according to the mentoring program. Participants were deemed “inactive” as they were no longer in the program as a result of graduating from high school, dropping out of high school, or voluntarily dropped out of the mentoring program. Once a person was deemed inactive, data were no longer collected from CPS by the mentoring program. Each variable was collected at different points and times over the 10-year period. For example, grade point average was collected on a quarterly basis, while grade retention, proficiency scores, and expulsions were collected on an annual basis.

Measures

All variables were measured and obtained via official school records from the Cincinnati Public School system. Variables include the following: (a) grade point average, (b) proficiency test scores, (c) grade retention, (d) expulsions, (e) age entered the program, (f) duration in program, and (g) gender. Values were gathered via summation of all data points (e.g., academic quarters or academic years) after enrollment into the mentoring program. After the values were gathered and the data aggregated, mean values were established. Reasoning for this procedure was based on the various length of time the participants were enrolled in the program and because the data for the variables were collected at different times during the school year. As a result, the measures are presented as quarterly- or yearly-means based upon their perspective method of data collection.

Grade Point Average (GPA)

GPA was measured as the student’s academic performance of class grades according to the official Cincinnati Public School grading system (0.0 – 4.0 scale). In order to determine overall GPA, official grade point averages were aggregated and divided by the total number of perspective quarters after program entry. For example, if a participant obtained a 3.85 and a 3.75 GPA during their tenure in the mentoring program, their quarterly GPA mean would be 3.80.

Proficiency Test Scores

Math and reading proficiency tests were given to all students enrolled in the Cincinnati Public School System on a yearly basis. A Normal Curve Equivalent score of 50 reflected a current match of a student’s present grade level. Scores ranged from 1 – 99 with a mean of 50 and a standard deviation of 21. The Normal Curve Equivalents of Cincinnati Public Schools proficiency tests have demonstrated reliability and validity, as it is the required score for all federal and state projects evaluating data for educational projects and programs. For this study, participants’ math and reading proficiency scores were found to be highly reliable before and after program entry. For example, a Cronbach’s Alpha of .93 was found for participants’ reading proficiency scores before and after program entry. A Cronbach’s Alpha of .89 was found for participants’ math proficiency scores before and after program entry. To determine proficiency mean scores, the researcher aggregated the values and divided by the number

of corresponding yearly tests after program entry. For example, if a participant obtained math proficiency scores of 45 and 43, their yearly math proficiency mean would be 44.

Grade Retention

Grade retention was measured by examining official school records of student’s advancement or lack of advancement to the next grade level. School records were recorded yearly as to what grade level the student was enrolled at every given year over the student’s academic tenure. For example, a student’s records may have appeared as such: ‘93 – 7th grade, ‘94 – 8th grade, ‘95 – 8th grade, ‘96 – 9th grade, ‘97 – 9th grade. Examining such records, the researcher was able to deduce that the student had a total of two years of grade retention as they repeated eighth grade and ninth grade. To determine yearly grade retention means, the researcher aggregated grade retentions and divided by the corresponding time spent in the mentoring program. For example, if a participant had been retained two grades and had been enrolled in the program for three years, their grade retention mean would be .66 grades per year.

Expulsions

Expulsions were measured by examining official school records of total number of times a student was expelled. In order to determine yearly standardized times of expulsions, the researcher aggregated yearly expulsion times and divided by the number of years a student was enrolled after program entry. For example, if a participant was expelled four times in two years, their yearly times of expulsions mean would be two times per year.

Demographics

Official school records provided duration of time spent in the mentoring program, the age at program entry, and gender of the participants enrolled in the mentoring program. Age of the participant at program entry was presented in years (e.g., 13 years of age), duration in the mentoring program was recorded in months (e.g., 15 months), and gender was recorded as 0 = female and 1 = male.

Data Analysis

This study used binary logistic regression to predict the likelihood of whether at-risk male and female adolescents completed the mentoring program (i.e., graduated from high school) or did not complete the mentoring program (i.e., dropped out of school and/or quit the program). Logistic regression allowed the researcher to determine which independent variables were likely to increase or decrease the probability of program completion. An analysis of -2LL chi-square was used to examine the goodness-of-fit model of the independent variables (i.e., GPA, grade retention, math proficiency scores, reading proficiency scores, expulsions, age, and duration of time in the program) and the dependent variable (i.e., program completion status). Finally, an analysis of proportional reduction in error was conducted to examine the fit of the logistic regression model.

