

COLLEGE OPPORTUNITY IN CONTEXT:  
AN ANALYSIS OF CULTURAL, ORGANIZATIONAL, AND POLICY INFLUENCES  
ON THE COLLEGE ENROLLMENT BEHAVIORS OF STUDENTS  
FROM LOW-INCOME BACKGROUNDS

by

ANGELA D. BELL

(Under the Direction of Scott L. Thomas)

ABSTRACT

This study assesses the relationship between local school context, family background, and state higher education policy in shaping the college-going behaviors of low-income high school students. Three discrete papers, all based on a multi-layer model of college going, take different approaches to the influence of the racial and socioeconomic composition of a student's high school. In the first paper, NELS 88 is employed in a multi-level model to establish that school composition and the attendant availability of social capital at the school impact college expectations, academic preparation, and enrollment over and above family background variable such as race, socioeconomic status, and access to cultural and social capital. The second paper presents the findings from a college encouragement policy inventory in three states and how these policies fit into a typology based on components, target, implementing agency, and the extent to which local schools are involved in students accessing the policies. High school-level data in these states on the academic preparation and college enrollment of students at schools with different racial and socioeconomic compositions are examined over a five year window to

explore the relationship between the state policies and the outcomes of students at different types of schools. Paper three is a qualitative analysis of the college-going processes at three low-income serving high schools in the same states, the adequacy and appropriateness of these measures to encourage college going for the specific population, and whether the school fulfills its role in helping students gain access to the state programs and policies designed to encourage college going. All three papers support the importance of high school context in shaping college access.

INDEX WORDS: College access, high school context, equity, state policy

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## DEDICATION

For Matteo and Jacob and for all those who help make higher education a reality for students who otherwise wouldn't get there.

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## **Chapter 1**

### **Introduction**

This study assesses the role that community and school contexts play in mediating state and federal policies aimed at encouraging academic preparation and college attendance for low income and minority students. It seeks to understand first how the type of high school one attends, and the population the school serves, impact college-going patterns. The study further looks at the relationship between state policies and college going and how the type of high school attended affects this relationship. It has long been established that characteristics of a high school student's family background—those such as race, socioeconomic status, and parent educational level--powerfully influence educational attainment (Kane, 2001; Perna, 2000). Gaps in access have been met with an array of policies at the federal and state level designed to encourage college going and to remove college-going barriers such as cost, lack of information, and academic preparation. But still after diverse and expensive policy efforts dating back to the G.I. Bill and volumes of research on their effectiveness, disparities by income and race in who prepares for and goes to college persist. To date, most academic and policy research on inequality in college access has focused on specific types of programs (e.g. merit aid, early intervention, loans) and specific settings (e.g. different types of high schools and communities). Federal and state initiatives provide a logical focal point for this research aimed at understanding the effectiveness of such initiatives on specific segments of the student population. However, exclusive focus on the effects of policy emanating from these levels of government ignores the reality that, by design, primary and secondary education in the United States is essentially a local process with localities providing much of the funding and governance. In this sense, schools and

the communities in which they exist provide a powerful context through which outside policies and programs are played out to affect students' perspectives and behaviors related to college going. The unique and persistent patterning of student demographics in the United States is tightly bound to the communities in which these young people live—the very communities that provide the capital (economic, human, and cultural) that shape the life chances of those making the passage to adulthood. Understanding the influence of programs implemented to encourage the expansion of college participation requires a clearer understanding of the ways in which these local contexts mediate outside interventions in this area.

Three primary research questions drive this mixed-methods study:

1. Recognizing the wide variance in student backgrounds in any community, how do individual characteristics such as family background interact with local school and community context in determining a student's college-going outcomes through the promotion of educational expectations, academic preparation, and actual enrollment?
2. How well do 'one-size fits all' style state-level college enrollment policies and programs encourage academic preparation and college enrollment for different types of school populations?
3. How do schools serving less affluent families 'customize' their local environments and college-going processes to meet the unique needs of the majority of students?

Through these three questions, I expect to be able to show the existence of school effects over and above the influence of family background on college-going behaviors, the college-going outcomes of students at different types of schools within different state policy environments, and how low-income schools adapt to their population and policy environment in utilizing resources to encourage college going.

## **Statement of the Problem**

Despite increasing numbers of students from all walks of life attending higher education today, there are still considerable challenges to increasing postsecondary opportunity. There is a significant gap between students from low and high income families in their college going that has been growing over the past two decades even when one controls for ability (Kane, 2001). There are also significant and increasing gaps in college going by race despite improvements in test scores and graduation rates by black students (*ibid.*). While high numbers of students from all races and socioeconomic backgrounds aspire to higher education, there are increasing gaps between low-income students' aspirations to go to college and their actual enrollment (Hearn 2001; Karen, 2003).

These trends are particularly disturbing considering that the wage premium to attending college is also growing. The gap between those with a B.A. and those without has increased since the early 1970's not so much due to increasing wages for college graduates but declining real wages for those with less than a college education (Heller, 2001). Higher education now more than ever is needed for access to the middle class, mobility in the information-based society, and in acquiring a number of intangible benefits such as increased job flexibility, better health, and likelihood that one's own children will go on to college. From a governmental perspective, increased educational attainment reduces poverty, unemployment, and incarceration while multiplying the individual benefits of higher education to a societal level (Baum & Payea, 2004). Already in 2000, an Organisation for Economic Co-operation and Development (OECD) report found that the United States was no longer the world leader in four-year degree attainment and had lost its position as the leader in higher education access (Callan & Finney, 2001). To

reverse this trend, it is necessary to find approaches that make college going a reality for students of all socioeconomic and racial backgrounds.

Many scholars and policy analysts attribute the disparities in college going to financial constraints: rising tuition, failure of student financial aid to keep pace with tuition, and shifts in the focus of student financial aid away from the poorest students (ACSFA, 2002; Heller, 2001; NCCPHE, 2002; St. John, 2003). Other scholars focus on the inadequate academic preparation of lower-income and minority students (Adelman, 1999). Still others focus on the role of information about college, its costs, and financial aid in preventing students from preparing for and enrolling in higher education (Hossler, Braxton & Coopersmith, 1989; Hossler, Schmit & Vesper, 1999; Plank & Jordan, 2001). This barrier is particularly salient for low-income and minority students whose parents are more likely to have not attended college. For students whose parents or family members have attended college, these relatives serve as a ready source of information about how to go to college, how to pay for it, and the benefits it offers. Students without this advantage may not get the information they need in time to prepare.

Policies and programs involving millions of dollars have been put in place during the last several decades to combat each of these obstacles that students face. At the federal level, this effort has centered on financial assistance in the form of loans, grants, and tax cuts as well as funding of enrichment programs such as GEAR-UP and Upward Bound. The strategies used by state governments have been more diverse. These have ranged from both need-based and non-need-based financial aid, high tuition/high aid and low tuition/low aid models, college savings plans, early intervention programs, affirmative action and the “percent plans” that have replaced affirmative action. These programs and policies have fostered a robust literature about both their

intended and unintended effects as well as how some of these programs differentially affect students of different backgrounds.

Most of the explanations for gaps in college going center on the individual characteristics of students and the deficits that prevent them from continuing their education. Likewise, much of the college encouragement policy that exists (and the research about it) focuses on individuals. This overlooks the important reality that students are clustered into school and community environments that powerfully shape students' views of opportunity and ultimately their educational attainment. There is a strong school effects literature that points to grave disparities in the resources available to schools serving students of different racial and socioeconomic backgrounds. And some college access scholars have paid attention to how these disparities shape college opportunity (McDonough, 1997; Perna, 2003; Massey, Lundy, and Fischer, 2003). The literature is relatively silent, however, on how this local school and community context interacts with individual characteristics to shape college outcomes as well as how state policy efforts, even those not technically implemented at the high school, are received and interpreted by students embedded in a particular school and community environment. Finally, there is need of an understanding of what localities, be it schools, school districts or communities, do to facilitate college going given the population they serve and the policy environment which may or may not serve their needs. This dissertation aims to fill these needs.

The theory that has been used to explain college going has emanated primarily from two disciplines: economics and sociology. Human capital theory from economics proposes that individuals decide to make investments in improving their skills and knowledge based on their own assessment of the expected lifetime benefits and costs of that investment (Becker, 1962, 1993). This theory applied to high school students would have them deciding whether to invest

in attending college based on their perception of the benefits college will offer and as well as a variety of costs of attendance (DesJardins & Toutkoushian, 2005; Manski, 2003). Sociologists, unsatisfied with the inability of human capital theory to explain differences in perceived costs and benefits by different racial and socioeconomic groups have focused on the importance of other forms of capital. Social capital (benefits that accrue to an individual by virtue of one's inclusion in a social network) and cultural capital (the knowledge, norms, and mannerisms that one derives from one's parents and social class) are central constructs in sociology. Embedded within cultural capital is the concept of *habitus*, a set of socially derived predispositions toward the future that undergird perceptions and actions informing young peoples' sense of educational opportunity. *Habitus* has figured prominently in the corpus of research on access and success (Bourdieu, 1984, 1986; Coleman 1988; Karen, 2003).

Several scholars have posited that a complete model of college going must incorporate both the economic and sociological theoretical perspectives. Reflective of this integrative approach is Perna's conceptual model (see Figure 1) that contextualizes the investment decisions of human capital theory within nested layers of *habitus*: family, school, and community context; higher education context, and larger social, economic, and policy context (Perna, 2006). The student and family context layer of the model consists of traditional variables known to impact college-going: race, income, parent's educational background as well as the various forms of capital (human, cultural, and social) that vary with demographic background. The school and community context consists of the type of high school attended, the resources found there, the other students in attendance, the college-going processes, etc. The community context can be the predominate socioeconomic environment a student grows up in and the opportunities that this environment makes seem reasonable as well as community efforts to promote college going.

The higher education context consists of such factors as the distribution of higher education institutions in an area, their capacity, programs implemented by these institutions to attract and prepare students, and their admissions policies. Finally, the larger social, economic, and policy context consists of state and federal policy to encourage college-going, state and federal K-12 regulation, economic and workforce conditions, and the like. Perna's model imagines that each of these layers affects the student directly, but also that the social, economic, and policy environment can impact higher education institutions as well as K-12 schools that in turn indirectly affect student preparation and decision-making.

This model's conception of several layers of environmental context impacting college expectations and decision-making informs this dissertation. Within this frame, I develop a specific focus on how the school and community context interacts with family background and state policy. This dissertation moves theory forward by empirically confirming the significance of the school context layer in college going outcomes. Furthermore, it enhances our understanding of the role of the local context by illustrating how it interacts with other layers of the model. This is achieved through quantitative analysis of outcomes as well as qualitative exploration of efforts at the local level undertaken with express consideration of the population served and the state policy environment.

In summary, much is known about the relationships between race/ethnicity and income and college going behaviors. Theories exist to explain these outcomes and states have implemented programs and policies to overcome obstacles. But we know little about the differential impacts of these policies in varied local school and community contexts. Moreover, we know even less about the college-going efforts levied there to further state and federal efforts

in encouraging college going for these underrepresented populations. It is this local context that forms my focus in this dissertation.

### **Significance of Study**

The significance of this study rests on its conceptual implications for researchers and practical implications for policy analysts, policymakers, and education practitioners. For the scholarly research literature, this study will add to the understanding of the role of school and community environments in shaping perspectives and behaviors related to postsecondary education. It will nuance what we already know about the relationships between family background and college access by illustrating how local context impacts those relationships. Furthermore, it will demonstrate how differences in state policy (program components, target population, implementing agency, and extent of school involvement) interact with local school and community context to explain differences in college preparation and continuation over time. Finally, it will offer a descriptive understanding of how localities respond programmatically and with community resources to adapt to their unique context in light of their demographic realities and the larger college enrollment policy environment. These findings support college choice theoretical perspectives that take account of local context and place importance on the *habitus* framing student decisions. Specifically, it tests portions of Perna's model which nests the layer of school context between students and the policy environment and illustrates how these layers interact with one another to shape college going.

This study will contribute to practical knowledge for those involved in the formulation and analysis of educational policy by pointing to the likely winners and losers around the state of types of state educational policy orientations. In times of tight state budgets and increasing calls for accountability at all levels of education, this study provides guidance in assessing the likely

effectiveness of different types of state college enrollment policies in different local settings. Furthermore, this study will give actual accounts of how the local context mediates state and federal policy in low-income settings with the potential either to mitigate state policy shortcomings or to fail in this, or worse, to exacerbate existing inequities in college opportunity. With this in mind, the school and community contexts themselves can be the locus of policy initiatives whether at the state or local level. Policy aimed at specific types of localities might either tailor initiatives to local realities or even change those realities through remedies such as school zoning, community development, and alternative educational formats. This research provides the necessary evidence that in college-going behaviors and the programs to facilitate them, local context matters and is a key component in addressing access.

### **Organization**

Chapters two, three, and four each address one of my three research questions. These chapters set forth the literature immediately related to that question, explain the methodology used, and present its findings. Chapter two details how my research is informed by two related but distinct bodies of literature: the corpus of work on college access and a separate body of work on secondary school effects. This work on college access points to disparities in college going by race/ethnicity and socioeconomic status and seeks to explain these gaps through theoretical perspectives primarily from economics and sociology. The secondary school effects literature points to inequities that impact educational outcomes. It is the focus of this chapter to connect these two areas of inquiry in order to frame the question of how local school constituency interacts with family background in shaping college-going behaviors. I use National Center for Education Statistics secondary datasets and the Common Core of Data in a multi-level multinomial logistic regression model to capture this interaction.

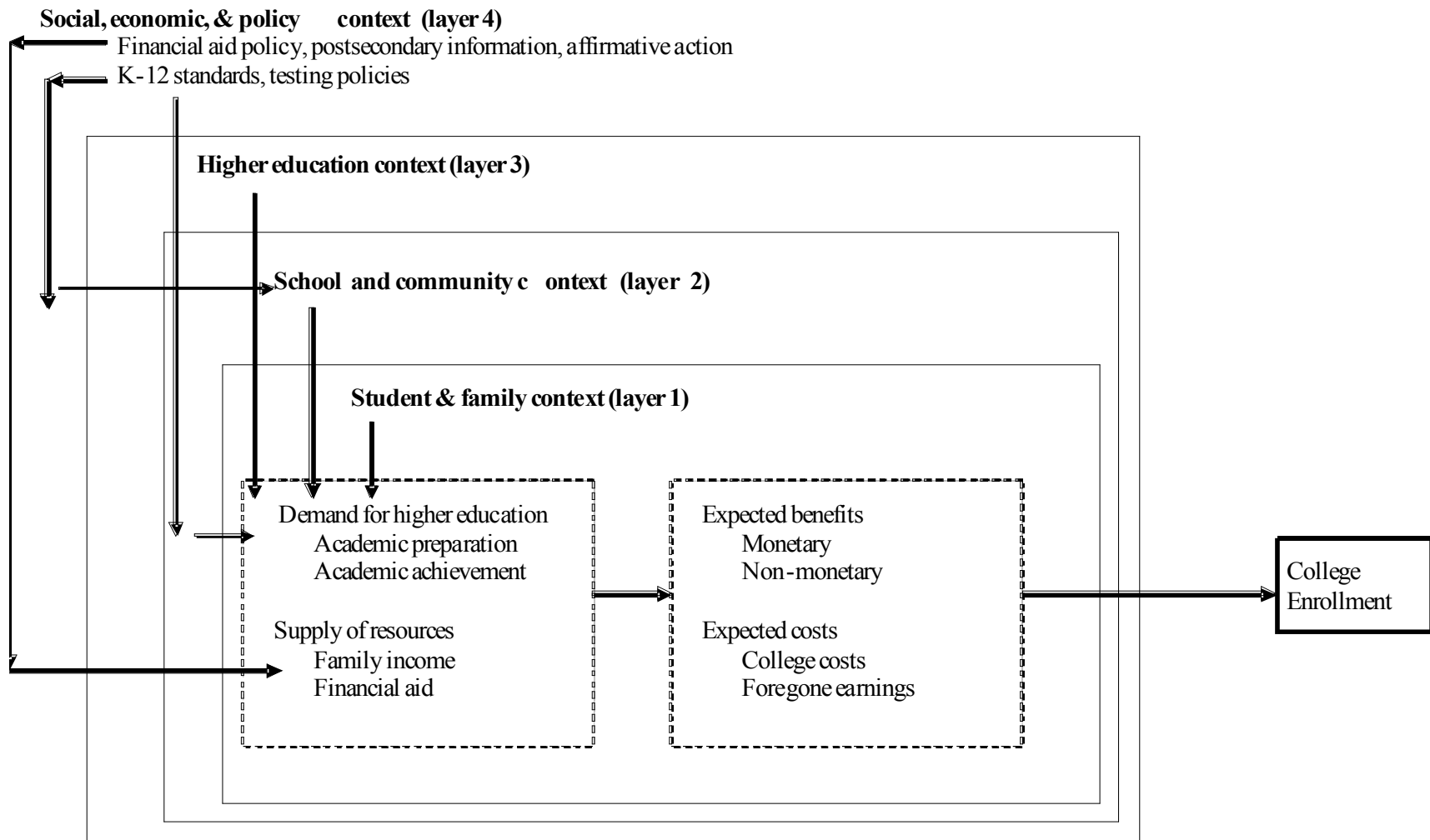
Chapter three examines the relationship between state college-going policy and the college-going outcomes achieved at high schools in different types of communities and serving different types of populations. Higher education policy literature has focused on discrete programs and their impacts. My approach, however, relies on the assumption that students respond to not individual programs but the aggregated higher education policy environment in states. Thus it examines the collection of state policies employed to promote access in three states (California, Florida, and Georgia) in conjunction with high school-level data collected from education entities in these states as well as the Common Core Data.

