10-25-2013

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Recommended Citation
Williams, Dr. Demetrick, "The Influence of GEAR UP on Academic Achievement and College Enrollment for Low SES Learners" (2013). NERA Conference Proceedings 2013. 5.
http://digitalcommons.uconn.edu/nera_2013/5
The Influence of GEAR UP on Academic Achievement and College Enrollment for low SES Learners

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This article is a summary of the dissertation GEAR UP PROGRAM PARTICIPATION AND THE INFLUENCE ON ACADEMIC ACHIEVEMENT AND COLLEGE ENROLLMENT FOR LOW SES LEARNERS: A CORRELATION STUDY which was completed by the author at Argosy University.

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Introduction

Students who come from a lower socioeconomic status (SES) have many outside forces that cause them to not be prepared for higher education (Burleson, 2008; Ward, 2006). Studies have shown that outside factors include poor time management skills, personal relationships, financial issues, involvement in campus life, cultural identification, peer influences, parental involvement, lack of rigor in the curriculum, and limited school resources (Burleson, 2008; Ward, 2006). With all of these outside factors, low SES students still attempt to participate in their school activities (Buller, 2010). Although many low SES students remain active with extra tutoring and other programs within the school system, most are often not ready for higher education (Buller, 2010). Buller (2010) stated, “even students who are active participants in school activities and identify as ‘school kids’ cannot be successful without the knowledge and tools deemed important by the school” (p. 4). Further research has indicated that low SES students may lack the cultural knowledge required to function and succeed on a college campus (Ehlers & Wibrowski, 2007; Quaterman, 2008). When these students are at home, the culture may be completely different than their external life is, which may influence student progress within their school studies. This difference in culture can also cause a student to completely shut down at school (Buller, 2010). The constant struggle between home and school culture, combined with a low SES status, compounds student academic failure (Buller, 2010).

Problem Statement

For years, educational researchers in the United States (U.S.) have attempted to understand the causes of low academic achievement which leads to the decline in higher education for students from low SES (Ward, 2006). The lack of academic achievement and college preparedness of students from low SES has had a negative effect on their access to higher
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education (Moran, 2008). The research has indicated that early intervention programs can have a positive effect on academic achievement and college preparedness for low SES students (Beer, 2009; Dalpe, 2008; Wilkins, 2007). Early interventions programs must close the gap for low SES students by preparing them for college enrollment and improving their academic achievement (Burleson, 2008; Fram, 2007; Ramburuth, 2010).

Academic preparedness refers to the lack of the necessary skills of low SES students to have the ability to function in the 21st century as a productive member of society (Moran, 2008). Research indicates that programs, such as GEAR UP, offer support for low SES students to be better prepared to attend college (Beer, 2009; Dalpe, 2008; Fram, 2007; Johnson, 2010; USDOE, 2010; Wilkins, 2007). Awareness for low SES students also included the “level of social and procedural preparedness youths possess when they arrive on college campuses” (Burleson, 2008, p. 16). The research has also shown that early intervention programs can have a strong impact on low SES student’s academic achievement with the introduction of rigor in certain subjects (Ramburuth, 2010; NCCEP, 2009). GEAR UP program provides early intervention for low SES students in courses that would prepare them for college level work (Ramburuth, 2010; NCCEP, 2009; USDOE, 2010).

The quantitative study focused on the influence of GEAR UP participation in a CIP that was developed to teach and prepare low SES students how to plan and prepare for college (Beer, 2009; Cabrere, 2006; Johnson, 2010; Wilkins, 2007). The GEAR UP program uses many of the suggested precollege interventions from the research with a key focus in “accelerating the academic achievement of cohorts of students through their high school graduation” (Cabrere, 2006, p.78). The quantitative correlation study examined the influence of attendance in GEAR
UP on students from low SES to improve their academic achievement and enrollment in higher education.

**Purpose of Study**

The purpose of the quantitative correlation study is to examine the association between participation in the GEAR UP program with academic achievement and college enrollment for low SES students. A low SES student is defined as “a student whose family’s taxable income does not exceeds 150% of the poverty level in the calendar year preceding the year in which the individual initially participates in the project (USDOE, 2010). The poverty level amount is determined by using criteria established by the bureau of the census of the U. S. Department of Commerce (USDOE, 2010). Participation for students will be measured based on their attendance of the GEAR UP program throughout the year. Students should attend campus visits and after school programs that are offered throughout the school year. For schools to take advantage of the GEAR UP program they must have 50% of the population be low SES (USDOE, 2010; GEAR UP California, 2011).

Academic achievement will be measured by student test scores on the state of New Jersey’s annual yearly progress exams as they go through the GEAR UP program. At the middle school level and below, students take the developmental reading assessment (DRA2), Terra Nova, and the New Jersey assessment of skills and knowledge (NJASK). At the high school level, students take the high school proficiency assessment (HSPA). The quantitative correlation study will use archived data on the high school level, to explore the impact that GEAR UP has on low SES students that participate in the program.

**Research Question**
RQ1: What is the relationship between participation in the GEAR UP program and low SES students in college enrollment?

RQ2: What is the relationship between participation in the GEAR UP program on academic achievement for low SES students?

Hypotheses

HO1: There is no significant relationship between participation in GEAR UP and college entrance for low SES students.

HA1: There is a significant relationship between participation in GEAR UP and college entrance for low SES students.

HO2: There is no significant relationship between participation in GEAR UP and academic achievement for low SES students.

HA2: There is a significant relationship between participation in GEAR UP and academic achievement for low SES students

Limitations of the Study

The scope of the study will be limited to the state of New Jersey. The scope of the study will limit the target population for the study. The study will also be limited to evaluations of the whole program and not the individual participants. Because the chosen method of study is quantitative, the study will lack detailed accounts from the participants within the study. The study will include only archived data, which will eliminate the possibility of interacting with the actual participants in the programs. There is no way of determining if other variables, other than participation in GEAR UP had an impact on student achievement.

Delimitations
The study will include a limited number of institutions across New Jersey; this will limit the pool of participants for the study. The study will only be looking at students that meet all of the federal requirements for a low SES student. Data from evaluations of programs from across the state will be used limiting the control. Because only institutions that take part in the GEAR UP program will be included in this study, this could cause bias. The level of participation of each participant will be unknown and the level of participation in the program will also be unknown.

Need for the Study

Lower income students normally attend K-12 school systems that do not give them the ability to succeed in higher education. These students are too often academically unprepared to get accepted let alone succeed once they get into an institution. Guiffrida (2005) stated, “Data suggest(s) that black students face challenges beyond academic preparation and ability that impact their chances to succeed at college” (Guiffrida, 2005, p. 710). Students from low SES circumstances continue to be less prepared for higher education in spite of the efforts of the federal government and institutions. Low SES students are enrolling at a very low rate compared to students from better SES backgrounds depending on family finances, academic achievement, and what they know about higher education. The GEAR UP program provides services to this population of students with the hopes of improving academic achievement and college enrollment. This quantitative correlation study will try to determine if the GEAR UP program is effective in the state of New Jersey.

Education Significance

The results of the correlation study may lead to a better understanding of how attendance in the GEAR UP program is related to academic achievement and college enrollment for low
SES students. The study may offer information for early intervention programs for low SES students to improve their chances of preparedness for higher education. The findings of this research will contribute to low SES school districts developing new programs to help low SES students excel in higher education, by examine the effectiveness of the GEAR up program in the state of New Jersey. The correlation study will focus only on the state of New Jersey’s GEAR UP program. By gaining a better understanding of how attendance in the program can affect the perception of higher education for low SES students would show if the program is effective.

**Literature Review**

For decades the Federal government has made interventions for low SES students to increase college access through Title IV of the Higher Education Act of 1965, which gives these students aid to attend institutions of higher education through loans and grants (Perna, 2002). Private organizations, state governments, and universities have provided financial aid to low SES students to increase college enrollment for these students (The College Board, 2000; Perna, 2002). Even though college attendance has increased overall from the financial support of these institutions and the federal government, enrollment rates for low SES students are still down compared to upper and middle class students (Mortenson, 2001; Perna, 2002). Perna (2002) explained that one of the causes for the continuing differences in college enrollment by low SES families could be that “traditional interventions have focused too narrowly on the financial barriers to college enrollment without sufficient attention to the steps required to be academically, socially, and psychologically prepared to enter and succeed in college” (Gladieux & Swail, 1999; Perna, 2002, p. 64). These traditional methods have caused policy makers to recognize the limits of the traditional methods; they have also caused greater focus to be placed on precollege programs as a solution (Perna, 2002).
The following literature review will review the aspects that affect academic achievement and college enrollment for low SES students. The literature review will examine the key role that parents, guidance counselors, culture, information, and SES play in college enrollment and academic achievement for low SES students. The literature review will also begin to examine the GEAR UP program to see how it affects the college choice process for students that participate in the program. The topics that are reviewed in the literature review are important factors for the study because they help to explain the importance of increasing college enrollment and academic achievement for low SES students. These factors also help to show why early intervention programs are needed to address the issues related to low SES students. The literature review will start with social class and the roll of the parent and the affect that a parent’s involvement can have on a student. Following with the importance of information, guidance, and concluding with a review of the GEAR UP program and how it addresses the needs of the low SES student.