Results

The research questions for this study examined to what extent the variables age of program entry, duration in program, gender, GPA, math and reading proficiency scores, and expulsions after program entry predicted whether at-risk male and female adolescents will complete

the mentoring program and graduate high school. Separate logistic regression models were examined for both male and female participants. The means and standard deviations of the independent variables (i.e., grade point average, age entered program, duration, proficiency scores, grade retention, and expulsions) and dependent variables (i.e., high school graduation) are presented in Table 2. In addition, a correlation matrix of the predictor variables is presented in Table 3.

The aforementioned variables accounted for the logistic regression equation and were entered simultaneously as predictors of completing the program and graduating from high school for at-risk male and female adolescents. For males, the variables that predicted high school graduation were age, when student started program, grade retention, and GPA. More specifically, holding all other independent variables constant, for a one-unit increase ($SD = 1.52$) in participants' age when started the program, the odds of completing the mentoring program and graduating high school are increased by approximately 55%. In addition, holding all other independent variables constant, for a one-unit increase ($SD = .84$) in GPA, the odds of completing the mentoring program and graduating high school were increased by approximately 348%. Finally, holding all other independent variables constant, for a one-unit increase ($SD = .26$) in grade retention, the odds of completing the mentoring program and graduating high school are decreased by approximately 99%. Overall, the model chi-square was found to be significant ($X^2 = 101.71, df = 7, p < .001$). Moreover, Nagelkerke pseudo R^2 indicated a high goodness of fit as the model accounted for 59% of the variance. See Table 4 for summary of the logistic regression equation variables.

Table 3

Correlation Matrix of Variables

	Age	GPA	Grade Retention	Math Proficiency	Reading Proficiency	Duration	Expulsions
Males							
Age	1.000						
GPA	-.078	1.000					
Grade Retention	-.078	.267	1.000				
Math Proficiency	.184	-.271	-.005	1.000			
Reading Proficiency	.020	.061	.271	-.634	1.000		
Duration	.408	-.078	-.021	.129	.012	1.000	
Expulsions	-.083	.152	.211	-.062	.134	.111	1.000
Females							
Age	1.000						
GPA	.068	1.000					
Grade Retention	-.052	.374	1.000				
Math Proficiency	.173	-.034	.074	1.000			
Reading Proficiency	.012	.143	.120	-.456	1.000		
Duration	.393	-.042	-.014	-.038	.083	1.000	
Expulsions	-.128	.107	.005	.013	.077	-.022	1.000

Table 2

Means and Standard Deviations of Variables

Variable	Mean	SD
Males		
Age Started Program	15.53	1.52
GPA	1.800	.84
Grade Retention	.196	.26
Math Proficiency	42.71	20.77
Reading Proficiency	43.43	18.90
Duration in Program	26.35	14.61
Total Expulsions	.15	.23
Females		
Age Started Program	15.56	1.60
GPA	2.122	.83
Grade Retention	.110	.21
Math Proficiency	45.76	16.48
Reading Proficiency	47.20	15.78
Duration in Program	25.93	14.62
Total Expulsions	.08	.17

Table 4

Logistic Regression: Predicting Program Completion

Variables	Coefficient	Statistic	p	Exp(B) ¹
Males				
Grade Retention	-4.963	14.682	.000	.007
Grade Point Average	1.498	12.158	.000	4.477
Age Started Program	.436	6.127	.013	1.547
Total Expulsions	1.055	1.065	.302	.348
Math Proficiency	-.006	.170	.679	.993
Duration in Program	.003	.044	.832	1.003
Reading Proficiency	-.001	.004	.946	.998
Females				
Grade Point Average	2.066	28.878	.000	7.899
Age Started Program	.526	13.034	.000	1.693
Math Proficiency	.029	2.596	.107	1.029
Reading Proficiency	.018	1.337	.247	1.018
Grade Retention	-1.118	1.326	.249	.326
Total Expulsions	-.784	.552	.457	.456
Duration in Program	.006	.253	.614	1.006

¹Factor by which the odds of program completion increase or decrease for a one-unit increase in the independent variable.