In chapter four I seek to understand through qualitative inquiry the processes by which low-income serving high schools attempt to facilitate college going for their population given their state policy environment. This question uses interview and focus group data as well as college-going literature and materials collected from high schools in the same states as the previous chapter. Chapter five will bring together the findings of the three distinct questions in chapters two through four and draw conclusions from their results. Together the three questions focus our attention on the intermediary and powerful role of the local school and community context in shaping college-going outcomes. This final chapter explores both the theoretical implications as well as the policy inferences that may be drawn from these findings.

### **Limitations**

There are some limitations that bound this study. NELS traces the experiences and outcomes of the cohort of students that were eighth graders in 1988 and thus gives a dated view of college-going processes. At the time of this study, the college continuation outcomes, an essential component of the research, were not yet available for the more recent ELS data. ELS should be used in future research to examine whether the findings in this study still hold. The

chapter three state policy inventories do not incorporate any measures of the size and scope of the programs and policies reviewed as this data was incomplete and inconsistent. Thus the data reflect the share of programs in a state with certain characteristics not the share of state resources or effort with the characteristics. The high school outcomes data in this chapter are also limited in not having ACT data to complement the SAT data as well as no continuation data on the percentage of students attending either private schools in state or any type of institution outside the state of study. Thus the chapter's outcomes underestimate the shares of students taking college admissions tests and continuing on to college in each state. Finally the qualitative portion of the study only examined the college going processes in three high schools in each of three states. Thus the study is limited in its ability to apply its findings to other schools within and beyond the states studied.



**Figure 1. Conceptual Model of Student College Enrollment with Policy Linkages**

Source: In Perna et al. (2007), adapted from Perna (2006) and St. John (2003)

## Chapter 2

### The Interaction of Family Background with School Environment

Although college enrollment rates have increased over the last half century for all students, there is still disparity between students of different backgrounds. The college enrollment rates of minority and low-income high school graduates as well as those whose parents have not attended college lag behind their more advantaged peers (Baum & Ma, 2007; Ellwood & Kane, 2000; NCES, 2007; Thomas & Perna, 2004). These gaps persist despite the facts that high school achievement has improved for minority students and that high numbers of student of all groups aspire to higher education (Hearn, 2001; Kane, 2001). Attendant widening gaps in income between high school and college graduates (Baum & Ma, 2007) suggest that it is becoming increasingly important to increase college-going rates among underrepresented groups.

Some of the differences in college going have been shown to be attributed to various forms of capital (i.e., human, social, and cultural) available to students during their upbringing (Coleman, 1988; DiMaggio, 1982). Most of this research has modeled the relationship between a student's individual endowments of these forms of capital and educational attainment. And yet, students make their decisions to prepare for and attend college within a particular high school setting. Research on high schools has shown that schools are increasingly segregated by race and income of students (Orfield & Lee, 2005) and that this segregation is accompanied by inequities in school quality (Kozol, 1991; National Research Council, 2003). Some studies have explored the relationship between school composition in terms of race and socioeconomic status and the college-going outcomes of its students (McDonough, 1997; Teranishi, et al., 2004) and descriptively shown the disadvantage of attending schools serving large numbers of minority and

poor students. Thus, student background characteristics including human, social, and cultural capital and school demographic composition have been shown to separately influence college-going outcomes. More sophisticated statistical techniques have been used to understand the influence of school-level variables (both demographic and school level aggregates of social and human capital) over and above student background characteristics (Perna & Titus, 2005; Frost, 2007) on the outcomes of aspiration to, and enrollment in, higher education. Both of these studies found a significant effect of school racial composition as well as certain school capital variables.

While educational aspirations have been known for a long time to be an important predictor of college attendance (Sewell and Hauser, 1976), to fully understand the processes leading to enrollment, it is also necessary to explore the determinants of academic preparation in high school for college (Adelman, 1999). Thus, in this study I seek to understand the interaction of student background characteristics, including social and cultural capital, with school composition variables for a fuller sequence of college-going: expectations, preparation, and enrollment.

The research question addressed by this study is:

Recognizing the wide variance in student backgrounds in any community, how do individual characteristics such as family background interact with local school and community context in determining a student's college-going outcomes through the promotion of educational expectations, academic preparation, and actual enrollment?

### **Review of Literature**

This study is informed by two related but distinct literatures: the corpus of work on college access and a separate body of work on secondary school effects. The college access

literature has documented how non-white students and/or those who come from low-income families find themselves at a considerable disadvantage in terms of the likelihood of college attendance (Ellwood & Kane, 2000; Mortenson, 2001; Thomas & Perna, 2004). When students from underrepresented groups do enroll, they are disproportionately found in less selective, lower cost institutions even after controlling for academic preparation (Astin & Oseguera, 2004; Baum & Payea, 2004; NCES, 2004).

While many scholars point to the high costs of college and lack of financial aid as the main deterrents to college enrollment (ACCSFA, 2001; Heller, 1997, 2001; NCCPHE, 2002), others see the main challenge to postsecondary opportunity for underrepresented populations to lie in academic preparation (Adelman, 1999; Massey, et al., 2003; Perna, 2004). Both of these interpretations (economic and academic) are informed by a human capital perspective on student participation in higher education. In this model, high school students decide whether to invest in attending college based on their own assessment of the expected lifetime benefits and the expected costs (Becker, 1962, 1993). Factors that impact the demand for human capital include the supply of resources available to the students such as ability to pay (parental assistance, financial aid) and level of academic preparation (Paulsen, 2001). Under human capital theory, enrollments should be higher for students who already have the academic and financial resources to invest in postsecondary education.

Other scholars note the shortcomings of human capital theory's explanations of how students make decisions regarding college attendance. Students are not always rational regarding their investment decisions (Avery & Hoxby, 2004; Heller, 1997) and often, especially low-income and minority students, lack adequate and accurate information necessary to make decisions (Horn & Flores, 2003; Ikenberry & Hartle, 1998; Perna, 2004, 2005). Furthermore,

human capital theory fails to account for differences in expected benefits and costs among populations of different incomes and races (Beattie, 2002; Paulsen, 2001). To understand these differences, other theoretical approaches have been applied to the study of college going. Early sociological work by Sewell and Hauser (1975, 1976) integrated traditional human capital variables such as socioeconomic status and academic ability with several “social psychological variables”: high school performance, whether significant others encourage higher educational and occupational aspirations, and student aspirations. They found that these social psychological variables intervene between pre-existing socioeconomic background, gender, and academic ability and the dependent variables of higher education attainment as well as occupation and earnings.

More recent work focuses on the roles of cultural and social capital and *habitus*. Cultural capital refers to the knowledge, norms, and mannerisms that one derives from one’s parents and social class (Bourdieu, 1986). While all youth absorb the culture in which they develop, certain forms of cultural capital are favored by middle- and upper-class members of society and advantage a student in educational attainment. These constructs have been operationalized as number of books one has in the home; participation in culturally preferred activities like attending museums or taking music, art, or dance classes; and parental educational background and expectations (DiMaggio, 1982; Downey & Powell, 1993; Titus & Perna, 2005).

Research employing social capital focuses on the benefits that accrue to an individual by virtue of one’s inclusion in a social network (Bourdieu, 1986; Coleman, 1988). Coleman focused on three forms that social capital might take (obligations and expectations, information channels, and social norms), each of which is a resource that is instrumental in the acquisition of human capital (1988). His work with Hoffer (1987) focused on achievement in different types of high

schools and the advantage in promoting achievement of closed networks, constituted in this context by parents of students knowing one another and reinforcing the same norms and expectations for their children. More recent research has operationalized the amount of social capital available to a student as both the student's friends as well as the student's parents whose ability to transmit social capital to a child is enhanced by the parents' relationship with the child, other parents, and school officials (Perna & Titus, 2005). Kao (2007) has nuanced this understanding by differentiating potential and actual social capital, the latter distinguished by parents "spending more time with them or by promoting activities that are conducive to children's educational outcomes." Bourdieu has focused on how some students are advantaged by their, or their parents', membership in particular groups. The amount of social capital an individual may gain is related to the size of their networks and the amount of capital (economic, cultural, and social) that the people in those networks have.

Both cultural and social capital have been shown to have significant influences on college enrollment outcomes (DiMaggio, 1982; Perna & Titus, 2005) and are part of a student's overall *habitus*—a set of socially derived predispositions toward the future that undergird perceptions and actions informing young peoples' own sense of higher education opportunity (Bourdieu, 1984; Karen, 2003). McDonough extended this idea employing the concept of organizational *habitus* (1997) that she sees as the impact of socioeconomic status on the behavior of individuals through a mediating organization, the high school. The school context and particularly the structure and availability of counseling services play an instrumental role in shaping the postsecondary destinations of students. The concept of organizational *habitus* is somewhat problematic in a strict interpretation of Bourdieu's construct: *habitus* is an attribute of an individual. However, McDonough's work moves us forward by illustrating how schools as an

organization, specifically their counseling resources and orientation, systematically structure student's perceptions of what is possible.

Many scholars have noted the contributions of all three forms of capital (human, social, and cultural) in accounting for variance in college outcomes (Paulsen, 2001; Perna, 2006; St. John & Paulsen, 2001). Reflective of this integrative approach is Perna's conceptual model (Figure 1 in Chapter 1) which contextualizes the investment decisions of human capital theory within nested layers of *habitus*; family, school, and community context; higher education context, and larger social, economic, and policy context (Perna, 2006). This model's conception of several layers of environmental context impacting college expectations and decision-making informs this study with particular focus in this chapter on how the school context interacts with family background in shaping college-going behaviors.

The student and family context layer of the model consists of traditional variables known to impact college-going: race, income, parent's educational background as well as the various forms of capital (human, cultural, and social) that vary with demographic background. The school and community context consists of the type of high school one attends, the resources found there, the other students in attendance, the college-going processes, etc. The community context can be the predominate socioeconomic environment a student grows up in and the opportunities that this environment makes seem reasonable as well as community efforts to promote college going. The higher education context consists of such factors as the distribution of higher education institutions in an area, their capacity, programs implemented by these institutions to attract and prepare students, and their admissions policies. Finally, the larger social, economic, and policy context consists of state and federal policy to impact college going, state and federal K-12 regulation, economic and workforce conditions, and the like. Perna's

model imagines that each of these layers affects the student directly, but also that the social, economic, and policy environment can impact higher education institutions as well as K-12 schools that in turn indirectly affect student preparation and decision making.

This study focuses on the role of the school layer of the model and how it functions as a mediator between the policy layer and student outcomes. Thus, the literature on college going is complemented by research on the role of secondary school inequality and achievement effects. Secondary school effects literature has focused on how American education is largely funded and governed locally and impacted by local residential patterns. Gary Orfield produced a series of papers at the Civil Rights Project that have traced the decline and abandonment of desegregation efforts across the country and the subsequent resegregation of American primary and secondary schools over the last twenty years (Orfield & Yun, 1999; Orfield, 2001; Orfield & Lee, 2005). The share of white students in the nation has been shrinking and the shares of black, Latino, and Asian American students have grown. As the racial makeup of the school population changes, it becomes even more important to understand the schooling experiences of minority populations. Within this body of work, Orfield and Lee used the Common Core of Data from the National Center for Education Statistics to show that white students are more segregated than any other group. This results in “Black and Latino students attend[ing] predominately minority schools in disproportionate numbers” (Orfield & Lee, 2005). For example, while only 1% of white students in 2002-3 attended schools that were 90-100% minority, 38% of both black and Latino students attended these very segregated schools (ibid.). These trends are not limited to urban schools. Even in suburban areas where there are increasing numbers of blacks and Latinos, the segregation is marked, especially around the nation’s largest metropolitan areas (Orfield & Yun, 1999).

Segregation by race in schools would not be so problematic, however, were it not systematically linked to poverty and residential segregation. While the children of middle-class whites and some low-income whites usually attend low poverty schools, the children of middle-class minority families are more likely to be in high poverty schools (Harris & Mcardle, 2004). Orfield and Lee found that 88 percent of high minority schools (greater than 90%) are high poverty schools with more than 50% of students receiving free and reduced lunch while only 15% of schools that are low minority (less than 10%) are high poverty (Orfield & Lee, 2005). Another way of showing the discrepancy is that while over 60% of black and Latino students attend high poverty schools, 30% of Asians and only 18% of whites attend this type of school (ibid.)

These residential and school population dynamics yield wide disparities in the nature of the school and community context and have led to abundant scholarship and even litigation on the resultant educational inequities (Kozol, 1991; National Research Council, 2003; Welmer, 2001). Much of the disparity in academic preparation by race and income can be explained by the fact that schools that are located in less affluent areas and that enroll more African Americans and Hispanics are less likely to have rigorous academic coursework available to their students (Gandara, 2002; Monk & Haller, 1993; Oakes, 1990; Oakes & Guiton, 1995). These schools are also less likely to have high quality teachers (Jerald & Ingersoll, 2002; Lewis et al., 1999) and have higher rates of teacher turnover (Freeman, Scafidi, & Sjoquist, 2002). Schools with high concentrations of poor and minority schools are also more likely to have fewer resources (Education Trust, 2002; National Research Council, 2003).

While these findings relate to educational quality in general, there has also been research regarding the college-going resources at these disadvantaged schools. Schools serving students

from low-income families have also been found to have lower resources for college counseling, provide less college counseling and provide it later in one's high school career, and provide a constricted view of opportunity through the services provided (McDonough, 1997). Within school districts, disparities have been found in the quality of college preparatory curricula (Hanson, 1985) and in the "client power" of families of different socioeconomic status (Bidwell & Quiroz, 1991). Teranishi, Allen, and Solorzano (2004) found in an analysis of all public comprehensive high schools in California, that schools with different racial/ethnic majority populations differed in terms of outcomes such as shares of students who took and scored well on the SAT or AP tests, are minimally, moderately, and competitively eligible for the University of California system, and enrolled in different sectors of the California higher education system. Schools also differed in terms of the certification and experience of the teachers. Despite these disadvantages, many studies have found that controlling for SES and academic achievement, minority students, especially blacks have *higher* educational aspirations than whites (Frost, 2007; Kao & Tienda, 1998; Qian & Blair, 1999). Finally, even among students attending elite higher education institutions, black and Hispanic students are more likely to have attended segregated schools characterized by lower family incomes, lower academic achievement, and higher levels of social disorder and violence (Massey et al., 2003).

Moreover, the nature and intensity of parental involvement at schools has been shown to vary by social class (Horvat, Weininger, & Lareau, 2003) as well as by race/ethnicity (Perna & Titus, 2005). It has also been shown that this parental involvement increases college aspirations and enrollment (Cabrera & La Nasa, 2000; Horn, 1998; Hossler, Braxton & Coopersmith, 1989; Hossler, Schmit & Vesper, 1999; Perna, 2000, Qian & Blair, 1999). Perna and Titus (2005) found in a multi-level study of parental involvement as social capital and college enrollment

using NELS that the odds of African Americans and Hispanics enrolling in four-year institutions are actually higher than whites despite being lower in descriptive analyses. They attribute this to the racial/ethnic group differences in other variables in the model, notably such school-level variables as the amount of parent-initiated contact regarding academics, the number of friends at the school planning to attend college, and the average parental education. They also found that the odds of two-year institution enrollment were positively related to the percent of Hispanics in one's school but negatively related to the percent of African Americans. This school effects literature has direct bearing on the postsecondary outcomes of students and illustrates the unique local school context in which many students make their college decisions.

In summary, much is known about the relationships between race/ethnicity and socioeconomic class and college going behaviors. Theories exist to explain these outcomes and states have implemented programs and policies to overcome obstacles for these individuals. There is also a robust literature surrounding the increasing segregation of minority and low-income youth away from white and middle- and upper-class students in America's schools. This begs the question of the interaction of these local school contexts with family background factors in shaping college opportunity. It is this local context that forms the focus of my study.

In order to examine the role of the local context in shaping college-going outcomes, it is necessary to isolate its effects from the student-level influences on these behaviors. The outcomes utilized in this study are based on the chronology of the college-choice model of Hossler, Braxton, and Coopersmith (1989) that conceptualizes three stages: predisposition, search, and choice. The first outcome of interest is college-going expectations as determined by student's 10<sup>th</sup> grade response to the question, "As things stand now, how far in school do you think you will get?" The second outcome is rigor of high school curriculum defined as meeting

thresholds for numbers of courses in certain academic areas. The third is whether students took either the SAT or ACT by the spring of their senior year; these college entrance exams are required by most colleges and universities. The fourth and last outcome is actual enrollment in higher education the fall after graduating from high school. While recent work has analyzed school-composition effects on aspirations (Frost, 2007) and enrollment patterns (Perna & Titus, 2005) separately, my work is unique in using the same data set to model this entire sequence of college-going outcomes.