**Plans for Higher Education**

The federal government has been involved with precollege programs since the 1960’s through the TRIO programs. In 1998 the federal government substantially extended its involvement by starting the GEAR UP program (Perna, 2002; NCES, 2009). Both of these precollege programs are sponsored by private institution, universities, and the federal government to improve academics and general college readiness (Fenske, Geranios, Keller & Moore, 1997; NCES, 2009). These programs were developed to address the needs of four groups of students that are underrepresented in higher education: “low-income students, historically underrepresented minorities, potential first generation college students, and students with low academic achievement” (Perna, 2002, p. 65; NCES, 2009). Studies have shown that low SES students are less likely to enroll in institutions of higher education because of their family
backgrounds (Cabrera & La Nasa, 2001; Hossler, Braxton, & Coopersmith, 1989; Kane, 1994; Kane & Spizman, 1994; Manski & Wise, 1983; Rouse, 1994). These low SES students are also less likely to have plans for higher education compared to upper and middle class students (Hossler, Schmit, & Vesper, 1999; Perna, 2000c). Studies have also shown that the process for enrollment is different across racial and ethnic groups (Jackson, 1990; Perna, 2000a; St. John, 1991). Perna (2002) explains that there are three conceptual approaches that have been used to explore the differences in college enrollment behavior. One, the Econometric model shows that individuals make their college decisions on personal tastes and preferences (Hossler et al., 1989; Manski & Wise, 1983; Perna, 2000a). Two, the Sociological status attainment model focuses on the influence by family, peers, and the school environment for college choice (Hossler et al., 1999). Perna (2002) explained that the third is a combination of the econometric and the sociological models to make college choices.

Studies have shown that social capital plays a large role in understanding the differences in personal preferences, taste, and information processing with school choice (Hossler et al., 1999; Perna, 2000a). Perna (2002) stated that “the concept of social capital refers to social networks and the ways in which social networks and connections are sustained” (Morrow, 1999). Social capital can come in two forms; either information sharing channels and networks, or as social norms, values, and behaviors (Colman, 1988). Social capital can be developed either by interactions with family members or other members within the social class (Coleman, 1988; Hossler et al., 1999).

**Social Class**

A large cut in federal funding for higher education has shifted even more burden on the public to pay for college (Breneman & Finney, 1997; Mumper, 1996; Paulsen, 1991, 2000;
Paulsen & St. John, 2002). Members of the general public are forced to find new loans to pay for the rising cost of higher education rather than receive more grants to cover the cost (Paulsen & St. John, 2002). Paulsen & St. John (2002) explained the importance of social class and the large role that finances play with the student’s choice sequence to attend or not to attend an institution. The choice sequence has a few important parts that aid a student in making choices such as the formation of aspirations, opportunity, college choice, majors offered, persistence to graduate, and graduate education (Paulsen & St. John, 2002). But all of the student’s choices are influenced by the knowledge of the family when dealing with higher education (Paulsen & St. John, 2002). Paulsen & St. John (2002) explained that if the family does not have the “background, environmental and educational experiences, and policy-related factors, including postsecondary information, student aid, tuition cost, and debt forgiveness” it could have a negative effect on college attendance for some students (Paulsen & St. John, 2002, p. 192).

Parental Contribution

Auerbach (2004) explained that due to the lack of national support and the inadequate numbers of quality guidance counselors, the burden of planning for college has fallen on the shoulders of low SES students and their families. Studies have shown that the role of the parent in encouraging the student to attend institutions of higher education is pivotal (Gandara, 1995, 2002; Gandara & Bial, 1999; Hossler, Schmit, & Vesper, 1999; Jun & Colyar, 2001; McDonough, 1997; McDonough, 2000; Perez, 1999, Plank & Jordan, 2001). Parents that are college educated and from higher SES play a proactive role for their children during the selection process (Baker & Stevenson, 1986; McDonough, 1997; Useem, 1991; Yonezawa, 1997). Parents of lower SES that lack a college education support their children in attending college, but offer little knowledge of the process (Clark, 1983; Gandara, 1995; Mahan, Villanueva, Hubbard,
Lintz, 1996). Auerbach (2004) stated that “few families without a tradition of college going have sufficient knowledge to help their children navigate pathways to college” (Auerbach, 2004, p, 126). Gandara (1998) explained that the lack of knowledge of the process to attend college forms a barrier for college access for students. Studies have shown that parents are in the top three sources to provide information and help to students during the selection process, even though they lack correct information on vital information about colleges (Antonio, 2002; Post, 1990). For these parents precollege access programs are the main source for information yet most low SES families do not have access to these programs (McDonough, 2000). Delgado-Gaitan (1994) stated “knowledge is power and parents who are knowledgeable about the school’s expectations and the way in which the school operates are better advocates for their children than parents who lack such skills” (Delgado-Gaitan, 1994, p, 96).

Information and Guidance

Some families have access to information, resources, and opportunities that aid them in overcoming voids and obstacles that other families do not when it comes to the college process (Plank & Jordan, 2001). Consequences of a particular set of choices and actions help to guide families that have access during the college process (Plank & Jordan, 2001). Social stratification has developed a strong link with higher education in the United States (Hurn, 1993). The choice to attend postsecondary institutions or not has a key impact on life chances, occupational status, and wealth (Plank & Jordan, 2001). Plank & Jordan (2001) explained that amount of access that a student has to information and guidance during the high school years has a direct impact on if they will attend college or go in a different direction. Studies have shown that the United States progressively globalized and highly technical economy frankly requires the skill sets that postsecondary education offers its students (Bell, 1973; Berryman & Bailey, 1992).
Postsecondary education can have a direct positive effect on an individual’s chances to reach high social status, wealth, job stability, and many other desired outcomes (Bidwell, 1989; Sewell, Hauser, & Featherman, 1976; Tinto, 1987). Although a postsecondary education can have such an impact on a student’s life, many academically qualified students do not attend postsecondary educational institutions (PEIs) (Hanson, 1994; Karen, 1991). Plank & Jordan (2001) contribute the lack of attendance for these low SES students that are academically qualified to the lack of access to information, guidance, and actions during the high school period.

Financial Constraints

Nellum (2008) explained that financial constraints are one of the main obstacles linked to degree achievement and persistence for low SES students. Terenzini (2001) explained that persistence is frequently interconnected to an array of variables; clarifying the role of financial aid can be a difficult task. Swail (2003) found that students’ choices to enroll in certain institutions were driven by labor market returns for acquiring a bachelor’s degree. These students made the choice to attend college because evidence showed that college graduates have higher annual and life time earning capabilities (Nellum, 2008). Nellum (2008) explained that low SES students need to see the benefits in completing a college degree and acquiring the costs associated with enrollment. Studies have shown that low SES students are influenced by the availability of financial aid to counterbalance the cost of higher education (St. John, 1991; Swail et al., 2003).

The Participant

Studies have shown that low SES students deal with three main inequalities in higher education: these students attend college less than others, college completion is very low, and they attend 4 year selective colleges rarely compared to students from higher SES backgrounds.
(Engle, Bermeo, & O’Brien, 2006; Gladiuex & Swail, 1998; Kahlenburg, 2004; Terenzini et al., 2001; Titus, 2006; USDOE, 2000; Walpole, 2003). Berzin (2010) explained that low SES students have other factors that affect college attainment such as gender, race, family background, institutional context, parent academic involvement, and school experiences. Studies have shown that inferior rates of college attendance and completion are frequently related to other factors such as the student being a 1st generation, and having inadequate academic preparation (Engle et al, 2006; Heller, 2004).

**Environment of the Participants**

Educators are becoming progressively conscious of the potential associations that occur between educational achievement, social-emotional competence, and social support (Elliott, Malecki, & Demaray., 2001; Welsh, Parke, Widaman, & O’Neal, 2001; Zins, Weissberg, Wang, & Walberg, 2004). Elias and Hayes (2008) stated that “research has shown that early social interactions and the quality of these interactions provide the basis for future developmental milestones” (Elias & Hayes, 2008, p, 474; Vygotsky, Reiber, & Carton, 1987). Studies have shown the role that emotion recognition, regulation, and related social-emotional skills can have on effective social interaction (Saarni, 2007). Intervention programs can target these skills to promote positive interactions and program designed models for academic achievement (Elias & Arnold, 2006).

**The Impact of Culture**

Stakeholders within the school community find achievement and motivation to play a key role in academic success (Pintrich & Schunk, 1996). Studies have shown that cultural differences have a strong effect on achievement and motivation (Henderlong & Lepper, 2002; Kaplan, Karabenick, & DeGroot, 2009; Maehr & Yamaguchi, 2001; Otsuka & Smith, 2005;
Urdan & Maehrer, 1995). These cultural differences between school and home have caused parents and teachers to deal with these issues from completely different points of view (Rothstein-Fisch & Trumbull, 2008). If school districts want their students to be successful the district must develop a full understanding of how achievement and motivation differs culturally within the district’s population (Rothstein-Fisch & Trumbull, 2011).

Members of the school staff must develop an understanding of how parents socialize with their students about academic achievement (Rothstein-Fisch & Trumbull, 2011). During the contact with the parent these members of the staff can help those parents to develop an understanding of the school culture and what the school expects from their children (Rothstein-Fisch & Trumbull, 2011). Studies have shown that this type of communication is key in development of a relationship between the school and parents (Shor & Bernard, 2003; Trumbull, Rothstein-Fisch, Greenfield & Quiroz, 2001).

The Importance of Guidance and Mentors

Guiffrida (2005) explains that counselors can do great things to help students prepare and retain these students through counseling. Counselors can encourage students to take part in student organizations which will be vital in some cases for social integration. Guiffrida (2005) warns counselors that they must “caution students about the potential limitations of over involvement in student organizations” (Guiffrida, 2005, p 711). Guiffrida (2005) explains that counselors must work with students and parents ahead of time to understand what they should be considering success in college. The combination of working with the parent and student and teaching them systemic leadership strategies will help the student to get the full advantage of the organization without losing out on academics (Guiffrida, 2005).
In 1998 during President Clinton’s state of the union address he asked Congress to help disadvantaged children in America by helping colleges and other institutions give these children and their parents the guidance and support they need to go to college (Gardner, 2009). An answer to the President’s request two federal programs were used to develop the GEAR UP program. The two precursors to the GEAR UP program were State Student Incentive Grant (SSIG) originally funded by Congress in 1973 and the National Early Intervention Scholarship and Partnership program (NEISP) which was introduced with the 1992 reauthorization of the Higher Education Act (Gardner, 2009). In 1998 GEAR UP was introduced during the reauthorization of the Higher Education Act by the federal government (NCES, 2010). All of the NEISP requirements for state grants were grandfathered over to GEAR UP with the addition of giving grants for regional partnership programs (Gardner, 2009). The regional partnerships should have a minimum of one local Educational Agency (LEA), minimum of one elementary and secondary school, postsecondary education institution, two or more community organizations including businesses, philanthropic organizations, or other community-based agencies (Gardner, 2009).