Note. Female Model Chi-Square = 131.32; df = 7; p < .001; Male Model Chi-Square = 101.71, df = 7, p < .001.

For females, the variables that predicted completing the program and graduating from high school were age when student started program and GPA. More specifically, holding all other independent variables constant, for a one-unit increase (SD = 1.60) in age started program; the odds of completing the mentoring program and graduating high school are increased by approximately 69%. In addition, holding all other independent variables constant, for a one-unit increase (SD = .83) in GPA, the odds of completing the program and graduating high school are increased by approximately 790%. Overall, the model chi-square was found to be significant ($X^2 = 131.32$, $df = 7$, $p < .001$). Moreover, Nagelkerke pseudo R^2 indicated a high goodness of fit as the model accounted for 56% of the variance. See Table 4 for summary of the logistic regression equation variables.

A 2 x 2 classification table examined the baseline prediction of completing the program and graduating from high school and the prediction of completing the program and graduating high school after the logistic regression equation model was entered. The baseline model for males predicted a correct classification of approximately 44%. After the logistic regression equation was examined, the model

predicted a correct classification of approximately 81%. Hence, the logistic regression equation increased the correct classification of completing the program and graduating high school by 37%. Finally, a proportional reduction in error statistic was examined to further support the classification table. More specifically, there were approximately 55% fewer errors when predicting high school graduation using the logistic regression model compared to predicting high school graduation without the logistic regression model. See Table 5 for complete summary.

In a 2 x 2 classification table for females, the baseline model predicted a correct classification of approximately 74%. After the logistic regression equation was examined, the model predicted a correct classification of approximately 84%. Hence, the logistic regression equation increased the correct classification of completing the program and graduating high school by 10%. Finally, a proportional reduction in error statistic was examined to further support the classification table. More specifically, there were approximately 39% fewer errors when predicting high school graduation using the logistic regression model compared to predicting high school graduation without the logistic regression model. See Table 5 for complete summary.

Table 5

Classification Table: Predicting Program Completion

Observed	No Completion	Completion	Percent Correct
Males			
No Completion	58	18	76.32%
Completion	16	82	83.67%
Overall % Correct 80.46%			
Females			
No Completion	40	32	55.56%
Completion	12	189	94.03%
Overall % Correct 88.88%			

Discussion

This research disconfirmed and confirmed antecedents theoretically related to academic outcomes. For example, proficiency tests, school expulsions, and duration in the program were not related to completing the program and graduating high school. However, there were several significant outcomes within this study. For both males and females, the age started the program was significant in predicting

high school graduation. Namely, the younger the age of entry into the mentoring program, the less likely male and female adolescents were to complete the program and graduate from high school. Such findings supports a litany of research that suggests the younger a child is labeled as at risk, the more likely they will experience a life-persistence course of problematic behaviors (Hickman, et al., 2008; Moffit, 1993; Sampson & Laub, 1993).

The students' GPA after they began the mentoring program was also significant in predicting high school graduation. Regardless of gender, the higher the students' GPA, the greater the students' chances were of completing the mentoring program and graduating from high school. Research has supported findings that those children who are attached to school tend to have higher GPAs and graduate high school. Conversely, those children who are not attached to school tend to have lower GPAs and drop out of high school (Anderman, 2003; Bailey & Stegeline, 2003; Sampson & Laub, 1993).

One differential predictor of completing the mentoring program and graduating high school was grade retention. More specifically, grade retention was significant in predicting whether male students would complete the program and graduate from high school but was not significant in predicting whether female students would complete the program and graduate high school. Perhaps, grade retention as a predictor of high school graduation may be related to the differential reasons surrounding grade retention for male and female adolescents (Hickman et al., 2008). Research has demonstrated that for males, grade retention appears to be centered on school detachment and poor academics while grade retention for females appears to be centered on pregnancy. Indeed, those females who are pregnant may still be attached to school despite being held back a year as a result of the birth process (Kirby, 2002).