This parsing out of school-level from student-level impacts on these outcomes can be accomplished through a multi-level model that first determines that there is significant variance between schools in the student outcomes when no independent variables are included. This being established, a second model incorporates literature-supported, student-level predictors of college going: prior academic achievement, race/ethnicity, gender and socioeconomic status. If significant variance between schools in aspirations and enrollment exists after modeling student-level independent variables, then it is appropriate to add school-level independent variables to attempt to explain the residual school-level variance in outcomes. Employment of the multi-level model seeks to explain as much of the differences between schools in the college-going behavior of their students as possible and also to explore whether school-level variables have an impact on the student-level influences. In this study, I will explore whether school-level variables reflecting the racial/ethnic and socioeconomic composition of the school help explain the between-school variance in higher education expectations, academic preparation, and enrollment and whether adding these school indicators impacts the student-level predictors of college-going (i.e. student racial/ethnic background, SES, gender, and academic achievement). This can tell us whether

students of varied backgrounds might have different college-going outcomes if they were in schools of different demographic composition.

### **Methods and Data**

This study employs data from the National Educational Longitudinal Study of 1988 from the National Center for Education Statistics which contains data for a cohort of students beginning when they were in the eighth grade in 1988 and has successive follow-ups when the students are in tenth grade (1990), twelfth grade (1992) and when they are two years out of high school (1994). This data set is appropriate because it is nationally representative and one of the few that nest samples of students within their school and community context. The sample is maximized for each outcome to increase the robustness of the analyses and therefore is not the same exact participants across the four questions (see Table 1.1). Data from the first follow-up (1990) are employed for examination of educational expectations of tenth graders.<sup>1</sup> The sample contains only the cohort of students who were in tenth grade during the school year of the follow-up questionnaire (1990). The expectations analysis consists of 12,252 students in 909 schools. Data from the second (1992) follow-up are used to explore the course-taking patterns and college entrance exam taking of enrolled seniors. The course-taking analysis includes 7,664 students in 956 schools and the entrance exam analysis includes 9,534 students in 1,025 schools. Data from the third (1994) follow-up are used to assess the higher education enrollment during the fall following their senior year. The enrollment analysis employs 9,113 students in 1,016 schools. All samples exclude American Indians/Alaskan Natives and students of unknown

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<sup>1</sup> Preliminary analyses were run on aspirations of 8<sup>th</sup> graders, 10<sup>th</sup> graders, and 12<sup>th</sup> graders. 10<sup>th</sup> graders were selected for further analysis because of the focus on high school context and because 12<sup>th</sup> grade “aspirations” had fallen compared to 10<sup>th</sup> grade and were deemed to reflect not just aspiration, but also the reality of the results of high school academic preparation and other college-going behaviors such as taking the SAT and applying to colleges.

ethnicity due to their small numbers as well as students that are missing high school identification numbers.

**Table 2.1 Sample Composition**

	NELS Follow-Up	Number of Students	Number of Schools
Expectations Analysis	1 <sup>st</sup> (1990)	12,252	909
Course-Taking Analysis	2 <sup>nd</sup> (1992)	7,664	956
Entrance Exam Analysis	2 <sup>nd</sup> (1992)	9,534	1,025
Enrollment Analysis	3 <sup>rd</sup> (1994)	9,113	1,016

### *Student-Level Variables*

The conceptual model employed hypothesizes that college-going outcomes are influenced most immediately by a number of individual and family background variables. These student-level determinants must be modeled first so that the impact of school variables is net of these individual characteristics. The demographic variables included at the student level are gender and race/ethnicity. These have consistently been found to be predictive of college-enrollment (Hearn, 1991; Kane, 2001; Karen, 2002). There are four racial/ethnic groups: Asian American/Pacific Islander, Hispanic, black, and white (as the reference group). Several variables are employed to reflect the human capital available to students. Socioeconomic status is operationalized as a composite developed by NCES that includes family income, parent educational background, and parent occupation. While other studies use these components individually (e.g., Perna & Titus, 2005), I am interested in modeling the average socioeconomic advantage a student has rather than what individual components of SES contribute. Furthermore, composite SES is a more stable indicator or advantage than the snapshot of yearly income (Perna, 2006). Potential impact of affluence on college going is also measured by student report of whether college expenses and financial aid are important in college selection (COLL EXPENSE/AID). Academic achievement of students, which has been shown to be predictive of

college-going behaviors (e.g., Adelman, 1999; Perna, 2000; St. John, 1991), is measured by the standardized composite score on the NELS administered reading and math tests and is employed as a control at the student level (ACH TEST).

Various components of cultural and social capital that have been shown to affect academic achievement and college enrollment in previous research (Karen, 2002; Perna & Titus, 2005) have been included here as important student-level predictors of my college-going outcomes. The cultural capital variables are parents' educational expectations for their child (PAR EXPECTATIONS) and whether the student or either parent is an immigrant to the United States (FIRST GEN IMM, SEC GEN IMM). Studies have shown that, controlling for SES and prior academic achievement, first and second generation immigrants are more likely to enroll in higher education (Glick & White, 2004; Hagy & Staniec, 2001). Several research supported social capital variables are also included (Coleman, 1988; Perna & Titus, 2005). To capture the extent and nature of students' relationships with students of different academic orientations in the expectations analysis, I include the number of friends who think studying is important (FRIENDS STUDY) and the number of friends planning to continue their education after high school (FRIENDS CONTINU ED). In the curriculum, SAT/ACT, and enrollment outcomes I also use FRIENDS STUDY as well as the number of friends not planning to attend college (FRIENDS NO COLL), planning to attend a two-year institution (FRIENDS 2 YR COLL), and those planning to attend a four-year institution (FRIENDS 4 YR COLL). The role of parent social capital is modeled by the frequency of discussions with students about education-related matters (PAR DISCUSSION), the frequency of involvement in school activities such as conferences, volunteering, and parent-teacher organizations (PAR INVOLVMENT). In the curriculum, SAT/ACT, and enrollment outcomes, other variables not available for the tenth

grade expectations analysis are employed: the number of times parents had contacted the school regarding their child's academics or behaviors (PAR CONTACT AC, PAR CONTACT BEHAV) as well as whether parents had attended programming about college-going or financial aid (PAR COLL ACTIV). Finally, whether the student's family had moved in the past two years is included as a potential disruption to social networks (MOVED). Moving may disrupt social capital by interrupting parents' relationships with other parents and school officials (Hofferth et al., 1998; Perna & Titus, 2005). I rely heavily in the selection and operationalization of these social capital variables on Perna's and Titus' study entitled *The Relationship between Parental Involvement as Social Capital and Enrollment: An Examination of Racial/Ethnic Group Differences* (2005), omitting many variables not found in their analysis to significantly impact enrollment. Correlations matrices of all included variables are provided in Tables 2.2, 2.4, 2.6, and 2.8.

#### *School-Level Variables*

The multi-layered conceptual model-employed assumes that college-going outcomes are also determined by the school environment in which students make those decisions. It is hypothesized that there are effects to attending schools of different student compositions. The capital that students bring with them to school from their family background becomes part of the culture of that school and impacts other students as well. Furthermore, as the literature shows, the amount and quality of educational resources important to college-going vary greatly at schools serving students of different racial and socioeconomic background (Jerald & Ingersoll, 2002; National Research Council, 2003; Oakes & Guiton, 1995). The school variables of interest here are the demographic makeup of the high schools operationalized as the percent of students who are black, Hispanic, or Asian/Pacific Islander. School racial composition has been

shown to impact a variety of educational outcomes (Orfield & Lee, 2005; Perna and Titus, 2005; Frost, 2007); where proportion of individual groups is not significant the aggregate proportion of non-white students is also tested. The socioeconomic level of the population served is proxied by percent of students participating in the federal free and reduced lunch program. College enrollment has been shown to be related to the predominate socioeconomic status of the students at a school (Perna & Titus, 2005) as well as other school characteristics such as availability of counseling and parental involvement (Rowan-Kenyon, Bell, & Perna, 2008; Perna et al., 2008). Both race/ethnicity and free lunch percentages are derived from school-level information in NELS provided by school counselors.<sup>2</sup> In order to test if there is a school-level effect of the various other human, cultural, and social capital variables over and above individual-level effects, school aggregates of these variables were created by averaging the student-level responses from each school (AVE SES, AVE ACH TEST, AVE PAR DISCUSS, AVE PAR INVOLVE, AVE PAR EXPECT, AVE MOVED, AVE FRIENDNOCOLL, AVE FRIEND 2YRCOLL, AVE FRIEND4YRCOLL). Urbanicity of schools and whether the schools were public, Catholic, or another type of private school are also included as literature-supported controls (Coleman & Hoffer, 1987). Correlation matrices of all school-level variables are provided in tables 2.3, 2.5, 2.7, and 2.8.

### *Analyses*

I use Hierarchical Linear Modeling to assess the impact of school and community context on the relationship between student-level demographic variables and college-going outcomes.

The HLM approach enables me to assess the degree to which the relationship between race/ethnicity and SES of students and college expectations, academic preparation, and

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<sup>2</sup> CCD data on racial makeup and percent of students receiving free and reduced lunch for these years were not employed due to extensive missing data and many cases where zero's were recorded for missing data.

enrollment is further conditioned on the types of schools that students are nested in. Because the dependent variables for three of these analyses have more than two categories, the analyses employ a multinomial generalization of HLM. The multilevel approach also allows me to capitalize on the complex survey sample design employed by NELS (Thomas & Heck, 2001).

### *Outcomes*

Perna's conceptual model illustrates how these different layers of context in which students develop inform their predisposition for higher education. This predisposition is impacted by previous academic achievement, but also influences the academic choices that students make in high school. A student who expects to attend college will take a more academically rigorous course load, optimally one that meets the threshold for college admission. Students aspiring to college will also take the college entrance exams that are required by most colleges and universities. This expectation and preparation then culminate in a decision whether to actually attend college. Thus, the four outcomes modeled in this paper are expectation of attending college, academic preparation, entrance exam taking, and enrollment.

### *Expectation*

These analyses model four expectation categories (high school only, college, graduate school and vocational school). Students in the NELS survey were asked in the 10<sup>th</sup> grade, "As things stand now, how far in school do you think you will get?" with the possible answers of: less than high school diploma, high school graduation only, less than two years of trade school, two or more years of trade school, less than two years of college, two years of college or more, finish college, master's degree, or Ph.D./M.D. The multinomial logit link function expresses the log-odds of a particular type of expectation ( $m$ ) relative to high school expectations only, the

reference category (Raudenbush & Bryk, 2002). The multinomial student-level structural model for expectations is expressed as:

$$\eta_{mij} = \beta_{0j}(m) + \beta_{1j}(m) * (\text{BLACK})_{ij} + \beta_{2j}(m) * (\text{FEMALE})_{ij} + \beta_{3j}(m) * (\text{ACH TEST})_{ij} + \beta_{4j}(m) * (\text{SES})_{ij} + \beta_{5j}(m) * (\text{COLL EXPENSE/AID})_{ij} + \beta_{6j}(m) * (\text{FRIENDS STUDY})_{ij} + \beta_{7j}(m) * (\text{FRIENDS CONTIN ED})_{ij} + \beta_{8j}(m) * (\text{MOVED})_{ij} + \beta_{9j}(m) * (\text{PAR EXPECTATIONS})_{ij} + \beta_{10j}(m) * (\text{PAR DISCUSSIONS})_{ij} + \beta_{11j}(m) * (\text{PAR INVOLVE})_{ij}$$

where  $i$  denotes the student,  $j$  denotes the school,  $m$  denotes 1 to 3 types of expectation (i.e. college, graduate school, or vocational school relative to high school only); all level one variables are grand mean centered. Grand mean centering is used to equalize schools on student-level factors.

The coefficients for the student level expectations model give the distribution of expectations in school  $j$  given the observed student characteristics. Only the regression coefficients for the intercepts are assumed to vary across schools and the coefficients for all within-school predictors are assumed to be fixed for all schools (Bryk & Raudenbush, 1992).

The school-level model takes into account the variance in the intercepts across schools while the school-level slopes are fixed. Although the tables in the findings only show those school level variables found to be significant and incorporated in the final model, the full school-level model is expressed as:

$$B_{0j(m)} = \gamma_{00} + \gamma_{01(m)} * (\text{CONTROL})_j + \gamma_{02(m)} * (\text{URBANICITY})_j + \gamma_{03(m)} * (\% \text{ RACE})_j + \gamma_{04(m)} * (\text{AVE SES})_j + \gamma_{05(m)} * (\% \text{ FREE LUNCH})_j + \gamma_{06(m)} * (\text{AVE PAR EDUC})_j + \gamma_{07(m)} * (\text{AVE ACH TEST})_j + \gamma_{08(m)} * (\text{AVE FRIENDS STUDY})_j + \gamma_{09(m)} * (\text{AVE FRIENDS CONTIN ED})_j + \gamma_{010(m)} * (\text{AVE MOVED})_j + \gamma_{011(m)} * (\text{AVE PAR EXPECT})_j + \gamma_{012(m)} * (\text{AVE PAR DISCUSS})_j + \gamma_{013(m)} * (\text{AVE PAR INVOLVE})_j + u_{0j(m)},$$

$$B_{pj(m)} = \gamma_{p0(m)} \text{ for } p = 1, \dots, 11 \text{ student-level variables}$$

where  $j$  denotes the school,  $m$  denotes 1 to 3 types of aspiration, and AVE PAR DISCUSS AND AVE PAR INVOLVE are composites of school-level variables derived by averaging responses to clusters of questions.

### *Curriculum*

Similar analyses are conducted for the high school curriculum data which has four categories as well (did not meet course-taking threshold, 4 English (E) + 3 Social Science (SS) + 2 Math (M), 4E+3SS+3S+3M, and 4E+3SS+3S+3M+2 Foreign Language (FL)). The multinomial logit link function expresses the log-odds of a particular type of curriculum relative to the reference category, not meeting any of the course thresholds. The multinomial student-level structural model for curriculum is expressed as:

$$\eta_{mij} = \beta_{0j}(m) + \beta_{1j}(m) * (\text{HISPANIC})_{ij} + \beta_{2j}(m) * (\text{BLACK})_{ij} + \beta_{3j}(m) * (\text{FEMALE})_{ij} + \beta_{4j}(m) * (\text{SECOND GENERATION})_{ij} + \beta_{5j}(m) * (\text{ACH TEST})_{ij} + \beta_{6j}(m) * (\text{SES})_{ij} + \beta_{7j}(m) * (\text{FRIEND NO COLL})_{ij} + \beta_{8j}(m) * (\text{FRIEND 4 YR COLL})_{ij} + \beta_{9j}(m) * (\text{MOVED})_{ij} + \beta_{10j}(m) * (\text{PAR CONTACT AC})_{ij} + \beta_{11j}(m) * (\text{PAR CONTACT BEHAV})_{ij} + \beta_{12j}(m) * (\text{PARENT EXPECTATION})_{ij} + \beta_{13j}(m) * (\text{PARENT DISCUSSION})_{ij} + \beta_{14j}(m) * (\text{PARENT INVOLVEMT})_{ij} + \beta_{15j}(m) * (\text{PARENT COLLEGE ACT})_{ij}$$

where  $i$  denotes the student,  $j$  denotes the school,  $m$  denotes 1 to 3 types of enrollment (i.e. 4-year public, 4-year private, or 2-year institution relative to high school only); all level one variables are grand mean centered.

The full school-level model is expressed as:

$$B_{0j(m)} = \gamma_{00} + \gamma_{01(m)} * (\text{CONTROL})_j + \gamma_{02(m)} * (\text{URBANICITY})_j + \gamma_{03(m)} * (\% \text{ RACE})_j + \gamma_{04(m)} * (\text{AVE SES})_j + \gamma_{05(m)} * (\% \text{ FREE LUNCH})_j + \gamma_{06(m)} * (\text{AVE PAR EDUC})_j + \gamma_{07(m)} * (\text{AVE ACH TEST})_j + \gamma_{08(m)} * (\text{AVE FRIENDS STUDY})_j + \gamma_{09(m)} * (\text{AVE FRIENDS NO COLL})_j + \gamma_{010(m)} * (\text{AVE FRIENDS 4 YR COLL})_j + \gamma_{011(m)} * (\text{AVE MOVED})_j + \gamma_{012(m)} * (\text{AVE PAR EXPECT})_j + \gamma_{013(m)} * (\text{AVE PAR DISCUSS})_j + \gamma_{014(m)} * (\text{AVE PAR INVOLV})_j + u_{0j(m)},$$

$$B_{pj(m)} = \gamma_{p0(m)} \text{ for } p = 1, \dots, 15 \text{ student-level variables}$$

where  $j$  denotes the school,  $m$  denotes 1 to 3 types of enrollment, and AVE PAR DISCUSS and AVE PAR INVOLVE are composites of school-level variables derived by averaging responses to clusters of questions.