The GEAR UP program began full operation in 2001 with the three objectives for low SES students:

1. Increase the academic performance and preparation for postsecondary education of participating students

2. Increase the rate of high school graduation and participation in postsecondary education of participating students
3. Increase educational expectations for participating students and student and family knowledge of postsecondary education options, preparation, and financing (DOE, 2006, p. 23).

With these objectives in mind two types of grants are awarded by the GEAR UP program for a six year span of time. The first grant is given to the state so that it can meet GEAR UP objectives state wide. The state can distribute these funds to local and regional institution across that state to help low SES students prepare for college. The second grant is for partnership programs that are made up of local education agencies, postsecondary education institutions, school districts, and other community agencies that have come together to help students (Gardner, 2009). Gardner (2009) stated that there are “two characteristics of the GEAR UP initiative (a) a required one-to-one match leading to sustainability in operational and funding status and (b) a cohort approach” (Gardner, 2009, p.31). GEAR UP members must have at least 50% of their funding from their partners, these partners can include state governments, institutions of higher education, and/or community organizations and businesses (DOE, 2006; NCES, 2009).

**Methodology**

The purpose of the quantitative correlation study is to explore the association between participation in the GEAR UP program with academic achievement and college enrollment for low SES students. GEAR UP was developed in 1998 to improve public education and to increase low SES students’ access to higher education (NCCEP, 2009; NCES, 2010). GEAR UP is designed to help students develop the skills that they need to improve academic achievement and prepare for higher education (NCCEP, 2009; NCES, 2010). The program provides low SES students with research based early intervention strategies that incorporate: academic support;
information about postsecondary education and financial aid; scholarships; counseling services; and other relevant strategies (NCCEP, 2009; NCES, 2010). The program enables states and low SES communities to develop plans to strengthen their schools so that their students will have more opportunities (NCCEP, 2009; NCES, 2010). GEAR UP gives support to states, school districts, local business, colleges, and community based organizations as they work collectively to inform, train, and support low SES students and their parents to obtain a degree in higher education (NCCEP, 2009; NCES, 2010). The program supports states, school districts, local business, colleges, and community based organizations through grants. These grants allow them to develop and expand programs that will help low SES students gain access to higher education. The non-experimental design for the quantitative correlation study will assess associations between participation in the GEAR UP program, academic achievement, and college enrollment for low socioeconomic (SES) students in New Jersey. The study will use archival data to collect the study variables and the study will focus on the state of New Jersey participants in the GEAR UP program. The three study variables include (a) participation in the GEAR UP program (b) academic achievement as measured by the HSPA, NJASK, TERRA NOVA test, and (c) SES. The National Council for Community and Education Partnerships (NCCEP) will be contacted for data and evaluations on the GEAR UP program. Archival data will be collected from the National Center for Educational Statistics (NCES) and from the NCCEP for the study. The following research questions will be asked to guide the study:

1. What is the relationship between the GEAR UP program and low SES students in college acceptance?

2. What is the relationship between participation in the GEAR UP program on academic achievement for low SES students?
Research Design

The framework of the study will function on the theoretical and methodological assumptions of the quantitative correlational research method. A quantitative correlational design offers an opportunity for the researcher to predict scores and describe the relationship among variables (Creswell, 2012). Creswell (2012) stated that “in correlational research design, investigators use the correlation statistical test to describe and measure the degree of association (or relationship) between two or more variables” (Creswell, 2012, p. 338). In this design, researchers do not try to control or manipulate the variables like an experiment; in its place researchers relate, using the correlation statistic of two or more scores for each of the participants (Creswell, 2012). The quantitative correlational method is used to relate two or more variables to determine if they have any influence on each other (Creswell, 2012). This method allows the researcher to predict an outcome (Creswell, 2012).

Participants

One of President Clinton’s most exciting programs to emerge from the Higher Education Amendments of 1998 was the GEAR UP program (NCCEP, 2010). GEAR UP is intended to encourage student achievement and facilitate more college access (NCCEP, 2010). NCCEP stated that GEAR UP “is aimed at enabling low-income communities and states to create new or expanded K–16 education partnerships and action plans that strengthen schools and provide more and improved education opportunities for low-income students” (NCCEP, 2010, p. 15). GEAR UP uses proven models to support local schools, community-based organizations, businesses, institutions of higher education, and states to improve academic achievement and college access for low SES students. The U.S. Department of Education uses GEAR UP as a tool
to attack the challenge head on of improving academic achievement and college success for low SES students (NCCEP, 2010).

The State of New Jersey’s GEAR UP program is currently working on the second federal grant in its efforts to prepare low SES students for higher education (NJ GEAR UP, 2011). The program works with students, families, and teachers in 30 middle and high schools in seven different urban centers (NJ GEAR UP, 2011). These school districts work with five higher education partner institutions that motivate students to obtain college degrees by providing the following services (NJ GEAR UP, 2011, p. 20):

- Academic and personal counseling
- GEPA, HSPA, PSAT, and SAT prep classes
- A 6-week summer program on a college campus
- Help with college applications
- Professional development for teachers
- Mentoring
- After-school tutoring
- College visits and tours
- Financial aid information workshops
- Cultural and educational field trips
- College scholarships

The seven urban centers and the higher education partners work together to emphasize the importance of low SES students taking rigorous high school courses to further prepare them for higher education. Students that take part in the NJ GEAR UP program are also eligible for the
state’s Educational Opportunity Fund (EOF) program (NJ GEAR UP, 2011). The EOF program also offers financial assistance and summer programs for low SES students in the state of New Jersey (NJ GEAR UP, 2011). New Jersey teams up with Higher Education Student Assistance Authority and GEAR UP to provide information to low SES students and their parents on how to pay for higher education in New Jersey. The NJ GEAR UP program only requires that students meet three requirements for eligibility:

- Attend one of the NJ target GEAR UP schools
- Be eligible for free or reduced price lunch
- Show motivation to prepare for college

For this study there will be no direct contact with the participants in the GEAR UP program. All of the data that will be collected will come from archival data sets. The archival data sets will come from NCCEP and NCES that supplies the public with information on educational programs across the country. Because the purpose of the quantitative correlation study is to explore the association between participation in the GEAR UP program with academic achievement and college enrollment for low SES students it is important that a description of the program and the institutions that will offer these services to these students is defined in the participant section. The researcher has described these three institutions because they are the three largest and most diverse institutions in the state of New Jersey that participate in the GEAR UP program.

**Description of Institutions**

The first state institution is located in a wealthy suburban environment in northern New Jersey. The institution services more than 2,600 students on campus in 10 dorm buildings and another 8,000 commuter students. The campus sits on 370 acres of wooded land which holds 38 buildings and a complete sports complex for 13 intercollegiate sports programs. Because the
institution is located in the mountains, students also have access to hiking, small mountain climbing, and water fall explorations. The institution offers over 250 undergraduate and graduate academic programs within five colleges: arts and communications, business, education, humanities and social sciences, and science and health. The institution also offers certification programs in education. Pre-professional programs in dentistry, law, medicine, and veterinary medicine are arranged at the request of students. The second state institution is located in an urban environment in northern New Jersey. The institution services more than 3,750 students on campus in 8 dorm buildings and another 13,850 commuter students. The campus sits on 252 acres which holds 52 buildings and it has 17 intercollegiate sports programs. The institution offers close to 300 majors, minors, concentrations, and certificate programs for graduate and undergraduate students.

The National Council for Community and Education Partnerships (NCCEP) was developed to improve public k-16 education. The NCCEP hopes to reach its goal through: creating education/community partnerships, linking schools and communities, developing new research-based college access programs, and supporting the implementation of proven educational strategies” (National Council for Community and Education Partnerships, 2004). The NCCEP plans to use the findings from research to develop successful frameworks for action (National Council for Community and Education Partnerships, 2004). NCCEP is determined to strengthen the standard of equal educational opportunity for all students (National Council for Community and Education Partnerships, 2004). The work that NCCEP does is intended to: “help improve public education, increase students' academic achievement levels, and increase low-income students' access to higher education” (National Council for Community and Education Partnerships, 2004). In order to complete this work, NCCEP connects colleges and
universities with local k-12 districts, parent groups, businesses, government agencies, foundations, corporations, and “community-based organizations to create systemic change in education” (National Council for Community and Education Partnerships, 2004).

The National Center for Education Statistics (NCES) was developed to provide a wide-range of information about NCES mission and activities, to serve the research, for education and to provide additional information to interested groups (NCES, 2009). NCES is one of the federal government’s units for gathering and investigating data that relates to education in the United States (NCES, 2009). NCES is a part of the U. S. Department of Education and the Institute of Education Sciences (NCES, 2009). The National Center for Education Statistics “fulfills a Congressional mandate to collect, collate, analyze, and report complete statistics on the condition of American education; conduct and publish reports; and review and report on education activities internationally” (NCES, 2009, p. 32). NCES has a wide-ranging Statistical Standards Program that provides advice and consultation on methodological and statistical aspects that aid in the design, collection, and analysis of data collection (NCES, 2009). NCES offers all of its programs and archived data sets to the general public so that they can use this information to make well informed decisions concerning educational issues (NCES, 2009).

Access Permission

Archival data will be gathered from NCCEP and NCES. NCES and NCCEP are both public institutions that work hand and hand with the government to provide educational statistics to the public. These institutions provide the public with concise data to make intelligent decisions about educational issues (NCCEP, 2010; NCES, 2010). Members of the public are free to pull data directly from the NCCEP and NCES web sites, or contact members of the NCCEP, or NCES staff for help collecting data sets (NCCEP, 2010; NCES, 2010). The study
will focus on the state of New Jersey’s GEAR UP program’s academic achievement, participation, and low SES students archived data sets.