Several limitations were inherent in this study. For example, the data prior to the adolescents entering the mentoring program were not examined. The data used to determine the outcome of the study were collected from the starting point which was taken when the students entered the mentoring program. Knowledge of the students' behavior and academic history prior to program entry may have aided in targeting interventions suitable for the specific needs of each child. Along similar lines, academic and behavioral data of those adolescents who terminated the program were unavailable for analyses. The status of high school graduation is clear for those adolescents who graduated and dropped out of school. However, it may be possible that those adolescents who terminated the program actually completed their high school education. The current method of data collection employed by the mentoring program would be unable to render such conclusions.

The intrapersonal characteristics of each student were not examined. These students were not tested for learning disabilities, Conduct Disorder, Attention Deficit Hyperactivity Disorder, and/or any other psychological characteristics that may have influenced the developmental process. Such predisposing and maintaining factors may have influenced at-risk behaviors and detachment from school (Moffit, 1993). Moreover, adolescents who have been diagnosed with such disorders typically need more comprehensive treatment(s) as opposed to just mentoring. Differential diagnoses regarding an "at-risk" population should be considered by program designers to determine

if an individual can benefit from a program like mentoring.

Demographic data regarding the adolescents' families were not available for this study. Family background information such as socioeconomic status, family structure, family size, parental drug use/abuse, and/or stress may have influenced the students' academic achievement and behavior (Heckman & Kruger, 2003; Education Policy Studies Laboratory, 2004; Orfield, 2004; Western Interstate Commission for Higher Education, 2003). Research has demonstrated that the aforementioned factors are significant predictors of attachment to academic and social endeavors (Heckman & Kruger, 2003; Orfield, 2004; Sampson & Laub, 1993). Future research may look to examine comparative analyses of family background variables to the aforementioned variables of this study.

Mentor and mentee interactions during the program were not explored. Since behavior tends to be embedded in social interactions (Patterson, 1982), having knowledge of mentor/mentee interactions may have been helpful in determining which adolescents received more positive attention than others and which techniques used by the mentors may have been more helpful in directing the adolescents toward graduation.

Implications and Conclusions

Despite such inherent limitations, this study offered several germane findings and implications for program designers. First, this study used official school data. Using official school data increased the validity of this study, as the information obtained was more valid and less prone to error. Furthermore, using official school records prevents the possibility of biased teacher and/or parental reports of adolescent behaviors.

Second, these data were collected over a 10-year period. Not only was one specific cohort of at-risk youth who participated in the mentoring program examined, but several cohorts who participated in the program and the effect that it had over time were also examined. Because data were collected over a lengthy time period and the outcomes were similar for many adolescents with many different mentors, it appears that this study demonstrated good external validity.

Third, by using logistic regression, the independent variables that had the most effect on predicting those who completed the program and graduated high school were determined. Mentoring is being used to increase the likelihood of positive future outcomes for at-risk youth (Schargel & Smink, 2001). Determining which at-risk youth would benefit from such programs will increase the likelihood of programmatic success (Andrews & Hickman, 1998).

This study indicated which variables might need to be more addressed in future program designs. Effective mentoring programs should target an appropriate audience. By focusing efforts on variables associated with program completion (whatever that particular goal may be), program designers can better concentrate on improving program outcomes and goals while simultaneously impacting youth in a positive manner.

Mentoring programs are not a panacea. By examining demographic data and predisposing and maintaining characteristics that may influence adolescents' academic achievement and behavior, it may be possible to determine which type of adolescent may or may not benefit by these types of programs. Students who have multiple

problems appearing at an earlier age may need more intensive and comprehensive programs than mentoring alone can provide. Determining these factors ahead of time may afford adolescents more opportunities to seek the appropriate help they need and prevent the practice of placing adolescents in treatment programs that may not benefit them.