### *Entrance Exam Taking*

The outcome for entrance exam is a dummy variable indicating whether students took the SAT or ACT. The binomial logit link function is employed and expresses the log-odds of having

taken the SAT or ACT relative to not having taken either. The binomial student-level structural model for entrance exam is expressed as:

$$\eta_{mij} = \beta_{0j}(m) + \beta_{1j}(m) * (\text{ASIANPAC})_{ij} + \beta_{2j}(m) * (\text{BLACK})_{ij} + \beta_{3j}(m) * (\text{FEMALE})_{ij} + \beta_{4j}(m) * (\text{ACH TEST})_{ij} + \beta_{5j}(m) * (\text{SES})_{ij} + \beta_{6j}(m) * (\text{FRIEND NO COLL})_{ij} + \beta_{7j}(m) * (\text{FRIEND 4 YR COLL})_{ij} + \beta_{8j}(m) * (\text{PAR CONTACT BEHAV})_{ij} + \beta_{9j}(m) * (\text{PARENT INVOLVEMT})_{ij} + \beta_{10j}(m) * (\text{PAR COLLEGE ACT})_{ij}$$

where  $i$  denotes the student,  $j$  denotes the school,  $m$  denotes 1 to 3 types of enrollment (i.e. 4-year public, 4-year private, or 2-year institution relative to high school only); all level one variables are grand mean centered.

The full school-level model is expressed as:

$$B_{0j(m)} = \gamma_{00} + \gamma_{01(m)} * (\text{CONTROL})_j + \gamma_{02(m)} * (\text{URBANICITY})_j + \gamma_{03(m)} * (\% \text{ RACE})_j + \gamma_{04(m)} * (\text{AVE SES})_j + \gamma_{05(m)} * (\% \text{ FREE LUNCH})_j + \gamma_{06(m)} * (\text{AVE PAR EDUC})_j + \gamma_{07(m)} * (\text{AVE ACH TEST})_j + \gamma_{08(m)} * (\text{AVE FRIENDS STUDY})_j + \gamma_{09(m)} * (\text{AVE FRIENDS NO COLL})_j + \gamma_{010(m)} * (\text{AVE FRIENDS 4 YR COLL})_j + \gamma_{011(m)} * (\text{AVE MOVED})_j + \gamma_{012(m)} * (\text{AVE PAR EXPECT})_j + \gamma_{013(m)} * (\text{AVE PAR DISCUSS})_j + \gamma_{014(m)} * (\text{AVE PAR INVOLV})_j + u_{0j(m)},$$

$B_{pj(m)} = \gamma_{p0(m)}$  for  $p = 1, \dots, 10$  student-level variables

where  $j$  denotes the school,  $m$  denotes 1 to 3 types of enrollment, and AVE PAR DISCUSS and AVE PAR INVOLV are composites of school-level variables derived by averaging responses to clusters of questions.

### *Enrollment*

Because there are four categories of enrollment, analyses like those for the expectations and curriculum outcomes are conducted for the college enrollment data. The four categories are enrollment at a 4-year public institution, 4-year private institution, 2-year institution, and no enrollment. The multinomial logit link function expresses the log-odds of a particular type of enrollment ( $m$ ) relative to no enrollment, the reference category. The multinomial student-level structural model for enrollment is expressed as:

$$\eta_{mij} = \beta_{0j}(m) + \beta_{1j}(m) * (\text{BLACK})_{ij} + \beta_{2j}(m) * (\text{FEMALE})_{ij} + \beta_{3j}(m) * (\text{SECOND GENERATION})_{ij} + \beta_{4j}(m) * (\text{ACH TEST})_{ij} + \beta_{5j}(m) * (\text{SES})_{ij} + \beta_{6j}(m) * (\text{FRIENDS NO COLL})_{ij} + \beta_{7j}(m) * (\text{FRIEND 2 YR COLL})_{ij} + \beta_{8j}(m) * (\text{FRIEND 4 YR COLL})_{ij} + \beta_{9j}(m) * (\text{MOVED})_{ij} + \beta_{10j}(m) * (\text{PAR CONTACT AC})_{ij} + \beta_{11j}(m) * (\text{PAR CONTACT BEHAV})_{ij} + \beta_{12j}(m) * (\text{PARENT EXPECTATION})_{ij} + \beta_{13j}(m) * (\text{PARENT DISCUSSION})_{ij} + \beta_{14j}(m) * (\text{PARENT INVOLVEMT})_{ij}$$

where  $i$  denotes the student,  $j$  denotes the school,  $m$  denotes 1 to 3 types of enrollment (i.e. 4-year public, 4-year private, or 2-year institution relative to high school only); all level one variables are grand mean centered.

The full school-level model is expressed as:

$$B_{0j(m)} = \gamma_{00} + \gamma_{01(m)} * (\text{CONTROL})_j + \gamma_{02(m)} * (\text{URBANICITY})_j + \gamma_{03(m)} * (\% \text{ RACE})_j + \gamma_{04(m)} * (\text{AVE SES})_j + \gamma_{05(m)} * (\% \text{ FREE LUNCH})_j + \gamma_{06(m)} * (\text{AVE ACH TEST})_j + \gamma_{07(m)} * (\text{AVE FRIENDS STUDY})_j + \gamma_{08(m)} * (\text{AVE FRIENDS NO COLL})_j + \gamma_{09(m)} * (\text{AVE FRIENDS 2 YR COLL})_j + \gamma_{010(m)} * (\text{AVE FRIENDS 4 YR COLL})_j + \gamma_{011(m)} * (\text{AVE MOVED})_j + \gamma_{012(m)} * (\text{AVE PAR EXPECT})_j + \gamma_{013(m)} * (\text{AVE PAR DISCUSS})_j + \gamma_{014(m)} * (\text{AVE PAR INVOLV})_j + u_{0j(m)},$$

$$B_{pj(m)} = \gamma_{p0(m)} \text{ for } p = 1, \dots, 14 \text{ student-level variables}$$

where  $j$  denotes the school,  $m$  denotes 1 to 3 types of enrollment, and AVE PAR DISCUSS and AVE PAR INVOLVE are composites of school-level variables derived by averaging responses to clusters of questions.

### Limitations

The validity of this study is limited by the age of the NELS 88 dataset. The dynamics that shape the outcomes modeled here may have changed over the past fifteen years. The demographic composition of the United States has shifted significantly and the educational policy landscape has changed considerably. Some of the variables employed also have reliability issues. The school-level measure of percent-free lunch underestimates the degree of poverty at a school as not all students may choose to participate in the program, particularly at the high school level. Several of the school-level variables being averages of the students surveyed within them also pose reliability issues.

The study is also limited by the nature of the parental involvement and discussion variables. Prior research and reviews have noted the inadequacy of proxies for parental involvement that provide the quantity rather than the quality of engagement and fail to take

account of family interactions in addition to parental ones (Dika & Singh, 2002; Perna & Titus, 2005).

Prior research has shown that the availability of financial aid impacts student decisions to attend college (e.g., Abraham & Clark, 2003; Avery & Hoxby, 2003; Kane, 2001; Keane, 2002). However, there are only financial aid variables in NELS for those who actually attend college. Future multi-level research into the effects of school context should also include variables reflecting both availability of and student knowledge about financial aid. Omission of the dropout rate at schools may also bias estimates. Schools with higher dropout rates will appear to have higher entrance exam taking as well as continuation because less prepared students who have dropped out are excluded from analyses. Future analyses could model these outcomes as a proportion of entering freshmen.

Finally, due to the small number of students per school in these analyses, there is reduced statistical power to detect between school differences (Lee & Burkum, 2003). Thus the school-level findings are conservative estimates.

## **Results**

### *Descriptives*

Tables 2.10-17 show the cross-tabulation of expectations, curriculum, entrance exam taking, and enrollment by student race/ethnicity and SES quartiles. The weights employed are F1 Questionnaire (F1QWT) for expectations, F2 Questionnaire (F2QWT) for curriculum and entrance exam taking, and the F3 Questionnaire for 12<sup>th</sup> Graders (F3QWTG12) for enrollment.

### *Expectations*

This descriptive glimpse shows that slightly fewer Hispanics than whites expect to go to college or graduate school and that more Hispanics and blacks expect to attend only high school

relative to whites (Table 2.10). More Hispanics than any other racial/ethnic group expect to go to vocational school. Asian/Pacific Islanders are more likely than all other racial/ethnic groups to expect to attend either college or graduate school when these two outcomes are considered together. Table 2.11 shows that as SES increases, students are less likely to think they will go to high school only or vocational school and more likely to think they will go to either college or graduate school. The highest SES group is over three times more likely to expect graduate school than the lowest quartile (53.2% vs. 15.5%) while the lowest quartile students are 15 times more likely than the highest quartile to expect to only attend high school (20.0% vs. 1.3%).

### *Curriculum*

Tables 2.12 and 2.13 give the percent of students who met certain curricular thresholds. The most rigorous curriculum category (4 English, 3 Social Studies, 3 Science, 3 Math, and 2 Foreign Language) is the modal outcome for Asian/Pacific Islanders (52.4%), whites (38.5%) and blacks, though narrowly (29.9%). By contrast, Hispanics disproportionately take the lower two curricular categories. Fewer black students take the lowest and highest curricular tracks and more take the middle two tracks compared to whites. In terms of SES quartiles, the percent of students who do not meet any of the thresholds decreases with rising SES. Many more students of the higher quartiles complete the most rigorous curriculum than the lower quartiles with 57.8% of the top quartile but 18.8% of the lowest quartile taking the most rigorous curriculum. Interestingly, far fewer students overall take the second most rigorous track. It is less common for students to complete what is otherwise a college preparatory curriculum including three science and math courses and not also have the two foreign language courses.

### *Entrance Exam Taking*

Tables 2.14 and 2.15 show the percentage of students taking the SAT or ACT college admissions tests. More white and Asian students take the SAT or ACT (66.9% and 79.0%) compared to blacks (60.8%) and Hispanics (53.0%). SAT/ACT taking almost doubles between students of the lowest SES quartile (47.2%) and the highest quartile (89.8%).

### *Enrollment*

Enrollment outcomes also vary by race/ethnicity and SES (Tables 2.16 and 17). Larger shares of Hispanics (49.6%) and blacks (47.8%) do not enroll in any form of higher education than whites (36.9%) or Asians/Pacific Islanders (24.4%). Hispanics have the highest proportion of students continuing on to two-year institutions at 22.7%. Blacks have the lowest 2-year rates at 13.5%. Whites and Asians are more likely than blacks and Hispanics to be at either four-year private or public institutions. When broken down by SES (Table 2.17), the shares of students who do not enroll at all decreases dramatically as SES increases. Two-year enrollments are highest for students from the second and third quartiles. The shares of students who go on to four-year private and public institutions increases with each SES quartile and the magnitude of these increases grows as well. Overall, whereas 20.9% of the lowest quartile goes on to four-year institutions, 71.7% of the highest quartile goes to 4-year schools.

### *Expectations by School Composition*

These descriptives show consistently that Hispanic, black and less affluent students lag behind their white, Asian, and more affluent peers on the outcomes of expectation, academic course taking, SAT/ACT taking, and actual postsecondary enrollment. Tables 2.18 through 2.25 show cross tabulations of these same outcomes but looks at student outcomes by the demographic composition of the high school they attend. Students are divided by the percent of

non-white students at their school and the percent of students receiving free or reduced lunch at their school. Table 2.18 shows that the percentage of students expecting to go only to high school increases slightly when one considers the percent of non-white students at one's school. There is little difference in the proportion expecting to attend college but the proportion expecting to attend graduate school declines from 30.7% in schools with less than 25% minority students to 24.9% at schools with more than 75% minority students. The percent of students aspiring to high school or vocational school increases with the proportion of students at one's school receiving free or reduced lunch (Table 2.19) while the percent aspiring to college and graduate school declines from 82% in the schools with fewest free lunch participants to 65.7% at schools with the most free lunch participants.

#### *Curriculum by School Composition*

Interesting patterns emerge regarding curriculum taking (Tables 2.20 and 2.21). Schools that are less than 25% non-white had the most students taking the lowest curriculum but also the second highest of the most rigorous curriculum. Schools with 25-50% non-whites had the fewest students in the least rigorous curricular category and the most in the highest curricular category. Students at schools with more than 50% minority students were fairly evenly split among the lowest, low, and high curriculum outcomes. In terms of affluence, schools with the fewest and most free or reduced lunch participants had the highest percentage of students completing the most rigorous curriculum. Both of these types of schools show a bifurcated pattern with most students being in the lowest or highest curriculum groupings. The finding of large numbers of students taking the most rigorous curriculum at the poorest schools is likely due to programs and policies aimed at enhancing the educational experiences of students at these schools By

contrast, students at the middle two types of schools with 25 to 50% of students receiving free and reduced lunch were more likely to be in the middle curricular categories.

#### *Entrance Exam Taking by School Composition*

In tables 2.22 and 2.23 the percentage of students taking the SAT or ACT declines with increasing percentage of non-white and free or reduced lunch participating students but rises again in the schools that have the largest minority and poor populations. Again, this is likely a result of programs that target these at-risk schools and the students in them such as Title I, Upward Bound, Talent Search, GEAR UP, etc.

#### *Enrollment by School Composition*

The patterns for enrollment, however, are more linear (Tables 2.24 and 2.25). Schools with lower percentage of minorities have fewer students not continuing their education after high school and more going on to four-year colleges and universities. Students at schools with more than 50% non-white students are more likely to not enroll after high school. Of those who do, schools with 50-75% non-whites have more students going to 2-year schools whereas schools with greater than 75% non-whites have more students going to four-year public institutions. Schools with higher proportions of free lunch participants have higher levels of no enrollment and lower levels of four-year enrollment. Two-year enrollments are highest at the schools in the middle with 25-75% free or reduced lunch participation. Thus, these descriptive analyses of outcomes by school composition reveal more complex patterns. In general, schools with higher proportions of non-white and poor students have lower levels of the outcomes of aspiration, curriculum, SAT/ACT taking, and enrollment. However, there are interesting nuances such as extremely high poverty and high minority schools rebounding somewhat from the general trend of lower outcomes as poverty and minority proportion increase. Also, the best curriculum

outcomes were seen at the schools with 25-50% minority students. These descriptive analyses provide important information about the outcomes of students of different races/ethnicities and socioeconomic background on the one hand, and students at schools with different demographic compositions. Yet, they do not tell us what school composition contributes to college going outcomes over and beyond student characteristics. The following hierarchical linear modeling results allow us to do that, to control for student characteristics and assess the further explanation of variance in outcomes due to school attended.

### *Multilevel Modeling Results*

The multilevel analyses were conducted using Hierarchical Linear Modeling version 6.03. Missing data at the student level were imputed using the mean on that variable for students included in that particular outcome. Students missing sex, race/ethnicity, school ID, or the outcome of interest were excluded from analyses. Schools with missing data were excluded from analyses. The weights employed were normalized versions of F1 Questionnaire (F1QWT) for expectations, F2 Questionnaire (F2QWT) for curriculum and entrance exam taking, and the F3 Questionnaire for 12<sup>th</sup> Graders (F3QWTG12) for enrollment.

### *Expectations*

The multilevel analyses show that the odds of tenth graders expecting to further one's education beyond high school are related to several student-level variables. The significant coefficients in Table 2.26 indicate that, controlling for other student- and school-level variables, the odds of expecting to go on to college, graduate school, and vocational school relative to only expecting to attend high school increase with the student's score on the composite achievement test, socioeconomic status, importance placed on college expenses and financial aid, the number of friends who think it is important to continue their education, and the frequency of parental

discussions about academics.<sup>3</sup> The outcomes of expecting to attend college and graduate school are also positively associated with being black, parental expectations, and parental involvement in school activities. Expectation to attend vocational school and college is negatively associated with having moved in the past two years and, interestingly, with the number of friends who think it is important to study.

Controlling for student-level variables, there are some school-level variables that affect the odds of expecting to attend different forms of education relative to expecting only to attend high school. The percent of Hispanic students at one's school is positively related to all outcomes. Attending a Catholic or other private high school is positively associated with expecting to attend college or graduate school. The average number of students at a school that had moved in the past two years is negatively associated with expecting college or graduate school. Attending a rural school is negatively associated with college expectations and, surprisingly, increases in the school's average achievement test score are negatively associated with expecting to go to graduate school.

### *Curriculum*

The curriculum variable is coded so that lower levels of curriculum are compared to taking the highest level of curriculum, the curriculum required by many colleges and universities (4 English, 3 Social Science, 3 Science, 3 Math, and 2 Foreign Language).<sup>4</sup> Controlling for other student- and school-level variables, the following variables are associated with lower odds of being in any of the less rigorous categories than the highest: students with higher achievement test scores, higher SES, more friends planning to attend a four-year institution, higher levels of

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<sup>3</sup> Tables 2.26-2.29 only contain results for school-level variables that impacted the model. Preliminary models were run with all school-level variables but those that were not significant and did not impact student-level coefficients were excluded from the final models.

<sup>4</sup> This highest level of curriculum is also the closest to that required by the public 4-year institutions in California, Florida, and Georgia, the states examined in the other questions of this research project.

parent education expectations, and parents who attend school college programming (Table 2.27). Black students are less likely to be in the lowest category. Net of other variables in the model, second generation students as well as students with high levels of parent academic discussions and parental involvement in school activities have lower odds of being in the bottom two categories. Net of other influences, female students are less likely to be in the medium category compared to the highest one. Being Hispanic is associated with being more likely to be in any of the lower categories compared to the highest. Furthermore, having moved in the past two years or one's parents having contacted the school about behavior is associated with increased odds of being in the bottom two categories. One's parents contacting the school about academics is also associated with being in the lowest category. Finally, having more friends not planning to attend college makes one more likely to be in the medium category rather than the highest.