**Description of Data Collection**

The study will use the archival data to explore associations between participation in the GEAR UP program and achievement and college enrollment for low SES students. NCCEP and NCES give the public access to education statistics so that members of the public can make intelligent decisions when it comes to educational issues. Members of the public can choose the state, grade levels, type of tests, and years that they wish to collect the data. The data is provided in SPSS or Excel formats upon request. For the study, NCCEP and NCES will be contacted to collect archival data on the state of New Jersey. The study will review evaluation and test scores of students that participated in the GEAR UP program in the state of New Jersey to explore if an association exists between the variables and the program. The archival data that is received will be placed in the Statistical Package for Social Sciences (SPSS). SPSS will be used to analyze the data using descriptive statistics. Statistical tests will be run to explore if any relationships exist between the variables and the hypotheses for the study. The following hypotheses will be used to guide collection of the data and analysis:

- **H01**: There is no relationship between participation in GEAR UP and college entrance for low SES students.
- **HA1**: There is a significant relationship between participation in GEAR UP and college entrance for low SES students.
- **H02**: There is no relationship between participation in GEAR UP and academic achievement for low SES students.
➢ HA2: There is a significant relationship between participation in GEAR UP and academic achievement for low SES students.

Instrumentation

The quantitative correlation study will focus on archived data sets, primarily archived data on academic achievement and participation in the GEAR UP program for low SES students. The quantitative correlation study will focus on HSPA archived data sets for high school students. This quantitative correlation study will use a non-parametric measure of strength and direction to show if an association exists between the variables. The Spearman Rank Correlation coefficient test is used for variables that are ordinal, ratio, and interval that do not meet the necessary assumptions to use the Pearson’s correlation (Choudhury, 2009; Lund Research, 2012). In many cases a researcher would use the Pearson correlation when dealing with ratio or interval data sets, but when the assumptions of the Pearson correlation are not met the Spearman correlation can be used (Choudhury, 2009; Lund Research, 2012). Another assumption for the Spearman Rank Correlation Coefficient is a monotonic relationship between the variables. A monotonic relationship is a relationship that does one of the following: (1) as the value of one variable increases so does the value of the other variable or (2) as the value of one variable increases the other variable value decreases. Examples of monotonic and non-monotonic relationships are presented in the diagram below: (Lund Research, 2012, p. 4)
The monotonic relationship is important to the Spearman Rank Correlation because the relationship is less restrictive compared to the linear relationship in the Pearson correlation (Lund Research, 2012). Lund Research (2012) explained that the middle image above explains this point well: “A non-linear relationship exists but the relationship is monotonic and is suitable for analysis by Spearman's correlation but not by Pearson's correlation” (Lund Research, 2012, p. 4).

**Planned Data Analysis**

The quantitative correlation study will use the Statistical Package for the Social Sciences (SPSS) to conduct the correlation analysis. The variables for the quantitative correlation study will have three different levels of measurement. The variables for the study are participation (Ordinal, did the student attend), academic achievement (Ratio, Test scores), and low SES (Interval). Since the levels of measurement are different among the variables the Spearman Rank correlation coefficient test will be used to measure the variables (Choudhury, 2009). The Spearman Rank Correlation Coefficient test is used to find correlation in the variables, when the levels of measurement are different among those variable (Choudhury, 2009). The Spearmen Rank Correlation Coefficient test will assess the variables without making any assumption about
their relationship (Choudhury, 2009). Since the quantitative study is using archived data, information about the parameters of the variables can be undetermined. The lack of information makes the correlation of the variables non-parametric (Choudhury, 2009). Therefore the study will use the Spearman Rank Correlation Coefficient to measure the variables. Choudhury (2009) stated the “Spearman rank correlation coefficient tries to assess the relationship between ranks without making any assumptions about their relationship” (Choudhury, 2009, p. 3). In the place of the $r$ coefficient, researchers utilize the Spearman rho ($r_s$) correlation coefficient for nonlinear data and for other types of data measured on a categorical scale (Creswell, 2012).

**FINDINGS**

The purpose of the quantitative correlation study is to examine the association between participation in the GEAR UP program with academic achievement and college enrollment for low SES students. The quantitative correlational study used archival data to find associations within the variables for the study. The study was guided by two research questions.

1. What is the relationship between participation in the GEAR UP program and low SES student’s college enrollment?

2. What is the relationship between participation in the GEAR UP program on academic achievement for low SES students?

**Data**

The following table compares the demographics of the GEAR UP and non-GEAR UP middle school students. The archival data was taken from the 2008 final report on the GEAR UP program. The table shows the characteristics of GEAR UP and non-GEAR UP students on the national level.
### COMPARISON OF CHARACTERISTICS OF GEAR UP AND NON-GEAR UP STUDENTS IN THE NATIONAL EVALUATION

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>All public middle schools (%)</th>
<th>GEAR UP program nationally (%)</th>
<th>National Evaluation of GEAR UP (%)</th>
<th>Non-GEAR UP middle schools (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>51</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Female</td>
<td>49</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African-American</td>
<td>17</td>
<td>30</td>
<td>25</td>
<td>19</td>
</tr>
<tr>
<td>Asian</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Hispanic</td>
<td>16</td>
<td>36</td>
<td>31</td>
<td>25</td>
</tr>
<tr>
<td>Native American</td>
<td>1</td>
<td>5</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>White</td>
<td>62</td>
<td>26</td>
<td>35</td>
<td>48</td>
</tr>
<tr>
<td>Special programs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IEP[^a]</td>
<td>13</td>
<td>11</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>LEP[^b]</td>
<td>8</td>
<td>12</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>NSLP[^d]</td>
<td>37</td>
<td>N/A[^e]</td>
<td>65</td>
<td>62</td>
</tr>
</tbody>
</table>

[^a]: Comparison between GEAR UP and non-GEAR UP students who remained in the evaluation through the end of eighth grade.
[^b]: Individualized Education Program
[^c]: Limited English Proficient
[^d]: National School Lunch Program
[^e]: Not available, however, to be eligible, at least 50 percent of the students in the school must be eligible for free or reduced-price meals.

For the final report non-GEAR UP schools were chosen based on their similarity to GEAR UP schools. The GEAR UP partnerships aided a greater percentage of minority students than the national average for middle school students.

During the national report approximately 1,800 participants in the GEAR UP program reported to have participated in over 2,700 GEAR UP events. The following archival data shows the percent of students that reported participation in various activities.
PERCENT OF STUDENTS SELF_REPORTING PARTICIPATION IN VARIOUS ACTIVITIES

<table>
<thead>
<tr>
<th>Activities</th>
<th>GEAR UP students</th>
<th>Non-GEAR UP students</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received homework help</td>
<td>43</td>
<td>47</td>
<td>-4*</td>
</tr>
<tr>
<td>Received tutoring in math</td>
<td>28</td>
<td>32</td>
<td>-4*</td>
</tr>
<tr>
<td>Received tutoring in English or language arts</td>
<td>19</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>Received tutoring in science</td>
<td>15</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>Met with an adult mentor such as Big Brother or Big Sister</td>
<td>29</td>
<td>23</td>
<td>6*</td>
</tr>
<tr>
<td>Attended one-on-one counseling or advising session about getting ready for high school</td>
<td>46</td>
<td>40</td>
<td>6*</td>
</tr>
<tr>
<td>Attended one-on-one counseling or advising session about getting ready for college</td>
<td>34</td>
<td>22</td>
<td>12*</td>
</tr>
<tr>
<td>Attended a class or meeting about getting ready for college</td>
<td>50</td>
<td>29</td>
<td>21*</td>
</tr>
<tr>
<td>Attended a class or meeting about how to study better</td>
<td>23</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>Attended a class or meeting about possible careers after school completion</td>
<td>56</td>
<td>55</td>
<td>1</td>
</tr>
<tr>
<td>Visited a college campus</td>
<td>59</td>
<td>34</td>
<td>25*</td>
</tr>
<tr>
<td>Visited a job site or talked with someone about their job</td>
<td>48</td>
<td>48</td>
<td>0</td>
</tr>
</tbody>
</table>

*Statistically significant at the 0.05 level.

Research Question One

The following archival data was collected from the 2010 program performance report and the 2005 evaluation of New Jersey GEAR UP program. The following data was used to determine research question 1 of the study.

<table>
<thead>
<tr>
<th>Measure 2.3 of 3: The percentage of former GEAR UP students who are enrolled in college. (Desired direction: increase)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>Target</td>
</tr>
<tr>
<td>2006</td>
<td>55.2</td>
</tr>
<tr>
<td>2007</td>
<td>65</td>
</tr>
<tr>
<td>2008</td>
<td>65.5</td>
</tr>
</tbody>
</table>
Chart 1 (MEASURE 2.3 of 3) was pulled from the 2010 program performance report. In 2007 progress was made in the percent of college going students in the program. In 2008 there was a slight drop in college enrollment for students in the GEAR UP program. The next set of archival data was pulled from the 2005 evaluation of the New Jersey GEAR UP program. The next two tables show college enrollment rates for New Jersey GEAR UP students. For display 9 and 10 labeled as initial college-going rates of NJ GEAR UP state project cohorts, display 10 overall college-going rate of NJ GEAR UP state project the figures show the number of students that participated in the program that enrolled in college as well as subsets of students that stayed in state and out of state colleges. Cohort 5 contains incomplete data and could not be fully evaluated. Cohorts 1-4 show a pattern of success. The data used is for students that participated in the program during the time period of the evaluation. The participants that are used did not go through the program from 7th grade 12th grade. These participants took part in the program from their initial grade. In some cases students could have started in the 9th or 10th grade in the program. The evaluation focused only on the first four years of the program between 2001-2004 which was the only full years of complete data at that point. In display 9, between 61%-100% of students that complete the program enroll in institutions of higher education. The table shows each cohort separately. The data shows the percent of students that went to college as well as the percent of students that stayed in state and went to out of state institutions. The data shows patterns of success for the GEAR UP program with college enrollment. The display 10 tracked
cumulative college attendance for participants in the GEAR UP program. The data showed that 83.2% of the participants were enrolled at an institution of higher education.