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Book Review

Foundations of Critical Race Theory in Education

Reviewed by Nicholas Daniel Hartlep

Foundations of Critical Race Theory in Education.
Edward Taylor, David Gillborn, and Gloria Ladson-Billings (Eds.), 2009. New York: Routledge
[ISBN No. 978-0-415-96144-8]

November 4, 2008, marked a historic day for the U.S. government: the election of the first African American President, Barack Hussein Obama. Race relations have been relegated by many to something swept under the rug; however, with a prominent scholar like Harvard Professor Dr. Henry Louis Gates Jr. being racially profiled, does it become an important enough topic for discussion by society/media? Sadly, instances of racial profiling and discrimination occur more frequently than most would believe, and the election of Mr. Obama does not disprove racism or bigotry. It is this social and racial subordination as well as unequal treatment of people of color of which educators for social justice should be cognizant. Editors Taylor, Gillborn, and Ladson-Billings (2009) draw attention to these phenomena in *Foundations of Critical Race Theory in Education*. It is replete with powerful chapters that speak to how racism is endemic in U.S. education and suggests ways to tackle it head-on. The book is one that I argue will be a mainstay for Critical Race Theory (CRT) for decades to come and a book that all teachers for social justice must read and own.

CRT, or the radical legal movement that sought to transform the relationships among race, racism, and power, was created as a response to critical legal studies (CLS)—the legal movement that challenged liberalism, denying that law was neutral, that every case had a single correct answer, and that rights were of vital importance. People of color associated with the CLS movement were marginalized. This marginalization, frustration, and dissatisfaction with CLS led to CRT being born, issues of race forming its epicenter. CRT is concerned with racism, racial subordination, and discrimination. CRT has grown in its movement: Off-shoots or hybrids have emerged that take into account various other issues such as linguistic and immigration oppression. CRT now includes Critical Race Feminism (CRF), Latino Critical Race Studies (LatCrit), Asian American Critical Race Studies (Asian Crit) and American Indian Critical Race Studies (TribalCrit),

Queer-Crit, etc. While this list is not exhaustive, it speaks for the need of critical scholarship in the educational arena.

As the editors of this highly cerebral and critical book question:

Does the election of Barack Obama as President of the United States prove that critical race theory is not true, or at least has overstated its contrarian claims that racism is permanent? We think this is a fair and balanced question, and consider it cheerfully. One imagines the progenitors of critical race theory, those who labored in fields, kitchens, and laundries, on railroad projects, and in sweatshops not of their choosing, whose yearning for dignity and self-determination resulted in small acts of resistance whose sum turned into a social force for justice.

Gloria Ladson-Billings
David Gillborn
Edward Taylor

There are two main things that impacted me when reading this book. First is the multiplicity of perspectives on CRT in education that are presented in the book's chapters. At 364 pages in length, the book is organized into eight parts (each containing either two or three articles). Of the eight parts, part three on affirmative action had some of the most noteworthy ideas and concepts. I found Richard Delgado's article, "Affirmative Action as a Majoritarian Device: Or, Do You Really Want to Be a Role Model?" the most compelling. In this article, Delgado argues that it is clear that whites have actually been recipients of civil rights legislation. He humbly yet confidently states the following:

I am expected to tell the kids that if they study hard and stay out of trouble, they can become a law professor like me. That, however, is a very big lie: a whopper. When I started teaching law 16 years ago, there were about 35 Hispanic law

professors, approximately 25 of which were Chicano. Today, the numbers are only slightly improved. In the interim, however, a nearly complete turnover has occurred. The faces are new, but the numbers have remained the same from year to year. Gonzalez leaves teaching; Velasquez is hired somewhere else. Despite this, I am expected to tell 40 kids in a crowded inner city classroom that if they work hard, they can each be among the chosen 25. Fortunately, most kids are smart enough to figure out that the system does not work this way. If I were honest, I would advise them to become major league baseball players, or to practice their hook shots. As Michael Olivas points out, the odds, pay, and working conditions are much better in these other lines of work. (Delgado, 2009, p. 112)

Second is the care the editors took in choosing the articles to be published in this work: It is evident that the editors judiciously selected the articles that made it into the eight parts.

While there may be varied perspectives pertaining to CRT, *Foundations of Critical Race Theory in Education* bridges the gap. There exists a moral, intellectual, and racial faultline in the U.S. education superstructure. This book helps teachers and those who are interested in education understand why. It achieves this through thoughtful selections by its editors and by refusing to give a cursory look at CRT. A corollary is that it provides a grand overview and prospective of what needs to be done to improve our schools nationwide. This is a must read book, and I give it a five-star rating!

Reviewer

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