In terms of school level effects, net of other variables, students at schools with higher average levels of parent academic discussion and Catholic schools are less likely to be in the lowest curriculum category. Students are more likely to be in the low category at rural schools and schools with larger percents of Asian/Pacific Islander students. They are less likely to be in the low category at schools with higher average numbers of friends planning to attend a four-year college. A large number of school-level variables impact the line between being in the medium and high curriculum categories. *Ceteris paribus*, increased odds of being in the medium category are associated with being at schools that are rural, private but not Catholic, and have higher levels of parental involvement. Students are less likely to be in medium than high curricular categories at Catholic schools and those that have higher SES, percent Asian/Pacific Islander, and percent Hispanic students.

### *Entrance Exam Taking*

The student-level variables that are associated with increased odds of taking either the SAT or ACT are higher achievement test, higher SES, being Asian/Pacific Islander or female, having more friends planning on attending a four-year college, and reporting higher levels of parental involvement in school activities and parents attending school college-going programming (Table 2.28). Students are less likely to take these tests if they had more friends with no plans for college and their parents had contacted the school about their behavior. Controlling for student-level variables, students are more likely to take the SAT or ACT at schools that are Catholic, other private, have higher percent of free lunch participants, and have higher average levels of friends planning on attending a four-year college and parent academic discussions. Students at schools with higher average levels of friends not planning to attend college are less likely to take the SAT or ACT.

### *Enrollment*

Finally, the analyses also indicate that several student-level variables are related to the odds of actually enrolling in a four-year public, four-year private, or two-year institution relative to no postsecondary enrollment in the fall after graduating from high school (Table 2.29). Higher SES, higher scores on the achievement test, more friends planning to attend a four-year college, and higher levels of parent expectations, discussions and involvement are all associated with significantly increased odds of enrollment at all three sectors of institutions after controlling for other variables. Furthermore, enrollment at a two-year school is positively associated with the number of friends one has who are planning to attend a two-year school and negatively associated with the number of friends not planning to attend college, having moved in the past two years, and parents having contacted the school about the student's behavior. The odds of

enrollment in a four-year private college are higher for black students and lower for students with more friends planning to attend a two-year institution and parents having contacted the school about either academics or behavior. The odds of attendance at a four-year public college are higher for blacks and second-generation immigrant students and lower for those with more friends planning to attend a two-year institution, who have moved recently, and whose parents have contacted the school for either academic or behavioral reasons.

In terms of school-level variables, controlling for other variables, students at Catholic schools are more likely to enroll at all institution types than not enroll. The likelihood of enrollment at two-year institutions is increased by attending schools with a higher percent of Asian/Pacific Islander students and higher average number of friends planning to attend a two-year institution and higher parental expectations. The likelihood of two-year enrollment is lowered by a school's percent non-white and the average number of friends not planning to attend college. The odds of attending a four-year private institution rise with attending a non-Catholic private high school and schools with higher percentages of Asian/Pacific Islander students and higher average number of friends planning to attend a four-year college. Finally the likelihood of attending a four-year public institution is increased at schools where students report a higher number of friends planning to attend a four-year college and interestingly, higher number of friends not planning to attend college. The odds are lower at schools where students report a higher number of friends planning to attend a two-year college.

## **Discussion**

Discussion of these findings is organized into the student-level and then school-level variables. Within each level, discussion is organized thematically around the clusters of

independent variables. Specifically, I discuss how race/ethnicity and each of the types of capital (human, cultural, and social) influence each of the outcomes.

### *Student Race/Ethnicity*

Even after controlling for prior academic achievement, socioeconomic status and forms of social and cultural capital, there are still racial effects on these college-going outcomes. Black students have higher expectations to attend college and graduate school, are less likely to take the lowest curriculum, and are more likely to enroll in a four-year institution when compared to whites. That black students had lower outcomes in terms of expectations and enrollment in descriptive analyses suggests that they are disadvantaged in terms of the various forms of capital included in the model. These findings are also consistent with prior research that has found higher expectations and four-year enrollment for black students (Frost, 2007; Kao & Tienda, 1998; Perna & Titus, 2005; Qian & Blair, 1999). Yet, as other scholars have noted, these findings must be interpreted with care as small numbers of blacks and Hispanics are similar to whites in terms of other variables in the model (Hurtado, Inkelas, Briggs, & Rhee, 1997; Perna & Titus, 2005).

There are fewer effects for Hispanics and Asian American/Pacific Islanders. That Hispanics had lower levels of aspiration, SAT/ACT taking and enrollment in descriptives but no significant effects are found when controlling for other individual and school-level variables likewise suggests that Hispanics are disadvantaged in terms of these influences. Even when all of these variables are controlled, Hispanics are still more likely to take all of the lower curricula than the highest when compared to whites. While this finding makes sense in terms of Hispanic students being more likely in descriptives to aspire to vocational school with less stringent admissions requirements, further research is required to understand why Hispanic students are

less likely to take the highest standard of curriculum that is required by many four-year colleges. This may be related to the fact that schools that educate more Hispanic and black students are less likely to have rigorous academic coursework available to their students (Gandara, 2002; Monk & Haller, 1993; Oakes, 1990; Oakes & Guiton, 1995). Second language acquisition may also be a factor.

Asian-American students in descriptive analyses had the highest levels of all outcomes. Only in SAT/ACT taking does this advantage hold up after controlling for other variables. Thus, Asian American outcomes in aspiration, curriculum, and enrollment can be attributed to the SES, achievement, and cultural and social capital variables the model controls for.

### *Student Human Capital*

The human capital variables in the model, SES and prior academic achievement, are those most consistently associated with all college-going outcomes. These findings illustrate that the ascriptive characteristics long shown to impact educational attainment still are important today (Coleman, 1966; Sewell & Hauser, 1975, 1976). These findings are also consistent with the more recent college-going literature that students with more financial and academic resources are more likely to aspire to and enroll in college (Frost, 2007; Karen, 2002; Perna & Titus, 2005). While it is unsurprising that students with higher achievement scores do better on these outcomes, it must be remembered that inclusion of this variable in the model allows us to see the effects of other variables for the student with average achievement test scores. The consistent SES effect is similarly net of academic achievement but also net of other social and cultural capital variables in the model that are correlated with SES. This suggests that the SES effect found here consists of other advantages conferred by SES such as the ability to afford college and parental knowledge about college from having attended college themselves. An attempt was

made to control for students' sense of the affordability of college by inclusion of the variable indicating whether college expenses and financial aid were important in college selection. This variable is significant only for increasing expectations for all forms of higher education compared to high school only. That students who thought colleges expenses were important have higher expectations in tenth grade but no effects for the other outcomes suggests that the variable is actually only capturing that students are thinking about college and costs and it is not deterring them from forming expectations, preparing, and enrolling.

### *Student Cultural Capital*

Cultural capital is modeled in this study with both parental education and parental expectations. Parental education is not significant for any of the outcomes and excluded from final models, likely because it is already included in the composite measure of SES that is significant for all outcomes. Parents expecting higher levels of education of their children, however, is associated with lower odds of vocational expectations and higher odd of college and graduate school expectations compared to only high school, lower odds of being at any of the less rigorous curriculum levels, and higher odds of enrolling in any type of postsecondary institution. This is consistent with similar research (Frost, 2007; Perna & Titus, 2005). Parental values and norms about children pursuing higher education, regardless of their own educational level, are a form of cultural capital effective in promoting college-going behaviors. This parental expectation as part of the student's *habitus* may operate by making higher education seem plausible and achievable.

### *Student Social Capital*

Social capital in this study is operationalized by a number of variables designed to capture students' interactions with others that might facilitate college going. It is hypothesized

that a student having friends who value education may instill norms and obligations regarding higher education, but also may provide the student with information about going to college (Coleman, 1988). Interestingly, the number of friends that students have who think studying is important impacts only 10<sup>th</sup> grade expectations, reducing expectation of vocational school and raising expectation of college compared with high school. It has no effect on the 12<sup>th</sup> grade outcomes of curriculum and SAT/ACT taking or eventual enrollment. The number of friends who plan to continue their education past high school, however have much more predictive power. The variable available for the 10<sup>th</sup> grade expectations analysis is number of friends planning to continue their education past high school and it increases the likelihood of aspiring to all forms of higher education. The 12<sup>th</sup> grade variables with more specific information about friends' postsecondary plans also produce significant results. Net of other factors, the number of friends not planning college is associated with taking the medium curriculum rather than the highest, lower chances of taking the SAT, and lower two-year enrollment. The number of friends planning on attending a two-year school doesn't affect curriculum or SAT/ACT but is associated with higher two-year enrollment and lower four-year enrollment, both public and private. Finally, the number of friends planning to attend a four-year school is associated with reduced odds of taking any of the lower curricula and enhanced odds of taking the SAT or ACT and all three sectors of postsecondary enrollment. The findings here that a higher number of college-oriented friends increases the odds of college expectation, preparation, and enrollment is consistent with prior studies (Eckstrom et al., 1986; Rumberger, 1991). Peer group activities have been shown to facilitate identity formation through envisioning college attendance while respecting student cultural backgrounds (Tierney et al., 2005). Thus the college-going literature recommends incorporation of peer groups into college outreach programming (ACSFA, 2008;

Gandara & Bial, 2001; Tierney, Colyar, & Corwin, 2003). Yet it is unclear how this influence operates. Further research is required to understand whether friends impact college going through provision of information or through the creation of norms obligations that students seek to meet. Yet another possibility is that students having friends with college plans is actually a result, not cause, of the sorting that takes place in high schools among students into more and less college-oriented curricular tracks based on their achievement and educational objectives (Freidkin & Thomas, 1997).

It is hypothesized that students' level of social capital is also related to their parents' connections with others, particularly school personnel, as well as parent discussions with the child about academic issues. Parental involvement with the school, which facilitates larger social networks as well as conveys norms about the importance of education, increases the odds of college and graduate school aspiration, reduces odds of the lowest two curricula, increases SAT/ACT taking and increases all enrollment. Similarly, whether parents had attended college and financial aid programming is associated with lower odds of less stringent course taking and higher odds of SAT/ACT taking. A great deal of college programming takes place in the senior year after curriculum decisions are made and thus the relationship here is that the parents of students who take more academics are also more likely to go to college programming. It is possible, however, that parents attending college programming causes students to take the SAT or ACT both through the implicit message that college is possible or expected as well as obtaining necessary information.

Interestingly, the variables reflecting parents contacting the school about the student's academics or behavior (not available for expectations) are associated with a variety of lower outcomes, more for behavior than academics. While these variables do capture parent-school

contact, it seems to reflect communication for negative reasons. It may be that this variable is acting as a proxy for students who have academic and behavior problems and therefore are less likely to go to college. Future research needs to control for this. However, it is also possible that this variable is capturing negative exchanges between parents and school agents that pass on a form of social capital that is at odds with college going (Horvat et al., 2003).

Social capital is also modeled as the amount of parent-child discussions about academic issues; these discussions are the actual transmission to the student of the values and information about higher education reflected in parental involvement and expectations variables (Kao, 2007). This variable is related to higher expectations, more rigorous curricula, and increased enrollment. Finally, whether a student had moved in the past two years is included as a potential disruption to both student and parent networks with friends and school agents. This variable has a negative impact on outcomes by reducing vocational and college expectations, increasing the chances of having taken the lowest two curricula, and reducing two-year and four-year public enrollment. It does not have an impact on SAT, graduate school aspiration, or four-year private enrollment. The enrollment findings are consistent with those of Perna and Titus (2005) that a student moving impacts two- and four-year enrollment (they did not separate out private enrollment) and illustrate how moving serves as a deterrent to critical steps on the way to enrollment.

#### *Student-Level Summary*

Thus we see that college enrollment is influenced at the student level by known determinants of attainment: race/ethnicity, SES, and prior academic achievement. Furthermore, like prior research, our understanding of enrollment is enhanced by the incorporation of variables to capture the cultural and social capital available to students through their friends and parents (Perna & Titus, 2005). This paper moves us forward by showing that important steps along the

way to enrollment, namely expectation to go to college and academic preparation, are also explained by these same variables. Students who have access to higher education-oriented social and cultural capital through their friends and parents are more likely to aspire to college, take more academic courses, and take the SAT/ACT.

### *School Racial/Ethnic Composition*

This study also finds effects on these stages of college going in school-level variables. There is no effect on any of the outcomes by percent of school that is black despite school-level descriptive analyses indicating that the proportion of non-whites at a school mattered. This is also inconsistent with studies that have found negative effects of increasing black proportion in a school on academic achievement (Bankston & Caldas, 2000; Roscigno, 1998) as well as lower levels of college eligibility, SAT and AP taking and college enrollment (Teranishi, Allen, & Solorzano, 2004). My finding is likely attributable to controlling for academic achievement, SES, and other social and cultural capital variables at the individual level which was not done in the descriptive analysis by Teranishi et al. Once these student characteristics are controlled for, the outcomes for students at schools with more black students are not different. It is important to remember, however, that students at schools with high proportions of black students are not likely to be similar in terms of SES and other associated variables as students at schools with lower numbers of minorities (Orfield & Yun, 1999). Another possible reason for percentage black to not reach significance is that the relationship between proportion minority and some of the categories in these outcomes is not linear. Descriptives show that while outcomes decrease as proportion non-white increases, some outcomes increase again when the proportion non-white goes beyond 75%. This rebound is likely due to programs in place to help the poorest schools,

also often the highest minority schools. Linear regression requires that the relationship between independent and dependent variables be linear.

While there are no effects to proportion Hispanic on SAT/ACT taking and enrollment, increased percent Hispanic at a school is associated with higher expectation of all types of postsecondary education. This is consistent with findings by Frost (2007) and Goldsmith (2004) that students at schools with higher proportions of blacks and Hispanics have increased expectation of completing a four-year degree and going to graduate school. Goldsmith attributes this finding to an improved normative climate at these schools due to more positive beliefs among black and Hispanic students about their future and more pro-school attitudes. My findings support those of Frost that the Hispanic composition effect is stronger than the black composition effect. She questions whether this Hispanic effect may be due to larger proportions of second generation immigrant students whose parents were found by Kao and Tienda (1995) to have ambitious goals for and optimistic views of their children's future. While I do not model percent of school that is second generation, I do include second-generation status at the individual level and it is not significant for expectations although it was for curriculum and for two-year and four-year public college enrollment. This suggests that some other aspect of school Hispanic composition is responsible for the aspiration effect. It is also curious that while there is no significant individual effect of being Hispanic, there is an effect of school percent Hispanic. Further research is necessary to determine whether percent Hispanic increases the expectations of all demographic groups.

Increasing Hispanic composition is also associated with greater chances of being in the medium curriculum category compared to the highest. This finding seems contradictory to the above aspiration effect but is consistent with the individual-level finding that Hispanics are more

likely to be at all lower curriculum levels. Of further interest is the fact that the difference between the medium and high curriculum levels is taking two years of a foreign language. Further research is required to understand why students at schools with higher proportions of Hispanics, many of whom may be fluent in Spanish, are less likely to take the two years of a foreign language many colleges require. Perhaps students whose first language is not English do not have room in their schedules to take foreign languages over and above English as a second language courses. Also, progress in English classes may serve as the gateway to foreign language courses and disadvantage native Spanish speakers.

The proportion of a school that is Asian/Pacific Islander is also related to curriculum. Students at schools with higher proportions of Asian Americans are more likely to be in the low category, but less likely to be in the medium category compared with the high. Given that over half of Asian/Pacific Islanders take the most rigorous curriculum and have greater numbers aspiring to college, taking the SAT or ACT, and actually enrolling in college, schools with high proportions of Asian/Pacific Islander students are likely to have a large number of students taking the steps to prepare for college. This may create the “big-fish-little-pond effect” explored by Marsh (1987, 1991) where students have lower academic self-concepts and expectations in higher ability than in lower ability schools. A lower self-concept compared to high achieving students may result in many students preparing themselves less academically compared to the high achieving group.

The proportion Asian/Pacific Islanders at a school is also positively associated with two-year enrollment and four-year private enrollment. And finally the overall proportion of non-white students in a school is negatively associated with two-year enrollment.

### *School Control and Location*

Similar to prior research on the impact of high school control on college going (Coleman & Hoffer, 1987; Falsey & Heyns, 1984; McDonough, 1997), this study finds strong differences in college outcomes for students at Catholic and other private schools as compared with public ones. Catholic schools are found to increase college and graduate expectations, reduce lowest and medium curriculum taking, increase SAT/ACT taking and increase all enrollment. Students at other types of private high schools likewise have increased college and graduate school expectations, increased SAT/ACT taking, and increased four-year private enrollment, but interestingly increased medium curriculum taking over high. Students at rural schools have lower college expectations and are more likely to take the low and medium curricula than the high. While interesting, these sector and urbanicity findings are not the focus of the paper but must be controlled for to accurately estimate the other school-level effects.