INITIAL COLLEGE-GOING RATES OF NJ GEAR UP STATE PROJECT COHORTS

<table>
<thead>
<tr>
<th>First AY (00-01)</th>
<th>Cohort 1 01-02</th>
<th>Cohort 2 02-03</th>
<th>Cohort 3 03-04</th>
<th>Cohort 4 04-05</th>
<th>Cohort 5 04-05</th>
</tr>
</thead>
<tbody>
<tr>
<td># Completers</td>
<td>47</td>
<td>45</td>
<td>34</td>
<td>23</td>
<td>86</td>
</tr>
<tr>
<td>Enrolled in college</td>
<td>47</td>
<td>41</td>
<td>6</td>
<td>36</td>
<td>30</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
<td>9</td>
<td>7</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>College Enrollment Rate (includes reports of out of state enrollment)</td>
<td>100.0%</td>
<td>80.0%</td>
<td>79.4%</td>
<td>60.9%</td>
<td>79.1%</td>
</tr>
<tr>
<td>New Jersey</td>
<td>% of total college enrollees attending NJ</td>
<td>87.2%</td>
<td>83.3%</td>
<td>88.9%</td>
<td>85.7%</td>
</tr>
<tr>
<td>Out of State</td>
<td>% of total college enrollees attending college out</td>
<td>12.8%</td>
<td>16.7%</td>
<td>11.1%</td>
<td>14.3%</td>
</tr>
<tr>
<td>Non-College (% of completers with no known college enrollment decision)</td>
<td>0.0%</td>
<td>20.0%</td>
<td>20.6%</td>
<td>39.1%</td>
<td>20.9%</td>
</tr>
<tr>
<td>STATUS OF ALL COMPLETERS</td>
<td>87.2%</td>
<td>66.7%</td>
<td>70.6%</td>
<td>52.2%</td>
<td>66.3%</td>
</tr>
<tr>
<td>Enrolled in NJ Inst</td>
<td>12.8%</td>
<td>13.3%</td>
<td>8.8%</td>
<td>8.7%</td>
<td>12.8%</td>
</tr>
<tr>
<td>Not enrolled out of state</td>
<td>0.0%</td>
<td>20.0%</td>
<td>20.8%</td>
<td>39.1%</td>
<td>20.9%</td>
</tr>
</tbody>
</table>
OVERALL COLLEGE-GOING RATE OF NJ GEAR UP STATE PROJECT

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Cohorts 1 &amp; 2</th>
<th>Cohorts 1, &amp; 3</th>
<th>Cohorts 1, 3, &amp; 4</th>
<th>Cohorts 3, 4, &amp; 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>First AY</td>
<td>00-01</td>
<td>01-02</td>
<td>2, 3</td>
<td>2, 3</td>
</tr>
<tr>
<td># Completers</td>
<td>47</td>
<td>92</td>
<td>126</td>
<td>149</td>
</tr>
<tr>
<td>Total</td>
<td>NJ out of state</td>
<td>Total</td>
<td>NJ out of state</td>
<td>Total</td>
</tr>
<tr>
<td>Enrolled in college</td>
<td>47</td>
<td>41</td>
<td>6</td>
<td>83</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
<td>9</td>
<td>16</td>
<td>25</td>
</tr>
<tr>
<td>College Enrollment Rate (includes reports of out of state enrollment)</td>
<td>100.0%</td>
<td>90.2%</td>
<td>87.3%</td>
<td>83.2%</td>
</tr>
<tr>
<td>New Jersey</td>
<td>% of total college enrollees attending NJ institutions</td>
<td>87.2%</td>
<td>85.5%</td>
<td>86.4%</td>
</tr>
<tr>
<td>Out of State</td>
<td>% of total college enrollees attending college out</td>
<td>12.8%</td>
<td>14.5%</td>
<td>13.6%</td>
</tr>
<tr>
<td>Non-College (% of completers with no known college enrollment decision)</td>
<td>0.0%</td>
<td>9.8%</td>
<td>12.7%</td>
<td>16.8%</td>
</tr>
<tr>
<td>STATUS OF ALL COMPLETERS</td>
<td>Enrolled in NJ Inst</td>
<td>87.2%</td>
<td>77.2%</td>
<td>75.4%</td>
</tr>
<tr>
<td>Enrolled out of state Not enrolled</td>
<td>12.8%</td>
<td>13.0%</td>
<td>11.9%</td>
<td>11.4%</td>
</tr>
<tr>
<td>0.0%</td>
<td>9.8%</td>
<td>12.7%</td>
<td>16.8%</td>
<td>18.3%</td>
</tr>
</tbody>
</table>

Research Question Two

The next set of data is from the 2005 evaluation of New Jersey GEAR UP, the 2008 final report, and the 2010 program performance report on the GEAR UP program. This set of data is
used to answer research question two. The following data will help to explain the relationship between participation and academic achievement for low SES students. Chart one (table 3-1a) of the archival data showed correlation between the GEAR UP program and rigorous core course taking. The chart also shows scoring on the college orientation index for GEAR UP and non-GEAR UP students. Chart two (Table 3-1b) shows the different types of mathematics courses taken by GEAR UP and non-GEAR UP students. The third chart (Table 3-1c) shows the associations between GEAR UP and the level of science courses taken by students. Chart four (Table 3-1d) shows association between GEAR UP and the level of English courses taken by students. Chart five (Table 3-1f) shows association between GEAR UP and the level of academic rigor in students’ courses. Chart six (Table 3-1g) shows the association between the program and the level of academic performance for students. Chart seven (Table 3-1h) shows the percentage of students with high levels of academic performance. Tables 3-1a – 3-1h are used to explain the level of academic achievement for participants in the program. These students took courses with higher levels of rigor and excelled academically.

**Table 3-1 a. Association for GEAR UP with percentage of students taking more challenging core academic courses**

<table>
<thead>
<tr>
<th>Measure and subgroup</th>
<th>GEAR UP (%)</th>
<th>Non-GEAR UP (%)</th>
<th>Difference (%)</th>
<th>95% Confidence interval (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of students enrolled in algebra</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>33.6</td>
<td>22.9</td>
<td>10.6</td>
<td>(-2.3,23.6)</td>
</tr>
<tr>
<td>Middle 1/3 on College Orientation Index</td>
<td>30.9</td>
<td>21.0</td>
<td>9.8</td>
<td>(-5.7,25.3)</td>
</tr>
<tr>
<td>African-American</td>
<td>18.5</td>
<td>9.6</td>
<td>9.0</td>
<td>(-5.9,23.8)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>49.0</td>
<td>39.8</td>
<td>9.2†</td>
<td>(-16.2,34.5)</td>
</tr>
<tr>
<td>First-generation student</td>
<td>32.3</td>
<td>21.9</td>
<td>10.4†</td>
<td>(-2.0,22.8)</td>
</tr>
</tbody>
</table>
### Table 3-1 b. Association for GEAR UP with level of mathematics courses taken

<table>
<thead>
<tr>
<th>Measure and subgroup</th>
<th>GEAR UP (%): All</th>
<th>Non-GEAR UP (%): All</th>
<th>Difference</th>
<th>95% Confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of all students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remedial or no mathematics</td>
<td>2.7</td>
<td>3.4</td>
<td>-0.7</td>
<td>(-3.9, 2.5)</td>
</tr>
<tr>
<td>Nonacademic mathematics^a</td>
<td>44.5</td>
<td>35.1</td>
<td>9.3</td>
<td>(-17.5, 36.2)</td>
</tr>
<tr>
<td>Pre-algebra</td>
<td>19.3</td>
<td>38.5</td>
<td>-19.3*</td>
<td>(-42.3, 3.8)</td>
</tr>
</tbody>
</table>

*a* Statistically significant differences at the 5-percent level. † Statistically significant differences at the 10-percent level.

NOTES: Estimates in this table were prepared with replicated counterfactual projection (CFP) weights. Detail may not sum to totals because of rounding.
<table>
<thead>
<tr>
<th>Course</th>
<th>Percentage of Students in Middle 1/3 on</th>
<th>College Orientation Index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Remedial or no mathematics</td>
<td>1.8, 1.6, 0.2 (-1.8, 2.1)</td>
</tr>
<tr>
<td>Algebra</td>
<td>Nonacademic mathematics</td>
<td>46.8, 38.6, 8.1 (-17.7, 33.9)</td>
</tr>
<tr>
<td></td>
<td>Pre-algebra</td>
<td>20.6, 38.7, -18.1 (-41.1, 4.9)</td>
</tr>
<tr>
<td></td>
<td>Algebra</td>
<td>30.9, 21.0, 9.8 (-5.7, 25.3)</td>
</tr>
<tr>
<td>Percentage of African-American students</td>
<td>Remedial or no mathematics</td>
<td>1.8, 6.2, -4.4 (-12.4, 3.7)</td>
</tr>
<tr>
<td></td>
<td>Nonacademic mathematics</td>
<td>59.3, 57.0, 2.3 (-22.9, 27.6)</td>
</tr>
<tr>
<td></td>
<td>Pre-algebra</td>
<td>20.3, 27.2, -6.9 (-26.6, 12.7)</td>
</tr>
<tr>
<td></td>
<td>Algebra</td>
<td>18.5, 9.6, 9.0 (-5.9, 23.8)</td>
</tr>
<tr>
<td>Percentage of Hispanic students</td>
<td>Remedial or no mathematics</td>
<td>5.3, 3.1, 2.2 (-1.6, 6.0)</td>
</tr>
<tr>
<td></td>
<td>Nonacademic mathematics</td>
<td>36.7, 32.9, 3.8 (-22.3, 29.8)</td>
</tr>
<tr>
<td></td>
<td>Pre-algebra</td>
<td>9.0, 24.2, -15.1 (-38.5, 8.2)</td>
</tr>
<tr>
<td></td>
<td>Algebra</td>
<td>49.0, 39.8, 9.2 (-16.2, 34.5)</td>
</tr>
<tr>
<td>Percentage of first-generation students</td>
<td>Remedial or no mathematics</td>
<td>2.3, 2.9, -0.6 (-4.3, 3.2)</td>
</tr>
<tr>
<td></td>
<td>Nonacademic mathematics</td>
<td>44.1, 36.3, 7.8 (-21.0, 36.6)</td>
</tr>
<tr>
<td></td>
<td>Pre-algebra</td>
<td>21.3, 39.0, -17.7 (-42.5, 7.2)</td>
</tr>
<tr>
<td>Algebra</td>
<td></td>
<td>32.3, 21.9, 10.4† (-2.0, 22.8)</td>
</tr>
</tbody>
</table>

* Statistically significant differences at the 5-percent level.
† This term is used by NCES to describe general and basic skills mathematics classes.

NOTES: Estimates in this table were prepared with replicated counterfactual projection (CFP) weights. Detail may not sum to totals because of rounding.
Table 3-1c. Association for GEAR UP with level of science courses taken

<table>
<thead>
<tr>
<th>Measure and subgroup</th>
<th>GEAR UP (%)</th>
<th>Non-GEAR UP (%)</th>
<th>Difference</th>
<th>95% Confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Percentage of all students</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remedial or no science</td>
<td>1.1</td>
<td>6.8</td>
<td>-5.6</td>
<td>(-15.6,4.3)</td>
</tr>
<tr>
<td>On-grade or below-grade life or physical sciences</td>
<td>74.4</td>
<td>76.0</td>
<td>-1.7</td>
<td>(-30.3,27.0)</td>
</tr>
<tr>
<td>Above-grade life or physical sciences</td>
<td>12.4</td>
<td>3.9</td>
<td>8.5*</td>
<td>(1.4,15.7)</td>
</tr>
<tr>
<td>Chemistry or physics</td>
<td>12.1</td>
<td>13.3</td>
<td>-1.2</td>
<td>(-25.6,23.2)</td>
</tr>
<tr>
<td><strong>Percentage of students in middle 1/3 on College Orientation Index</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remedial or no science</td>
<td>0.4</td>
<td>6.7</td>
<td>-6.3</td>
<td>(-17.1,4.6)</td>
</tr>
<tr>
<td>On-grade or below-grade life or physical sciences</td>
<td>72.0</td>
<td>78.7</td>
<td>-6.7</td>
<td>(-35.1,21.8)</td>
</tr>
<tr>
<td>Above-grade life or physical sciences</td>
<td>12.8</td>
<td>4.2</td>
<td>8.6*</td>
<td>(0.7,16.4)</td>
</tr>
<tr>
<td>Chemistry or physics</td>
<td>14.8</td>
<td>10.4</td>
<td>4.4</td>
<td>(-20.4,29.2)</td>
</tr>
<tr>
<td><strong>Percentage of African-American students</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remedial or no science</td>
<td>1.0</td>
<td>12.8</td>
<td>-11.7</td>
<td>(-28.5,5.1)</td>
</tr>
<tr>
<td>On-grade or below-grade life or physical sciences</td>
<td>56.0</td>
<td>80.2</td>
<td>-24.1</td>
<td>(-81.7,33.4)</td>
</tr>
<tr>
<td>Above-grade life or physical sciences</td>
<td>6.4</td>
<td>1.0</td>
<td>5.4</td>
<td>(-1.8,12.6)</td>
</tr>
<tr>
<td>Chemistry or physics</td>
<td>36.5</td>
<td>6.1</td>
<td>30.4</td>
<td>(-23.0,83.9)</td>
</tr>
<tr>
<td><strong>Percentage of Hispanic students</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remedial or no science</td>
<td>1.7</td>
<td>6.9</td>
<td>-5.2</td>
<td>(-14.3,3.8)</td>
</tr>
<tr>
<td>On-grade or below-grade life or physical sciences</td>
<td>65.1</td>
<td>84.4</td>
<td>-19.3</td>
<td>(-47.3,8.6)</td>
</tr>
<tr>
<td>Above-grade life or physical sciences</td>
<td>21.9</td>
<td>6.6</td>
<td>15.3†</td>
<td>(-1.3,31.9)</td>
</tr>
<tr>
<td>Chemistry or physics</td>
<td>11.4</td>
<td>2.1</td>
<td>9.2</td>
<td>(-14.0,32.5)</td>
</tr>
<tr>
<td><strong>Percentage of first-generation students</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remedial or no science</td>
<td>1.0</td>
<td>7.2</td>
<td>-6.2</td>
<td>(-17.8,5.5)</td>
</tr>
<tr>
<td>On-grade or below-grade life or physical sciences</td>
<td>75.4</td>
<td>74.4</td>
<td>1.0</td>
<td>(-30.4,32.5)</td>
</tr>
<tr>
<td>Above-grade life or physical sciences</td>
<td>10.5</td>
<td>3.7</td>
<td>6.8*</td>
<td>(0.8,12.7)</td>
</tr>
<tr>
<td>Chemistry or physics</td>
<td>13.0</td>
<td>14.6</td>
<td>-1.6</td>
<td>(-28.9,25.7)</td>
</tr>
</tbody>
</table>

* Statistically significant differences at the 5-percent level. † Statistically significant differences at the 10-percent level.

NOTES: Estimates in this table were prepared with replicated counterfactual projection (CFP) weights. Detail may not
sum to totals because of rounding.

Table 3-1d. Association for GEAR UP with level of English courses taken

<table>
<thead>
<tr>
<th>Measure and subgroup</th>
<th>GEAR UP (%)</th>
<th>Non-GEAR UP (%)</th>
<th>Difference</th>
<th>95% Confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of all students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No English</td>
<td>3.0</td>
<td>4.5</td>
<td>-1.5</td>
<td>(-4.4,1.4)</td>
</tr>
<tr>
<td>Remedial English</td>
<td>1.1</td>
<td>3.9</td>
<td>-2.8</td>
<td>(-10.5,5.0)</td>
</tr>
<tr>
<td>Below-grade English</td>
<td>1.4</td>
<td>3.2</td>
<td>-1.9</td>
<td>(-6.1,2.4)</td>
</tr>
<tr>
<td>On-grade English</td>
<td>69.7</td>
<td>76.2</td>
<td>-6.5</td>
<td>(-28.3,15.3)</td>
</tr>
<tr>
<td>Above-grade English</td>
<td>24.8</td>
<td>12.2</td>
<td>12.6</td>
<td>(-6.5,31.7)</td>
</tr>
<tr>
<td>Percentage of students in middle 1/3 on College Orientation Index</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No English</td>
<td>3.8</td>
<td>4.4</td>
<td>-0.6</td>
<td>(-4.0,2.8)</td>
</tr>
<tr>
<td>Remedial English</td>
<td>0.6</td>
<td>4.8</td>
<td>-4.2</td>
<td>(-14.1,5.7)</td>
</tr>
<tr>
<td>Below-grade English</td>
<td>1.9</td>
<td>2.3</td>
<td>-0.4</td>
<td>(-3.3,2.6)</td>
</tr>
<tr>
<td>On-grade English</td>
<td>74.8</td>
<td>78.0</td>
<td>-3.2</td>
<td>(-20.6,14.1)</td>
</tr>
<tr>
<td>Above-grade English</td>
<td>18.9</td>
<td>10.5</td>
<td>8.4</td>
<td>(-3.8,20.6)</td>
</tr>
<tr>
<td>Percentage of African-American students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No English</td>
<td>2.1</td>
<td>3.8</td>
<td>-1.6</td>
<td>(-7.5,4.2)</td>
</tr>
<tr>
<td>Remedial English</td>
<td>0.7</td>
<td>14.3</td>
<td>-13.6</td>
<td>(-41.8,14.6)</td>
</tr>
<tr>
<td>Below-grade English</td>
<td>1.6</td>
<td>1.7</td>
<td>-0.1</td>
<td>(-4.7,4.6)</td>
</tr>
<tr>
<td>On-grade English</td>
<td>79.9</td>
<td>76.0</td>
<td>3.9</td>
<td>(-36.0,43.8)</td>
</tr>
<tr>
<td>Above-grade English</td>
<td>15.6</td>
<td>4.2</td>
<td>11.4*</td>
<td>(-0.8,23.6)</td>
</tr>
<tr>
<td>Percentage of Hispanic students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No English</td>
<td>7.5</td>
<td>7.4</td>
<td>0.2</td>
<td>(-4.0,4.3)</td>
</tr>
<tr>
<td>Remedial English</td>
<td>2.3</td>
<td>1.5</td>
<td>0.8</td>
<td>(-4.4,6.1)</td>
</tr>
<tr>
<td>Below-grade English</td>
<td>2.8</td>
<td>4.2</td>
<td>-1.4</td>
<td>(-5.1,2.3)</td>
</tr>
<tr>
<td>On-grade English</td>
<td>55.1</td>
<td>61.7</td>
<td>-6.5</td>
<td>(-24.6,11.5)</td>
</tr>
<tr>
<td>Above-grade English</td>
<td>32.2</td>
<td>25.3</td>
<td>6.9</td>
<td>(-11.2,25.1)</td>
</tr>
<tr>
<td>Percentage of first-generation students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No English</td>
<td>1.9</td>
<td>3.2</td>
<td>-1.4</td>
<td>(-4.4,1.6)</td>
</tr>
<tr>
<td>Remedial English</td>
<td>0.9</td>
<td>4.2</td>
<td>-3.3</td>
<td>(-11.7,5.1)</td>
</tr>
<tr>
<td>Below-grade English</td>
<td>0.9</td>
<td>2.8</td>
<td>-1.9</td>
<td>(-6.6,2.7)</td>
</tr>
<tr>
<td>On-grade English</td>
<td>71.1</td>
<td>77.9</td>
<td>-6.8</td>
<td>(-31.8,18.2)</td>
</tr>
<tr>
<td>Above-grade English</td>
<td>25.3</td>
<td>11.9</td>
<td>13.4</td>
<td>(-8.6,35.4)</td>
</tr>
</tbody>
</table>

* Statistically significant differences at the 5-percent level.