### *School-Level Human Capital*

There are limited effects of school-level measures of human capital. Once the very strong effects of individual human capital are controlled for as well as the other measures of social and cultural capital, the various measures of school wealth and academic achievement don't matter as much. The exceptions are that as average SES of the school increases, students are less likely to be in the medium curriculum category compared to the highest. Regardless of individual SES, students at higher SES schools are more likely to be fully prepared for college than almost so. Another finding is that the percent of students receiving free and reduced lunch is positively associated with SAT/ACT taking. While this is counter-intuitive, schools with high proportions of free lunch students are the focus of programs aimed to increase college preparation and it is likely that at high poverty schools fee waivers for these tests are well

publicized. Also counterintuitive is the finding that higher average achievement test is associated with lower expectations to attend graduate school. This may be explained by the big-fish-little-pond effect discussed earlier (Marsh, 1987, 1991)

*School-Level Social Capital.*

The most consistent school effect variables are the social capital variables reflecting average number of friends while in 12<sup>th</sup> grade with different types of post high school plans. These school averages of student responses to the numbers of friends give us an idea of the *perceived* college-going plans of students at the school. Different than the actual percentage of students planning to go to college, it is an assessment what students think their peers will do. This may give us a better idea of the norms and expectations around college going which are important in the functioning of social capital (Coleman, 1988). Students at schools with higher average numbers of friends with no plans for college is associated with lower SAT/ACT taking, lower two-year enrollment, and paradoxically, higher four-year enrollment compared to not enrolling. Higher average number of friends planning to attend a two-year school is associated with higher two-year and lower four-year public enrollment. Finally, higher average number of friends planning to attend a four-year is associated with reduced likelihood of taking the lowest curriculum, increased SAT/ACT taking, and increased enrollment in both four-year public and private institutions. By and large, what students perceive their friends to be doing after high school is predictive of where the students themselves wind up and taking the steps (or not) to get there. And what friends at the school as a whole are perceived to be doing matters separate from what one's own friends are doing.

### *School-Level Cultural and Social Capital*

Less consistent are the school level aggregates of the parental cultural and social capital variables. Average parent educational expectation is associated only with higher two-year enrollment. This is interesting given that individual-level parental expectations are associated with lower odds of a student expecting to go to vocational school in tenth grade. Higher parental expectations at the school level may be sufficient to induce access to less selective two-year institutions but not sufficient to levy access to more selective four-year institutions. Average parent discussions about academic matters are associated with lower likelihood of taking the lowest curriculum and increased likelihood of taking the SAT. Average parent involvement in school activities is associated with higher vocational expectations and taking the medium curriculum rather than the highest one. Finally, the proportion of a school's respondents who have moved in the past two years and thus experienced a disruption to social capital is associated with lower odds of aspiring to all forms of higher education. These findings are similar to those of Perna & Titus (2005) in their analysis of school-level social capital in that I find no effect of average parent discussions or involvement on actual enrollment. The amount of discussions and involvement is, however, related to some levels of aspiration and preparation. School-level parental involvement and discussions convey a school-wide advantage in terms of expectation and preparation but are not sufficient to encourage enrollment. Actual enrollment therefore may be more attributable to individual variables or, conversely, the school-level variables of high school control and of peer network college plans as well as other school variables not modeled here. Furthermore, inconsistent findings may be an artifact of these variables being aggregates of student-level variables that are also the averaged responses on several items.

## **Conclusions**

This study shows that the sequence of college going outcomes of aspiration, academic course taking, SAT/ACT taking and college enrollment are all influenced by traditional individual background characteristics known to influence college going: prior academic achievement and family socioeconomic background. It also illustrates that these outcomes are shaped by indicators of student access to both cultural and social capital through their friends and families. Furthermore, net of all these significant influence, there are still some racial effects. Blacks have higher expectations, are less likely to take the lowest curriculum, and have higher four-year enrollment. Asian/Pacific Islanders are more likely to take the SAT/ACT. And Hispanics are more likely to be at all lower levels of curriculum.

This study finds, consistent with the multi-level model of college going employed that student outcomes are related to a variety of school-level variables. High school control has an impact on all four outcomes while rurality has a negative impact on some outcomes. High school composition in terms of race provides some explanatory value but varies in its impact by specific race and by outcome. Measures of school-level human capital provide very limited impacts and often in surprising but not unexplainable directions. School-level parental expectations contribute to two-year enrollment while school-level social capital related to parents help explain expectations and preparation. The most consistent school-level predictors however, are the average number of friends with different types of postsecondary plans.

## **Recommendations for Policy and Future Research**

My research, like that of others, shows that deficits for low SES and minority youth in college going can be explained by the various forms of capital shown to be significant predictors of college going in these models. That many of the deficits disappear and are even reversed

when SES, academic achievement, and social and cultural capital are controlled for suggests that minority students are disadvantaged in these respects. This understanding has been the foundation for a myriad of programs designed to increase college going for disadvantaged youth through lowering the barriers of cost, poor academic preparation, and college knowledge and encouragement. However, it is not just individual characteristics that explain the variance in these outcomes. A variety of school characteristics point to ways in which the school a student attends also plays a vital role. The trends seen in my descriptive analysis show generally a negative relationship between increasing proportion of poor or non-white students in one's school and the outcomes modeled here. That percent free lunch and percent of different racial groups in a school have limited and often positive impact on student outcomes means that the lower outcomes in descriptives at high poverty and minority schools are related to the characteristics of the students in them which the model controls for. It is the students at these schools with lower levels of the capital needed to prepare for and attend college. It is also these very schools which are most often disadvantaged in terms of the school-level variables such as average SES, number of friends planning to attend a four-year school, and levels of parent discussion and expectation that promote college-going behaviors.

These findings at both the student and school level suggest points of intervention. First, the pervasive effect of friends with postsecondary plans on all outcomes suggests that college-going programming should incorporate peer-based activities to build these networks of students with college plans. These findings support the recommendations of others regarding the importance of peer groups in development of college predisposition and enrollment (ACSFA, 2008; Rumberger, 1991; Tierney et al., 2005). My research furthers this by illustrating that

college-oriented peers are important in academic course taking and college entrance exam taking as well.

My findings also provide support for programs that encourage parental involvement as parental involvement and discussion are shown to encourage college expectations, academic preparation and actual enrollment. Furthermore, these advantages accrue not only to one's own children but also there are spillover benefits to the school as a whole for expectations and academic preparation.

Finally, there is substantial school level variance left unexplained by these models. This may partly be due to the low numbers of students per school that makes detection of significant school effects more difficult. Future research should use a dataset that has more students per school. But unexplained variance also suggests that controlling for school composition and the other forms of student- and school-level capital modeled here, there are still differences between schools that are causing differences in outcomes. This paper has focused on traditional human capital variables, cultural capital, and social capital related to peers and parents. Future research on schools should explore other differences between schools that may account for this variance, especially differences that are related to school composition. The following two chapters seek to do this. These chapters will explore how schools of varying student composition fare on similar outcomes to this study in different types of external environments and what internal college-going processes go on at high schools in light of this environment.

**Table 2.2.** Pearson Correlations of Expectations Level 1 Variables

	Black	Female	SES	College expense/aid	Friends Study	Friends Continue Ed.	Moved	Par Expec- tations	Par Discussions	Par Involvement
Black	1	.008	-.173(**)	.098(**)	.048(**)	.028(**)	.030(**)	.024(**)	.019(**)	.011
Female	.008	1	-.024(**)	.051(**)	.145(**)	.110(**)	-.005	.058(**)	.085(**)	-.036(**)
SES	-.173(**)	-.024(**)	1	-.240(**)	.073(**)	.149(**)	-.047(**)	.273(**)	.245(**)	.229(**)
College expense/aid	.098(**)	.051(**)	-.240(**)	1	.034(**)	.020(**)	.024(**)	-.045(**)	-.008	-.074(**)
Friends Study	.048(**)	.145(**)	.073(**)	.034(**)	1	.490(**)	-.007	.115(**)	.283(**)	.136(**)
Friends Continue Ed.	.028(**)	.110(**)	.149(**)	.020(**)	.490(**)	1	-.013	.190(**)	.297(**)	.147(**)
Moved	.030(**)	-.005	-.047(**)	.024(**)	-.007	-.013	1	.007	-.011	-.042(**)
Par Expectations	.024(**)	.058(**)	.273(**)	-.045(**)	.115(**)	.190(**)	.007	1	.217(**)	.128(**)
Par Discussions	.019(**)	.085(**)	.245(**)	-.008	.283(**)	.297(**)	-.011	.217(**)	1	.356(**)
Par Involvement	.011	-.036(**)	.229(**)	-.074(**)	.136(**)	.147(**)	-.042(**)	.128(**)	.356(**)	1

\*\* Correlation is significant at the 0.01 level (2-tailed).

**Table 2.3.** Pearson Correlations of Expectations Level 2 Variables

	Rural	Other Private	Catholic	Ave Par Involve- ment	Ave Par Discus- sions	Ave Achieve Test	Ave Moved	Percent Hispanic
Rural	1	-.096(**)	-.165(**)	-.039	-.094(**)	-.097(**)	-.025	-.143(**)
Other Private	-.096(**)	1	-.094(**)	.219(**)	.173(**)	.330(**)	-.061(*)	-.109(**)
Catholic	-.165(**)	-.094(**)	1	.131(**)	.079(**)	.145(**)	-.102(**)	-.022
Ave Par Involvement	-.039	.219(**)	.131(**)	1	.356(**)	.194(**)	-.051(*)	-.115(**)
Ave Par Discussions	-.094(**)	.173(**)	.079(**)	.356(**)	1	.267(**)	.025	-.098(**)
Ave Achieve Test	-.097(**)	.330(**)	.145(**)	.194(**)	.267(**)	1	.029	-.240(**)
Ave Moved	-.025	-.061(*)	-.102(**)	-.051(*)	.025	.029	1	.007
Percent Hispanic	-.143(**)	-.109(**)	-.022	-.115(**)	-.098(**)	-.240(**)	.007	1

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

**Table 2.4.** Pearson Correlations of Curriculum Level 1 Variables

	Hispanic	Black	Female	Second Generation	Achievement Test	SES	Friends No College	Friends 4-Year College	Moved	Par Contact Academics	Par Contact Behavior	Par Expectations	Par Discussions	Par Involvement	Par College Program
Hispanic	1	-.113(**)	.007	.307(**)	-.166(**)	-.232(**)	.058(**)	-.085(**)	.025(*)	.032(**)	.037(**)	-.001	-.015	-.066(**)	-.032(**)
Black	-.113(**)	1	.025(*)	-.073(**)	-.182(**)	-.127(**)	.047(**)	-.020	.028(**)	.041(**)	.039(**)	.046(**)	.022(*)	-.036(**)	.016
Female	.007	.025(*)	1	.007	.021	-.047(**)	-.075(**)	.082(**)	-.020	-.113(**)	-.100(**)	.048(**)	.138(**)	-.011	.042(**)
Second Generation	.307(**)	-.073(**)	.007	1	.014	-.046(**)	-.027(*)	.032(**)	.007	-.044(**)	-.009	.094(**)	-.066(**)	-.103(**)	-.005
Standardized Test	-.166(**)	-.182(**)	.021	.014	1	.447(**)	-.222(**)	.335(**)	-.046(**)	-.121(**)	-.131(**)	.277(**)	.157(**)	.151(**)	.207(**)
SES	-.232(**)	-.127(**)	.047(**)	-.046(**)	.447(**)	1	-.199(**)	.336(**)	-.074(**)	.045(**)	-.053(**)	.304(**)	.230(**)	.231(**)	.212(**)
Friends no college	.058(**)	.047(**)	.075(**)	-.027(*)	-.222(**)	-.199(**)	1	-.265(**)	.027(*)	.048(**)	.079(**)	-.154(**)	-.132(**)	-.103(**)	-.098(**)
Friends 4-year college	-.085(**)	-.020	.082(**)	.032(**)	.335(**)	.336(**)	-.265(**)	1	-.063(**)	-.054(**)	-.099(**)	.317(**)	.271(**)	.209(**)	.185(**)
Moved	.025(*)	.028(**)	-.020	.007	-.046(**)	-.074(**)	.027(*)	-.063(**)	1	.018	.023(*)	-.014	-.037(**)	-.049(**)	-.037(**)
Parent contact academics	.032(**)	.041(**)	.113(**)	-.044(**)	-.121(**)	.045(**)	.048(**)	-.054(**)	.018	1	.387(**)	-.004	.004	.143(**)	.043(**)
Parent contact behavior	.037(**)	.039(**)	.100(**)	-.009	-.131(**)	-.053(**)	.079(**)	-.099(**)	.023(*)	.387(**)	1	-.047(**)	-.062(**)	.018	-.054(**)
Parental expectations	-.001	.046(**)	.048(**)	.094(**)	.277(**)	.304(**)	-.154(**)	.317(**)	-.014	-.004	-.047(**)	1	.232(**)	.125(**)	.164(**)
Parent discussions	-.015	.022(*)	.138(**)	-.066(**)	.157(**)	.230(**)	-.132(**)	.271(**)	-.037(**)	.004	-.062(**)	.232(**)	1	.213(**)	.178(**)
Parental Involvement	-.066(**)	-.036(**)	-.011	-.103(**)	.151(**)	.231(**)	-.103(**)	.209(**)	-.049(**)	.143(**)	.018	.125(**)	.213(**)	1	.290(**)
Parent college programming	-.032(**)	.016	.042(**)	-.005	.207(**)	.212(**)	-.098(**)	.185(**)	-.037(**)	.043(**)	-.054(**)	.164(**)	.178(**)	.290(**)	1

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

**Table 2.5.** Pearson Correlations of Curriculum Level 2 Variables

	Urban	Rural	Catholic	Other Private	Average SES	Percent Asian/Pacific Islander	Percent Hispanic	Average Par Involvement	Ave Par Discuss	Friends 4-Year
Urban	1	-.451(**)	.275(**)	.069(*)	.005	.162(**)	.256(**)	.103(**)	.013	.118(**)
Rural	-.451(**)	1	-.164(**)	-.121(**)	-.188(**)	-.204(**)	-.156(**)	-.102(**)	-.070(*)	-.141(**)
Catholic	.275(**)	-.164(**)	1	-.091(**)	.170(**)	.018	-.008	.203(**)	.063(*)	.173(**)
Other Private	.069(*)	-.121(**)	-.091(**)	1	.459(**)	.116(**)	-.122(**)	.257(**)	.221(**)	.374(**)
Ave SES	.005	-.188(**)	.170(**)	.459(**)	1	.075(**)	-.320(**)	.302(**)	.382(**)	.533(**)
Percent Asian Pacific	.162(**)	-.204(**)	.018	.116(**)	.075(**)	1	.099(**)	.049	-.067(*)	.037
Percent Hispanic	.256(**)	-.156(**)	-.008	-.122(**)	-.320(**)	.099(**)	1	-.121(**)	-.129(**)	-.187(**)
Ave Par Involvement	.103(**)	-.102(**)	.203(**)	.257(**)	.302(**)	.049	-.121(**)	1	.166(**)	.255(**)
Ave Par Discussion	.013	-.070(*)	.063(*)	.221(**)	.382(**)	-.067(*)	-.129(**)	.166(**)	1	.416(**)
Friends 4 year	.118(**)	-.141(**)	.173(**)	.374(**)	.533(**)	.037	-.187(**)	.255(**)	.416(**)	1

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

**Table 2.6.** Pearson Correlations of SAT/ACT Level 1 Variables

	Achievement Test	SES	Asian/Pacific Islander	Black	Female	Friends No College	Friends 4-Year Plans	Parent Contact Behavior	Parent Involvement	Parent college program
Achievement Test	1	.406(**)	.038(**)	-.207(**)	.033(**)	-.186(**)	.263(**)	-.116(**)	.117(**)	.182(**)
SES	.406(**)	1	.055(**)	-.159(**)	-.052(**)	-.167(**)	.281(**)	-.050(**)	.189(**)	.183(**)
Asian/Pacific Islander	.038(**)	.055(**)	1	-.084(**)	-.009	-.020(*)	.046(**)	.001	-.053(**)	-.033(**)
Black	-.207(**)	-.159(**)	-.084(**)	1	.026(**)	.040(**)	-.017	.024(*)	-.027(**)	.014
Female	.033(**)	-.052(**)	-.009	.026(**)	1	-.068(**)	.061(**)	-.091(**)	-.003	.048(**)
Friends No College	-.186(**)	-.167(**)	-.020(*)	.040(**)	-.068(**)	1	-.243(**)	.083(**)	-.105(**)	-.088(**)
Friends 4-Year	.263(**)	.281(**)	.046(**)	-.017	.061(**)	-.243(**)	1	-.078(**)	.204(**)	.173(**)
Parent Contact Behavior	-.116(**)	-.050(**)	.001	.024(*)	-.091(**)	.083(**)	-.078(**)	1	.024(**)	-.055(**)
Parent Involvement	.117(**)	.189(**)	-.053(**)	-.027(**)	-.003	-.105(**)	.204(**)	.024(**)	1	.268(**)
Parent college program	.182(**)	.183(**)	-.033(**)	.014	.048(**)	-.088(**)	.173(**)	-.055(**)	.268(**)	1

\*\* Correlation is significant at the 0.01 level (2-tailed).

\*Correlation is significant at the 0.05 level (2-tailed).