NOTES: Estimates in this table were prepared with replicated counterfactual projection (CFP) weights. Detail may not sum to totals because of rounding.
### Table 3-1f. Association for GEAR UP with academic rigor of courses taken

<table>
<thead>
<tr>
<th>Measure and subgroup</th>
<th>GEAR UP</th>
<th>Non-GEAR UP</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>1.1</td>
<td>1.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Middle 1/3 on College Orientation Index</td>
<td>1.0</td>
<td>0.9</td>
<td>0.1</td>
</tr>
<tr>
<td>African-American</td>
<td>1.0</td>
<td>0.5</td>
<td>0.5*</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1.3</td>
<td>1.0</td>
<td>0.3</td>
</tr>
<tr>
<td>First-generation</td>
<td>1.1</td>
<td>1.0</td>
<td>0.1</td>
</tr>
</tbody>
</table>

* Statistically significant differences at the 5-percent level.

**NOTES:** Estimates in this table were prepared with replicated counterfactual projection (CFP) weights.

Academic rigor is determined by the number of core academic classes taken that are considered to be above-grade level for an average eighth-grade student.

Detail may not sum to totals because of rounding.

### Table 3-1g. Association for GEAR UP with level of academic performance

<table>
<thead>
<tr>
<th>Measure and subgroup</th>
<th>GEAR UP</th>
<th>Non-GEAR UP</th>
<th>Difference</th>
<th>95% Confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean GPA for mathematics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>2.5</td>
<td>2.4</td>
<td>0.1</td>
<td>(-0.2,0.4)</td>
</tr>
<tr>
<td>Middle 1/3 on College Orientation Index</td>
<td>2.5</td>
<td>2.3</td>
<td>0.1</td>
<td>(-0.2,0.4)</td>
</tr>
<tr>
<td>African-American</td>
<td>2.3</td>
<td>2.2</td>
<td>0.1</td>
<td>(-0.2,0.5)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2.5</td>
<td>2.2</td>
<td>0.4</td>
<td>(-0.3,1.0)</td>
</tr>
<tr>
<td>First-generation</td>
<td>2.5</td>
<td>2.5</td>
<td>0.0</td>
<td>(-0.2,0.3)</td>
</tr>
</tbody>
</table>

Mean GPA for science

<table>
<thead>
<tr>
<th>Measure and subgroup</th>
<th>GEAR UP</th>
<th>Non-GEAR UP</th>
<th>Difference</th>
<th>95% Confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>2.6</td>
<td>2.6</td>
<td>-0.1</td>
<td>(-0.4,0.2)</td>
</tr>
<tr>
<td>Middle 1/3 on College Orientation Index</td>
<td>2.5</td>
<td>2.6</td>
<td>-0.1</td>
<td>(-0.4,0.2)</td>
</tr>
<tr>
<td>African-American</td>
<td>2.2</td>
<td>2.3</td>
<td>-0.1</td>
<td>(-0.4,0.2)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2.7</td>
<td>2.5</td>
<td>0.2</td>
<td>(-0.1,0.6)</td>
</tr>
<tr>
<td>First-generation</td>
<td>2.6</td>
<td>2.7</td>
<td>-0.1</td>
<td>(-0.4,0.2)</td>
</tr>
</tbody>
</table>
Mean GPA for English
All 2.7 2.7 -0.1 (-0.3,0.2)
Middle 1/3 on College Orientation Index 2.6 2.7 -0.0 (-0.3,0.3)
African-American 2.3 2.4 -0.1 (-0.4,0.2)
Hispanic 2.7 2.7 0.0 (-0.3,0.4)
First-generation 2.7 2.7 -0.1 (-0.4,0.2)

Mean GPA for foreign language
All 2.5 2.7 -0.2 (-0.6,0.2)
Middle 1/3 on College Orientation Index 2.4 2.8 -0.4 (-0.9,0.1)
African-American 2.1 2.5 -0.4 (-1.2,0.4)
Hispanic 2.7 2.9 -0.2 (-0.7,0.4)
First-generation 2.4 2.7 -0.3 (-0.8,0.2)

* Statistically significant differences at the 5-percent level. † Statistically significant differences at the 10-percent level.

NOTES: Estimates in this table were prepared with replicated counterfactual projection (CFP) weights.
The number -0.0 indicates that the true value of this number is less than zero but more than -0.1.
Detail may not sum to totals because of rounding.

Table 3-1h. Association for GEAR UP with percentage of students with high levels of academic performance

<table>
<thead>
<tr>
<th>Measure and subgroup</th>
<th>GEAR UP (%)</th>
<th>Non-GEAR UP (%)</th>
<th>Difference</th>
<th>95% Confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of all students with grade of B or better in above-grade level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>21.4</td>
<td>11.6</td>
<td>9.8</td>
<td>(-0.3,19.8)</td>
</tr>
<tr>
<td>Science</td>
<td>10.5</td>
<td>3.7</td>
<td>6.8</td>
<td>(-0.8,14.4)</td>
</tr>
<tr>
<td>English</td>
<td>17.9</td>
<td>10.5</td>
<td>7.4</td>
<td>(-6.6,21.4)</td>
</tr>
<tr>
<td>Foreign language</td>
<td>0.9</td>
<td>2.4</td>
<td>-1.4</td>
<td>(-4.3, 1.4)</td>
</tr>
<tr>
<td>Percentage of students in middle 1/3 on College Orientation Index with grade of B or better in above-grade level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>15.7</td>
<td>8.2</td>
<td>7.6</td>
<td>(-1.4,16.6)</td>
</tr>
<tr>
<td>Science</td>
<td>9.8</td>
<td>3.7</td>
<td>6.1</td>
<td>(-2.6,14.8)</td>
</tr>
<tr>
<td>English</td>
<td>13.5</td>
<td>8.7</td>
<td>4.8</td>
<td>(-4.3,14.0)</td>
</tr>
<tr>
<td>Foreign language</td>
<td>0.6</td>
<td>2.4</td>
<td>-1.8</td>
<td>(-5.0,1.4)</td>
</tr>
<tr>
<td>Percentage of African-American students with grade of B or better in above-grade level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Mathematics  8.0  5.5  2.5  (-5.5,10.5)
Science  4.6  2.0  2.5  (-2.4,7.5)
English  9.3  4.2  5.1  (-3.4,13.6)
Foreign languagea  –  –  –  

Percentage of Hispanic students with grade of B or better in above-grade level
Mathematics  30.3  16.0  14.3  (-6.4,35.1)
Science  20.3  5.3  15.1  (-1.4,31.5)
English  24.3  20.7  3.5  (-14.5,21.6)
Foreign language  2.8  3.0  -0.2  (-2.6,2.3)

Percentage of first-generation students with grade of B or better in above-grade level
Mathematics  20.9  11.9  9.0  (-0.7,18.6)
Science  9.0  3.7  5.3  (-1.7,12.3)
English  17.7  10.4  7.4  (-8.7,23.4)
Foreign language  0.3  2.5  -2.2  (-5.2,0.8)

* Statistically significant differences at the 5-percent level. † Statistically significant differences at the 10-percent level. a Inadequate sample size to produce estimates.

NOTES: Estimates in this table were prepared with replicated counterfactual projection (CFP) weights. The number -0.0 indicates that the true value of this number is less than zero but more than -0.1. Detail may not sum to totals because of rounding.

The following archival data was collected from the 2010 program performance report and the 2005 evaluation of New Jersey GEAR UP program. The following data was used to determine conclusions to research question 2 of the study.

| Measure 1.1 of 2: The percentage of GEAR UP students who passed prealgebra by the end of the 7th grade. (Desired direction: increase) | 1216 |
|---|---|---|---|
| **Year** | **Target** | **Actual (or date expected)** | **Status** |
| 2001 | 18 | Measure not in place |
| 2002 | 18 | Measure not in place |
| 2003 | 19 | 22 | Target Exceeded |
| 2004 | 20 | 29 | Target Exceeded |
| 2005 | 25 | 37.9 | Target Exceeded |
| 2006 | 30 | 30 | Target Met |
| 2007 | 35 | 32.4 | Made Progress From Prior Year |
| 2008 | 35 | 25.2 | Did Not Meet Target |
| 2009 | 35 | 27 | Made Progress From Prior Year |
| 2011 | 32 | (August 2011) | Pending |
| 2012 | 33 | (August 2012) | Pending |
The report showed steady improvements in the course, then a small drop for success for GEAR UP students.

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual (or date expected)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>19</td>
<td>30</td>
<td>Target Exceeded</td>
</tr>
<tr>
<td>2004</td>
<td>20</td>
<td>21</td>
<td>Target Exceeded</td>
</tr>
<tr>
<td>2005</td>
<td>50</td>
<td>51.7</td>
<td>Target Exceeded</td>
</tr>
<tr>
<td>2006</td>
<td>25</td>
<td>49.5</td>
<td>Target Exceeded</td>
</tr>
<tr>
<td>2007</td>
<td>50</td>
<td>42.8</td>
<td>Did Not Meet Target</td>
</tr>
<tr>
<td>2008</td>
<td>50</td>
<td>52.9</td>
<td>Target Exceeded</td>
</tr>
<tr>
<td>2009</td>
<td>50</td>
<td>53.2</td>
<td>Target Exceeded</td>
</tr>
<tr>
<td>2011</td>
<td>50</td>
<td>(August 2011)</td>
<td>Pending</td>
</tr>
<tr>
<td>2012</td>
<td>51</td>
<td>(August 2012)</td>
<td>Pending</td>
</tr>
<tr>
<td>2013</td>
<td>51</td>
<td>(August 2013)</td>
<td>Pending</td>
</tr>
<tr>
<td>2014</td>
<td>52</td>
<td>(August 2014)</td>
<td>Pending</td>
</tr>
</tbody>
</table>

The archival data shows constant improvement for GEAR UP students in the course over time.

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual (or date expected)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>73</td>
<td>84.4</td>
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<td>2007</td>
<td>73.5</td>
<td>85.5</td>
<td>Target Exceeded</td>
</tr>
<tr>
<td>2008</td>
<td>74</td>
<td>Not Collected</td>
<td>Target Exceeded</td>
</tr>
<tr>
<td>2009</td>
<td>74.5</td>
<td>Not Collected</td>
<td>Not Collected</td>
</tr>
<tr>
<td>2011</td>
<td>86</td>
<td>(February 2012)</td>
<td>Pending</td>
</tr>
<tr>
<td>2012</td>
<td>87</td>
<td>(February 2013)</td>
<td>Pending</td>
</tr>
<tr>
<td>2013</td>
<td>87</td>
<td>(February 2014)</td>
<td>Pending</td>
</tr>
<tr>
<td>2014</td>
<td>88</td>
<td>(February 2015)</td>
<td>Pending</td>
</tr>
</tbody>
</table>
The archival data shows improvement for high school completion for participants in the GEAR UP program.

The next two charts are from the 2005 evaluation of the New Jersey GEAR UP program. These charts show performance of participants in the GEAR UP program on two state tests, the GEPA and HSPA, compared to students within the target schools that are not participants.

**Displays 6 and 7**

Source: New Jersey GEAR UP State Project; target school data from New Jersey Report Card 2002-3
CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Studies demonstrate that low SES students are not prepared for higher education after participating in extra programs before and after school (Burleson, 2008; Buller, 2010; Ward, 2006). This lack of preparedness is due to the many outside forces that low SES students must deal with (Burleson, 2008; Ward, 2006). In order for low SES students to be prepared for higher education, the tools and knowledge that institutions of higher education consider essential must be provided. Educators should pay attention to the cultural aspect of preparing low SES students to function and succeed on a college campus (Ehlers & Wibrowski, 2007; Quaterman, 2008).

The GEAR UP program helps to develop the necessary skill sets that low SES students will need to succeed in higher education. Students that are successful in the transition from the k-12 system into higher education are academically, socially and culturally prepared (Burleson, 2008). By developing these skill sets GEAR UP hopes to improve academic achievement and success in postsecondary education. GEAR UP “provides research-based early outreach strategies that include: academic support; information about postsecondary education and financial aid; scholarships; counseling services; and other relevant strategies” to reach its goal (National Council for Community and Education Partnerships [NCCEP], 2009, p. 8).

Early intervention programs can have a positive effect on college preparedness and academic achievement for low SES students (Beer, 2009; Dalpe, 2008; Wilkins, 2007). The federal government has developed many interventions to increase college access for low SES students through Title IV of the Higher Education Act of 1965 (Perna, 2002). Universities along with private organizations and state governments have provided low SES students with financial aid to improve their access to higher education (The College Board, 2000; Perna, 2002). College
attendance for low SES students has increased because of these interventions, but the enrollment rates compared to upper and middle class students is still low (Mortenson, 2001; Perna, 2002).

One possible cause for the enrollment numbers continuing to be low for low SES families could be the methods used with traditional interventions (Gladieux & Swail, 1999; Perna, 2002). Most of the traditional interventions tend to focus on the financial barriers of college enrollment and pay little to no attention to social, psychological, cultural, and academic rigor needed for these students to succeed in higher education. Policy makers have begun to recognize the limits of the traditional interventions and methods; they have turned to early intervention programs as a solution (Perna, 2002). These early intervention programs utilize parents, guidance counselors, culture, and information on college as key components to increase academic achievement and college enrollment for low SES students.

GEAR UP was developed to improve access to higher education for lower SES students. The program was designed to develop the skills in low SES students needed to improve academic achievement and college enrollment. The program develops these skills through research based early intervention strategies. GEAR UP enables low SES communities and states to develop plans that will open up opportunities and strengthen their schools. The program supports the partnerships through grants that allow them to expand programs that will improve access and open new opportunities for low SES students.

Limitations

As the state of New Jersey has just begun the implementation of its second GEAR UP grant, the amount of available data on the state GEAR UP program is very limited. Archival data on the first grant for the state has been sent to the federal government. The state of New Jersey has only had one full cohort of students to move on. At this point the only way to access the data
is through the federal government. The federal government has made one report on the program limiting the amount of data to be collected for the study.

**Discussions and Conclusions**

The first table labeled “Comparison of characteristics of GEAR UP and non-GEAR UP students in the national evaluation” in chapter four provides a solid foundation for discussing GEAR UP conclusions by comparing the demographics of non-GEAR UP students and students that participated in GEAR UP on the national level. This chart also paints a good picture on a national level of the characteristics of students in GEAR UP compared to non-GEAR UP students. It also shows how similar the students were for the national evaluation in GEAR UP and students that did not participate in the GEAR UP program. The non-GEAR UP schools was selected based on how similar there were to the GEAR UP schools. There was no difference in the amount of boys and girls, but the GEAR UP program aided a higher percentage of minority students than the national average for middle school students. During the national evaluation 65% of the GEAR UP students were from minority families while minority students only made up 38% of the total middle school population on the national level.

During the national evaluation GEAR UP and non-GEAR UP students were asked to report if they had participated in certain activities. The table on “Percent of students self-reporting participation in various activities” shows significant differences in a few key areas of the questions for college preparation. GEAR UP and non-GEAR UP students were asked if they attended one-on-one counseling or advising sessions about getting ready for high school, attended one-on-one counseling, or advising sessions about getting ready for college, attended a class or meeting about getting ready for college, and visited a college campus. The GEAR UP
students took part in more of these preparation aids for higher education than non-GEAR UP students.

For research question “one” of the study, data were pulled from the 2010 program performance report and the 2005 evaluation of the New Jersey GEAR UP program. The data demonstrate a consistent level of success for the GEAR UP program for college enrollment. During some of the years of the report the GEAR UP program did not reach its target goals set for that year but the program still stayed above 51% college enrollment for students that participated in the program. Display chart 9 in chapter four shows that between 61% - 100% of students that complete the GEAR UP program enroll at an institution of higher education. National numbers show that college attendance for low income students is 47.8%, black students is 56.3%, and 48.6% for Hispanic students over all. After comparing the national numbers with GEAR UP, the comparison leans in favor of the GEAR UP program. The data agrees with HA1: there is a significant relationship between participation in GEAR UP and college entrance for low SES students. The data shows that GEAR UP has a significant positive effect on college enrollment for low SES students that participate in the program.

For research question “two” of the study, data was pulled from the 2008 final report, the 2010 program performance report, and the 2005 evaluation of the New Jersey GEAR UP program. The first set of data measures academic achievement through the amount of rigorous courses taken by students. These courses also help to prepare the students for postsecondary education. The report then looked at how the non-GEAR UP and GEAR UP students performed in the courses with higher rigor. The report measured the success of the program through the GPA’s of the students within these courses. In this case academic achievement was measured by GPA and performance in above grade level courses. When looking at charts 3-1a through 3-1h even
though more GEAR UP students took courses with higher rigor there was no statistical significant difference in the performance of GEAR UP and non-GEAR UP students in the above average courses. The 2010 program performance report for the GEAR UP program focused in the areas of pre-algebra, algebra, and high school graduation for GEAR UP students. Over a nine year period of reported data the GEAR UP program has shown progressive increase in the percent of students that have passed pre-algebra and algebra among participants. The data shows that the GEAR UP program has continued to graduate 80% or greater of their participating students from high school. The 2005 evaluation also looked at the two major performance tests for the state of New Jersey in middle school and high school: the GEPA (Middle school) and the HSPA (High school). The evaluation focused on school systems where GEAR UP students were enrolled so that GEAR UP students could be evaluated against non-GEAR UP students in the exact same environment. The GEAR UP students outperformed the non-GEAR UP students in every subject of the state test. The GEAR UP students also showed noteworthy improvements in science and mathematics on the tests. The evaluation showed a clear difference in academic achievement for students that participated in the GEAR UP program. The archival data agrees with HA2: there is a significant relationship between participation in GEAR UP and academic achievement for low SES students. The data shows a positive relationship between participation in the GEAR UP program and academic achievement for low SES students.

Discussion of the Implications

The positive findings from this study can be added to the literature on the GEAR UP program’s success with lower SES students. As stated, there is not much research available on the GEAR UP program; however, the results of this study determined that the GEAR UP program is heading in the right direction for increasing academic achievement and college enrollment for
low SES students. The positive relation that GEAR UP has on college enrollment and academic achievement for low SES students that participate in the program should be well noted. The archival data shows that in time if the GEAR UP program is maintained, college enrollment and academic achievement for low SES students will continue to improve. The improvement in academic achievement and college enrollment that the GEAR UP program has made in the state of New Jersey can be significantly impacted if the program is expanded to all of the low SES districts within the state. The findings from this study have shown the strong positive impact that the GEAR UP program has on low SES student’s academic achievement and college enrollment. This study should promote increased interest in the GEAR UP program and its effects on the participants in the program. The findings in this study show the greater need for more research on the GEAR UP program and its participants. The data shows that the GEAR UP program is opening doors and creating new opportunity for low SES students that has been greatly needed. This program needs to be further studied to improve upon it, so that its already successful numbers can greatly improve and the gap between lower, upper, and middle SES students can be closed.

**Recommendations for Future Research**

More research needs to be conducted on new ways of collecting and analyzing the data on the GEAR UP program. A study on the actual aids that are given to participants in the GEAR UP program would provide a more detailed account for what services the program actually offers. More research is needed on the partnerships within the GEAR UP program. It would have been helpful to see how these partnerships are formed and maintained between the school districts, local businesses, and institutions of higher education. More research is also needed on
how the funding works for these partnerships on each level and how they help to maintain the program.
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The influence of Gear Up on academic achievement


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