**Table 2.7.** Pearson Correlations of SAT/ACT Level 2 Variables

	Friends No College	Friends 4 Year	Percent Free Lunch	Catholic	Other Private	Parent Discussion
Friends No College	1	-.454(**)	.216(**)	-.129(**)	-.215(**)	-.292(**)
Friends 4-Year	-.454(**)	1	-.307(**)	.173(**)	.374(**)	.416(**)
Percent Free Lunch	.216(**)	-.307(**)	1	-.199(**)	-.280(**)	-.188(**)
Catholic	-.129(**)	.173(**)	-.199(**)	1	-.091(**)	.063(*)
Other Private	-.215(**)	.374(**)	-.280(**)	-.091(**)	1	.221(**)
Parent Discussion	-.292(**)	.416(**)	-.188(**)	.063(*)	.221(**)	1

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

**Table 2.8.** Pearson Correlations of Enrollment Level 1 Variables

	Black	Female	2 <sup>nd</sup> Gen	SES	Achieve Test	College Expense /Aid	Friends No College	Friends 2-year	Friends 4-year	Moved	Parent Contact Academ.	Parent Contact Behav	Parent Expect	Parent Discus s	Parent Involve
Black	1	.018	.057(**)	.140(**)	-.198(**)	.094(**)	.038(**)	.034(**)	-.013	.024(*)	.036(**)	.035(**)	.044(**)	.020(*)	.035(**)
Female	.018	1	.004	.036(**)	.031(**)	.100(**)	-.066(**)	.003	.070(**)	-.015	-.104(**)	.092(**)	.045(**)	.121(**)	-.011
2 <sup>nd</sup> Gen	.057(**)	.004	1	.045(**)	.013	.050(**)	-.021(*)	-.005	.036(**)	.006	-.037(**)	-.004	.089(**)	.074(**)	.100(**)
SES	.140(**)	-.036(**)	.045(**)	1	.440(**)	-.264(**)	-.185(**)	-.222(**)	.309(**)	.072(**)	.036(**)	.047(**)	.276(**)	.215(**)	.213(**)
Achieve Test	.198(**)	.031(**)	.013	.440(**)	1	-.094(**)	-.202(**)	-.229(**)	.303(**)	.045(**)	-.110(**)	.118(**)	.247(**)	.146(**)	.137(**)
College Expense /Aid	.094(**)	.100(**)	.050(**)	.264(**)	-.094(**)	1	.048(**)	.139(**)	.088(**)	.038(**)	-.040(**)	.032(**)	-.039(**)	.007	.065(**)
Friends No College	.038(**)	-.066(**)	-.021(*)	.185(**)	-.202(**)	.048(**)	1	.183(**)	.269(**)	.027(**)	.048(**)	.074(**)	-.155(**)	.135(**)	.104(**)
Friends 2-Year	.034(**)	.003	-.005	.222(**)	-.229(**)	.139(**)	.183(**)	1	.203(**)	.027(**)	.040(**)	.039(**)	-.123(**)	.052(**)	.061(**)
Friends 4-Year	-.013	.070(**)	.036(**)	.309(**)	.303(**)	-.088(**)	-.269(**)	-.203(**)	1	.068(**)	-.052(**)	.095(**)	.314(**)	.268(**)	.207(**)
Moved	.024(*)	-.015	.006	.072(**)	-.045(**)	.038(**)	.027(**)	.027(**)	.068(**)	1	.017	.018	-.016	.038(**)	.057(**)
Parent Contact Academic	.036(**)	-.104(**)	.037(**)	.036(**)	-.110(**)	-.040(**)	.048(**)	.040(**)	.052(**)	.017	1	.382(**)	.001	.001	.144(**)
Parent Contact Behavior	.035(**)	-.092(**)	-.004	.047(**)	-.118(**)	-.032(**)	.074(**)	.039(**)	.095(**)	.018	.382(**)	1	-.048(**)	.066(**)	.015
College Expense /Aid	.044(**)	.045(**)	.089(**)	.276(**)	.247(**)	-.039(**)	-.155(**)	-.123(**)	.314(**)	-.016	.001	.048(**)	1	.231(**)	.124(**)
Parent Discuss	.020(*)	.121(**)	.074(**)	.215(**)	.146(**)	.007	-.135(**)	-.052(**)	.268(**)	.038(**)	.001	.066(**)	.231(**)	1	.213(**)
Parent Involve	.035(**)	-.011	.100(**)	.213(**)	.137(**)	-.065(**)	-.104(**)	-.061(**)	.207(**)	.057(**)	.144(**)	.015	.124(**)	.213(**)	1

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

**Table 2.9.** Pearson Correlations of Enrollment Level 2 Variables

	Catholic	Other Private	Percent Asian/Pacific Islander	Percent Non-White	Friends No College	Friends 2-Year	Friends 4-Year	Ave Parent Expect
Catholic	1	-.091(**)	.018	-.060(*)	-.129(**)	-.131(**)	.173(**)	.151(**)
Other Private	-.091(**)	1	.116(**)	-.124(**)	-.215(**)	-.375(**)	.374(**)	.236(**)
Percent Asian/Pacific Islander	.018	.116(**)	1	.278(**)	-.033	.007	.037	.067(*)
Percent Non-white	-.060(*)	-.124(**)	.278(**)	1	.120(**)	.165(**)	-.146(**)	.086(**)
Friends No College	-.129(**)	-.215(**)	-.033	.120(**)	1	.295(**)	-.454(**)	-.289(**)
Friends 2-Year	-.131(**)	-.375(**)	.007	.165(**)	.295(**)	1	-.382(**)	-.214(**)
Friends 4-Year	.173(**)	.374(**)	.037	-.146(**)	-.454(**)	-.382(**)	1	.460(**)
Ave. Parent Expectations	.151(**)	.236(**)	.067(*)	.086(**)	-.289(**)	-.214(**)	.460(**)	1

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

**Table 2.10.** Descriptives: Race/Ethnicity by Expectations

Race/Ethnicity	High School Only	Vocational School	College	Graduate School
Asian/Pacific Islander	4.2%	5.3%	47.1%	43.3%
Hispanic	14.2%	13.1%	49.6%	23.2%
Black	12.0%	10.4%	48.6%	28.9%
White	8.7%	11.9%	49.8%	29.6%
Total	9.4%	11.4%	49.5%	29.7%

**Table 2.11.** Descriptives: SES Quartile by Expectations

SES Quartile	High School Only	Vocational School	College	Graduate School
Lowest Quartile	20.0%	19.0%	45.7%	15.4%
Second Quartile	10.7%	14.8%	52.8%	21.8%
Third Quartile	4.7%	9.0%	55.6%	30.7%
Highest Quartile	1.3%	2.0%	43.5%	53.2%
Total	9.1%	11.2%	49.4%	30.3%

**Table 2.12.** Descriptives: Race/Ethnicity by Curriculum

Race/Ethnicity	Didn't Meet Threshold	4E + 3SS + 2S + 2M	4E + 3SS + 3S + 3M	4E + 3SS + 3S + 3M + 2FL
Asian/Pacific Islander	24.2%	16.6%	6.8%	52.4%
Hispanic	35.2%	32.0%	9.6%	23.2%
Black	29.6%	30.0%	10.5%	29.9%
White	34.3%	22.7%	9.3%	33.7%
Total	33.2%	24.0%	9.3%	33.5%

**Table 2.13.** Descriptives: SES Quartile by Curriculum

SES Quartile	Didn't Meet Threshold	4E + 3SS + 2S + 2M	4E + 3SS + 3S + 3M	4E + 3SS + 3S + 3M + 2FL
Lowest Quartile	40.4%	30.5%	10.3%	18.8%
Second Quartile	35.5%	24.9%	10.6%	29.0%
Third Quartile	29.7%	22.1%	7.9%	40.2%
Highest Quartile	21.3%	13.6%	7.2%	57.8%
Total	33.1%	23.9%	9.3%	33.8%

**Table 2.14.** Descriptives: Race/Ethnicity by SAT/ACT

Race/Ethnicity	Took SAT or ACT
Asian/Pacific Islander	79.0%
Hispanic	53.0%
Black	60.8%
White	66.9%
Total	65.5%

**Table 2.15.** Descriptives: SES Quartile by SAT/ACT

SES Quartile	Took SAT or ACT
Lowest Quartile	47.2%
Second Quartile	62.8%
Third Quartile	74.4%
Highest Quartile	89.8%
Total	65.8%

**Table 2.16.** Descriptives: Race/Ethnicity by Enrollment

Race/Ethnicity	No postsecondary enrollment	2-year institution enrollment	4-year private enrollment	4-year public enrollment
Asian/Pacific Islander	24.4%	19.9%	18.2%	37.5%
Hispanic	49.6%	22.7%	6.2%	21.5%
Black	47.8%	13.5%	13.1%	25.6%
White	36.9%	18.6%	16.3%	28.2%
Total	38.6%	18.7%	14.8%	27.9%

**Table 2.17.** Descriptives: SES Quartile by Enrollment

SES Quartile	No postsecondary enrollment	2-year institution enrollment	4-year private enrollment	4-year public enrollment
Lowest Quartile	62.2%	16.9%	5.5%	15.4%
Second Quartile	47.8%	22.1%	8.2%	21.9%
Third Quartile	31.7%	23.2%	13.1%	32.0%
Highest Quartile	14.7%	13.6%	30.8%	40.9%
Total	37.1%	18.9%	15.4%	28.6%

**Table 2.18.** Descriptives: School Percent Non-White by Expectations

% School Non-White	High School Only	Vocational School	College	Graduate School
≤ 25%	8.4%	11.3%	49.5%	30.7%
25-50%	9.2%	10.6%	48.4%	31.7%
50-75%	11.3%	11.6%	47.9%	29.2%
>75%	11.9%	12.3%	50.9%	24.9%
Total	9.2%	11.4%	49.4%	30.0%

**Table 2.19.** Descriptives: School Percent Free and Reduced Lunch by Expectations

% School Free or Reduced Lunch	High School Only	Vocational School	College	Graduate School
≤ 25%	8.0%	10.0%	49.7%	32.3%
25-50%	13.0%	13.4%	49.2%	24.4%
50-75%	13.9%	16.1%	47.5%	22.5%
>75%	15.0%	19.3%	43.1%	22.6%
Total	9.4%	11.2%	49.3%	30.0%

**Table 2.20.** Descriptives: School Percent Non-White by Curriculum

% School Non-White	Didn't Meet Threshold	4E + 3SS + 2S + 2M	4E + 3SS + 3S + 3M	4E + 3SS + 3S + 3M + 2FL
≤ 25%	34.7%	21.7%	9.7%	33.9%
25-50%	28.0%	24.8%	9.4%	37.8%
50-75%	31.8%	31.1%	7.1%	29.9%
>75%	30.9%	30.7%	9.3%	29.0%

**Table 2.21.** Descriptives: School Percent Free and Reduced Lunch by Curriculum

% School Free or Reduced Lunch	Didn't Meet Threshold	4E + 3SS + 2S + 2M	4E + 3SS + 3S + 3M	4E + 3SS + 3S + 3M + 2FL
≤ 25%	32.9%	22.0%	8.1%	37.0%
25-50%	35.4%	25.1%	11.2%	28.4%
50-75%	31.3%	30.6%	8.8%	29.0%
>75%	33.4%	23.6%	9.2%	33.8%

**Table 2.22.** Descriptives: School Percent Non-White by SAT/ACT Taking

% School Non-White	Took SAT or ACT
≤ 25%	68.2%
25-50%	62.0%
50-75%	52.8%
>75%	63.9%

**Table 2.23.** Descriptives: School Percent Free and Reduced Lunch by SAT/ACT Taking

% School Free or Reduced Lunch	Took SAT or ACT
≤ 25%	67.7%
25-50%	65.3%
50-75%	53.2%
>75%	61.9%

**Table 2.24.** Descriptives: School Percent Non-White by Enrollment

% School Non-White	No postsecondary enrollment	2-year institution enrollment	4-year private enrollment	4-year public enrollment
≤ 25%	33.7%	17.7%	17.9%	30.7%
25-50%	38.6%	21.3%	12.0%	30.0%
50-75%	42.8%	24.8%	10.5%	21.9%
>75%	42.1%	20.1%	10.8%	27.0%
Total	35.7%	19.0%	15.7%	29.5%

**Table 2.25.** Descriptives: School Percent Free and Reduced Lunch by Enrollment

% School Free or Reduced Lunch	No postsecondary enrollment	2-year institution enrollment	4-year private enrollment	4-year public enrollment
≤ 25%	31.6%	18.6%	18.4%	31.4%
25-50%	42.2%	22.0%	10.2%	23.7%
50-75%	49.6%	20.7%	7.6%	22.1%
>75%	54.0%	12.3%	10.0%	23.7%
Total	35.5%	19.3%	15.8%	29.4%

**Table 2.26.** Multinomial Logit Models for Expectations Data\*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ 

<i>Fixed Effect</i>	<i>(a) Unconditional Model</i>			<i>(b) Conditional Model</i>			
	<i>Coefficient</i>	<i>se</i>	<i>t Ratio</i>	<i>Coefficient</i>	<i>se</i>	<i>t Ratio</i>	
For category 1 (Vocational School)							
INTERCEPT, $\beta_{0j(1)}$	INTERCEPT, $\gamma_{00(1)}$	0.219***	0.054	4.097	1.552**	0.648	2.396
	AVE PAR INVOLVE, $\gamma_{01(1)}$				0.935***	0.335	2.788
	AVE PAR DISCUSS, $\gamma_{02(1)}$				-0.625*	0.370	-1.688
	% HISPANIC, $\gamma_{03(1)}$				0.007***	0.003	2.681
	AVE MOVED, $\gamma_{04(1)}$				-0.885**	0.440	-2.011
BLACK slope, $\beta_{1j(1)}$	$\gamma_{10(1)}$				-0.011	0.191	-0.060
FEMALE slope, $\beta_{2j(1)}$	$\gamma_{20(1)}$				-0.079	0.105	-0.748
ACH TEST slope, $\beta_{3j(1)}$	$\gamma_{30(1)}$				0.024***	0.007	3.425
SES slope, $\beta_{4j(1)}$	$\gamma_{40(1)}$				0.353***	0.083	4.239
COLL EXPENSE/AID slope, $\beta_{5j(1)}$	$\gamma_{50(1)}$				0.220***	0.077	2.881
FRIENDS STUDY slope, $\beta_{6j(1)}$	$\gamma_{60(1)}$				-0.209**	0.089	-2.359
FRIENDS CONTIN ED slope, $\beta_{7j(1)}$	$\gamma_{70(1)}$				0.617***	0.095	6.514
MOVED slope, $\beta_{8j(1)}$	$\gamma_{80(1)}$				-0.299**	0.124	-2.410
PAR EXPECTATIONS slope, $\beta_{9j(1)}$	$\gamma_{90(1)}$				-0.156**	0.074	-2.117
PAR DISCUSSIONS slope, $\beta_{10j(1)}$	$\gamma_{100(1)}$				0.628***	0.138	4.538
PAR INVOLVE slope, $\beta_{11j(1)}$	$\gamma_{110(1)}$				0.028	0.099	0.286
For category 2 (College)							
INTERCEPT, $\beta_{0j(2)}$	INTERCEPT, $\gamma_{00(2)}$	1.768***	0.050	35.066	2.859***	0.140	20.438
	RURAL, $\gamma_{01(2)}$				-0.137**	0.056	-2.428
	CATHOLIC, $\gamma_{02(2)}$				0.766***	0.251	3.048
	OTHER PRIVATE, $\gamma_{03(2)}$				0.901*	0.469	1.922
	AVE PAR INVOLVE, $\gamma_{04(2)}$				0.227	0.158	1.439
	% HISPANIC, $\gamma_{05(2)}$				0.006**	0.002	2.369
BLACK slope, $\beta_{1j(2)}$	$\gamma_{10(2)}$				0.358**	0.169	2.113
FEMALE slope, $\beta_{2j(2)}$	$\gamma_{20(2)}$				0.114	0.098	1.155
ACH TEST slope, $\beta_{3j(2)}$	$\gamma_{30(1)}$				0.091***	0.007	13.741
SES slope, $\beta_{4j(2)}$	$\gamma_{40(1)}$				0.760***	0.078	9.790
COLL EXPENSE/AID slope, $\beta_{5j(2)}$	$\gamma_{50(1)}$				0.235***	0.071	3.321

FRIENDS STUDY slope, $\beta_{6j(2)}$	$\Upsilon_{60(1)}$				-0.244***	0.082	-2.988
FRIENDS CONTIN ED slope, $\beta_{7j(2)}$	$\Upsilon_{70(1)}$				1.110***	0.084	13.200
MOVED slope, $\beta_{8j(2)}$	$\Upsilon_{80(1)}$				-0.258**	0.121	-2.136
PAR EXPECTATIONS slope, $\beta_{9j(2)}$	$\Upsilon_{90(1)}$				0.580***	0.074	7.852
PAR DISCUSSIONS slope, $\beta_{10j(2)}$	$\Upsilon_{100(1)}$				1.610***	0.137	11.778
PAR INVOLVE slope, $\beta_{11j(2)}$	$\Upsilon_{110(1)}$				0.320***	0.096	3.352

## For category 3 (Graduate School)

INTERCEPT, $\beta_{0j(3)}$	INTERCEPT, $\Upsilon_{00(3)}$	1.152***	0.060	19.045	2.967***	0.452	6.566
	CATHOLIC, $\Upsilon_{01(3)}$				1.025***	0.287	3.568
	OTHER PRIVATE, $\Upsilon_{02(3)}$				1.341**	0.514	2.610
	% HISPANIC, $\Upsilon_{03(3)}$				0.011***	0.003	3.550
	AVE ACH TEST, $\Upsilon_{04(3)}$				-0.022**	0.009	-2.566
	AVE MOVED, $\Upsilon_{05(3)}$				-0.335	0.274	-1.223
BLACK slope, $\beta_{1j(3)}$	$\Upsilon_{10(1)}$				0.634***	0.195	3.254
FEMALE slope, $\beta_{2j(3)}$	$\Upsilon_{20(1)}$				0.360***	0.115	3.141
ACH TEST slope, $\beta_{3j(1)}$	$\Upsilon_{30(1)}$				0.155***	0.008	20.558
SES slope, $\beta_{4j(1)}$	$\Upsilon_{40(1)}$				1.100***	0.090	12.283
COLL EXPENSE/AID slope, $\beta_{5j(1)}$	$\Upsilon_{50(1)}$				0.203**	0.090	2.263
FRIENDS STUDY slope, $\beta_{6j(1)}$	$\Upsilon_{60(1)}$				0.023	0.103	0.220
FRIENDS CONTIN ED slope, $\beta_{7j(1)}$	$\Upsilon_{70(1)}$				1.267***	0.110	11.509
MOVED slope, $\beta_{8j(1)}$	$\Upsilon_{80(1)}$				-0.225	0.155	-1.455
PAR EXPECTATIONS slope, $\beta_{9j(1)}$	$\Upsilon_{90(1)}$				2.080***	0.102	20.294
PAR DISCUSSIONS slope, $\beta_{10j(1)}$	$\Upsilon_{100(1)}$				2.239***	0.168	13.367
PAR INVOLVE slope, $\beta_{11j(1)}$	$\Upsilon_{110(1)}$				0.406***	0.107	3.782

## LEVEL-1 DESCRIPTIVE STATISTICS

<u>VARIABLE NAME</u>	<u>N</u>	<u>MEAN</u>	<u>SD</u>	<u>MINIMUM</u>	<u>MAXIMUM</u>
ASIAN/P.I.	12252	0.06	0.24	0.00	1.00
HISPANIC	12252	0.11	0.31	0.00	1.00
BLACK	12252	0.10	0.30	0.00	1.00
FEMALE	12252	0.51	0.50	0.00	1.00
STUDENT EXPECTATIONS	12252	2.38	0.80	1.00	4.00
F1QWT	12252	149.22	145.22	2.86	3847.57
ACHTEST	12252	51.88	9.84	30.31	71.82
F1SES	12252	0.09	0.80	-3.29	2.76
FRIENDS STUDY	12252	2.30	0.60	1.00	3.00
FRIENDS CONTINUE ED	12252	2.48	0.62	1.00	3.00
MOVED	12252	0.15	0.35	0.00	1.00
PAR EDUCATION	12252	3.25	1.27	1.00	6.00
PAR EXPECTATIONS	12252	2.09	0.71	0.00	3.00
COLL EXPENSE/AID	12252	2.34	0.58	1.00	3.00
PAR DISCUSSION	12252	2.07	0.43	1.00	3.00
FIRSTGEN IMM	12252	0.06	0.22	0.00	1.00
SEC GEN IMM	12252	0.15	0.32	0.00	1.00
PAR INVOLVEMENT	12252	0.75	0.57	0.00	3.00

## LEVEL-2 DESCRIPTIVE STATISTICS

<u>VARIABLE NAME</u>	<u>N</u>	<u>MEAN</u>	<u>SD</u>	<u>MINIMUM</u>	<u>MAXIMUM</u>
CATHOLIC	909	0.10	0.29	0.00	1.00
OTHPRIV	909	0.10	0.30	0.00	1.00
URBAN	909	0.38	0.48	0.00	1.00
RURAL	909	0.26	0.44	0.00	1.00
% ASIAN/P.I.	909	3.39	7.99	0.00	95.00
% HISPANIC	909	9.50	18.65	0.00	100.00
% BLACK	909	15.17	23.53	0.00	100.00
% NON-WHITE	909	29.49	31.27	0.00	100.00
AVE SES	909	0.08	0.60	-1.81	1.77
% FREE LUNCH	909	18.29	21.20	0.00	100.00
AVE PAR EDUC	909	3.23	0.90	1.00	6.00
AVE ACH TEST	909	51.44	6.58	32.45	71.82
% TAKE AP	909	9.22	12.29	0.00	96.00
AVE FRIENDS STUDY	909	2.31	0.31	1.00	3.00
AVE FRIENDS CONT ED	909	2.48	0.31	1.00	3.0

% 89-90 2 YR COLL	909	20.03	14.95	0.00	100.00
% 89-90 4 YR COLL	909	48.50	26.40	0.00	100.00
AVE MOVED	909	0.19	0.23	0.00	1.00
AVE PAR EXPECT	909	2.10	0.36	0.00	3.00
AVE PAR DISCUSS	909	2.07	0.23	1.00	3.00
AVE PAR INVOLVE	909	0.75	0.32	0.00	2.75

**Table 2.27.** Multinomial Logit Models for Rigor of Curriculum Data\*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ 

<i>Fixed Effect</i>	<i>(a) Unconditional Model</i>			<i>(b) Conditional Model</i>			
	<i>Coefficient</i>	<i>se</i>	<i>t Ratio</i>	<i>Coefficient</i>	<i>se</i>	<i>t Ratio</i>	
For category 1 (less than 4 English, 3 Social Science, 2 Science, 2 Math)							
INTERCEPT, $\beta_{0j(1)}$	INTERCEPT, $\gamma_{00(1)}$	-0.176	0.073	-2.424	1.523	0.832	1.830
	AVE SES, $\gamma_{01(1)}$				0.219	0.176	1.247
	CATHOLIC, $\gamma_{02(1)}$				-1.359***	0.273	-4.979
	PARENT DISCUSS, $\gamma_{03(1)}$				-0.742*	0.406	-1.827
HISPANIC slope, $\beta_{1j(1)}$	$\gamma_{10(1)}$				0.411***	0.167	2.636
BLACK slope, $\beta_{2j(1)}$	$\gamma_{20(1)}$				-0.550***	0.189	-2.907
FEMALE slope, $\beta_{3j(1)}$	$\gamma_{30(1)}$				-0.067	0.086	-0.783
SECOND GENERATION slope, $\beta_{4j(1)}$	$\gamma_{40(1)}$				-0.588***	0.136	-4.313
ACHIEV TEST slope, $\beta_{5j(1)}$	$\gamma_{50(1)}$				-0.099***	0.005	-17.978
SES slope, $\beta_{6j(1)}$	$\gamma_{60(1)}$				-0.275***	0.074	-3.734
FRIEND NO COLL slope, $\beta_{7j(1)}$	$\gamma_{70(1)}$				0.034	0.039	0.858
FRIEND 4YR COLL slope, $\beta_{8j(1)}$	$\gamma_{80(1)}$				-0.357***	0.049	-7.262
MOVED slope, $\beta_{9j(1)}$	$\gamma_{90(1)}$				0.337**	0.145	2.601
PARENT CONTACT AC slope, $\beta_{10j(1)}$	$\gamma_{100(1)}$				0.197***	0.052	3.771
PARENT CONTACT BEH slope, $\beta_{11j(1)}$	$\gamma_{110(1)}$				0.317***	0.100	3.186
PARENT EXPECTATION slope, $\beta_{12j(1)}$	$\gamma_{120(1)}$				-0.375***	0.073	-5.178
PARENT DISCUSSION slope, $\beta_{13j(1)}$	$\gamma_{130(1)}$				-0.376***	0.116	-3.226
PARENT INVOLVEMT slope, $\beta_{14j(1)}$	$\gamma_{140(1)}$				-0.229***	0.062	-3.702
PARENT COLLEGE ACT slope, $\beta_{15j(1)}$	$\gamma_{150(1)}$				-0.429***	0.112	-3.832
For category 2 (4 English, 3 Social Science, 2 Science, 2 Math)							
INTERCEPT, $\beta_{0j(2)}$	INTERCEPT, $\gamma_{00(2)}$	-0.395	0.058	-6.807	0.194	0.409	0.475
	FRIEND 4YR COLL, $\gamma_{01(2)}$				-0.187***	0.115	-1.624
	% ASIAN/P.I., $\gamma_{02(2)}$				0.019***	0.004	4.499
	URBAN, $\gamma_{03(2)}$				0.120	0.132	0.914
	RURAL, $\gamma_{04(2)}$				0.262**	0.114	2.304
HISPANIC slope, $\beta_{1j(2)}$	$\gamma_{10(2)}$				0.528***	0.155	3.406
BLACK slope, $\beta_{2j(2)}$	$\gamma_{20(2)}$				-0.081	0.180	-0.451
FEMALE slope, $\beta_{3j(2)}$	$\gamma_{30(2)}$				0.124	0.085	1.454

SECOND GENERATION slope, $\beta_{4j(2)}$	$\gamma_{40(2)}$			-0.733***	0.153	-4.801
ACHIEV TEST slope, $\beta_{5j(2)}$	$\gamma_{50(2)}$			-0.093***	0.006	-16.329
SES slope, $\beta_{6j(2)}$	$\gamma_{60(2)}$			-0.191***	0.072	-2.642
FRIEND NO COLL slope, $\beta_{7j(2)}$	$\gamma_{70(2)}$			-0.010	0.042	-0.249
FRIEND 4YR COLL slope, $\beta_{8j(2)}$	$\gamma_{80(2)}$			-0.261***	0.049	-5.283
MOVED slope, $\beta_{9j(2)}$	$\gamma_{90(2)}$			0.501***	0.127	3.955
PARENT CONTACT AC slope, $\beta_{10j(2)}$	$\gamma_{100(2)}$			0.081	0.057	1.416
PARENT CONTACT BEH slope, $\beta_{11j(2)}$	$\gamma_{110(2)}$			0.235**	0.099	2.363
PARENT EXPECTATION slope, $\beta_{12j(2)}$	$\gamma_{120(2)}$			-0.472***	0.074	-6.361
PARENT DISCUSSION slope, $\beta_{13j(2)}$	$\gamma_{130(2)}$			-0.477***	0.107	-4.452
PARENT INVOLVEMT slope, $\beta_{14j(2)}$	$\gamma_{140(2)}$			-0.128*	0.066	-1.953
PARENT COLLEGE ACT slope, $\beta_{15j(2)}$	$\gamma_{150(2)}$			-0.541***	0.111	-4.858

For category 3 (4 English, 3 Social Science, 3 Science, 3 Math)

INTERCEPT, $\beta_{0j(3)}$	INTERCEPT, $\gamma_{00(3)}$	-1.460	0.072	-20.192	-1.767	0.203	-8.715
	AVE SES, $\gamma_{01(3)}$				-0.516***	0.194	-2.657
	% ASIAN/P.I., $\gamma_{02(3)}$				-0.028**	0.011	-2.420
	% HISPANIC, $\gamma_{03(3)}$				-0.011***	0.003	-3.256
	CATHOLIC, $\gamma_{04(3)}$				-0.655*	0.371	-1.764
	OTHER PRIVATE, $\gamma_{05(3)}$				0.639*	0.337	1.897
	RURAL, $\gamma_{06(3)}$				0.363**	0.150	2.419
	PARENT INVOLVEMENT, $\gamma_{07(3)}$				0.264***	0.092	2.860
HISPANIC slope, $\beta_{1j(3)}$	$\gamma_{10(3)}$				0.641***	0.231	2.773
BLACK slope, $\beta_{2j(3)}$	$\gamma_{20(3)}$				-0.113	0.221	-0.512
FEMALE slope, $\beta_{3j(3)}$	$\gamma_{30(3)}$				-0.529***	0.116	-4.572
SECOND GENERATION slope, $\beta_{4j(3)}$	$\gamma_{40(3)}$				-0.428**	0.212	-2.019
ACHIEV TEST slope, $\beta_{5j(3)}$	$\gamma_{50(3)}$				-0.065***	0.007	-9.275
SES slope, $\beta_{6j(3)}$	$\gamma_{60(3)}$				-0.354***	0.089	-3.953
FRIEND NO COLL slope, $\beta_{7j(3)}$	$\gamma_{70(3)}$				0.109**	0.053	2.078
FRIEND 4YR COLL slope, $\beta_{8j(3)}$	$\gamma_{80(3)}$				-0.245***	0.058	-4.214
MOVED slope, $\beta_{9j(3)}$	$\gamma_{90(3)}$				0.181	0.169	1.706
PARENT CONTACT AC slope, $\beta_{10j(3)}$	$\gamma_{100(3)}$				0.110	0.072	1.533
PARENT CONTACT BEH slope, $\beta_{11j(3)}$	$\gamma_{110(3)}$				-0.090	0.131	-0.687

PARENT EXPECTATION slope, $\beta_{12j(3)}$	$\Upsilon_{120(3)}$	-0.305***	0.093	-3.292
PARENT DISCUSSION slope, $\beta_{13j(3)}$	$\Upsilon_{130(3)}$	-0.121	0.132	-0.913
PARENT INVOLVEMT slope, $\beta_{14j(3)}$	$\Upsilon_{140(3)}$	0.035	0.075	0.461
PARENT COLLEGE ACT slope, $\beta_{15j(3)}$	$\Upsilon_{150(3)}$	-0.341**	0.170	-2.011

## LEVEL-1 DESCRIPTIVE STATISTICS

<u>VARIABLE NAME</u>	<u>N</u>	<u>MEAN</u>	<u>SD</u>	<u>MINIMUM</u>	<u>MAXIMUM</u>
ASIAN/P.I.	7664	0.07		0.26	1.00
HISPANIC	7664	0.11		0.31	1.00
BLACK	7664	0.08		0.28	1.00
FEMALE	7664	0.53		0.50	1.00
CURRICULUM	7664	1.51		1.28	3.00
F2QWT	7664	156.61		148.67	4352.46
ACHTEST	7664	52.72		9.35	31.18
SES	7664	0.05		0.78	-3.09
FRIENDS NO COLL	7664	2.10		1.07	5.00
FRIENDS 4 YR COLL	7664	3.51		1.03	5.00
MOVED	7664	0.14		0.34	1.00
PAR CONTACT ACAD	7664	1.74		0.85	4.00
PAR CONTACT BEHAV	7664	1.20		0.52	4.00
FAM INCOME	7664	10.44		2.26	15.00
PAR EDUCATION	7664	3.19		1.21	6.00
PAR EXPECTATIONS	7664	2.18		0.69	3.00
COLL EXPENSE/AID	7664	2.17		0.62	3.00
PAR DISCUSSION	7664	2.11		0.45	3.00
FIRST GEN IMM	7664	0.06		0.23	1.00
SEC GEN IMM	7664	0.15		0.34	1.00
PAR INVOLVE MENT	7664	2.29		0.82	4.00
PAR COLL ACTIV	7664	0.37		0.40	1.00
PAR COLL GRAD	7664	0.32		0.45	1.00

## LEVEL-2 DESCRIPTIVE STATISTICS

<u>VARIABLE NAME</u>	<u>N</u>	<u>MEAN</u>	<u>SD</u>	<u>MINIMUM</u>	<u>MAXIMUM</u>
CATHOLIC	956	0.08	0.28	0.00	1.00
OTHER PRIVATE	956	0.09	0.28	0.00	1.00
URBAN	956	0.35	0.48	0.00	1.00
RURAL	956	0.28	0.45	0.00	1.00

% ASIAN/P.I.	956	3.81	8.29	0.00	91.00
% HISPANIC	956	10.19	19.65	0.00	100.00
% BLACK	956	13.50	21.90	0.00	100.00
% WHITE	956	71.08	30.31	0.00	100.00
AVE SES	956	0.07	0.57	-1.61	1.77
% FREE LUNCH	956	20.68	21.75	0.00	100.00
AVE PAR EDUC	956	3.19	0.86	1.00	6.00
AVE ACHTEST	956	51.96	5.93	33.48	69.68
% TAKE AP	956	11.17	14.21	0.00	100.00
AVE FRIENDSTUDY	956	2.28	0.30	1.00	3.00
AVE FRIENDSNOCOLL	956	2.45	0.60	1.00	5.00
AVE FRIENDS4YRCOLL	956	3.46	0.63	1.00	5.00
AVE MOVED	956	1.83	0.20	1.00	2.00
AVE PAR EXPECT	956	2.18	0.40	0.00	3.00
AVE PAR DISCUSS	956	2.07	0.23	1.17	3.00
AVE PARENT INVOLV	956	2.06	0.73	1.00	5.00

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**Table 2.28.** Logit Models for College Entrance Exam Data\*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ 

<i>Fixed Effect</i>	<i>(a) Unconditional Model</i>			<i>(b) Conditional Model</i>			
	<i>Coefficient</i>	<i>se</i>	<i>t Ratio</i>	<i>Coefficient</i>	<i>se</i>	<i>t Ratio</i>	
For category 1 (Took SAT or ACT)							
INTERCEPT, $\beta_{0j(1)}$	INTERCEPT, $\gamma_{00}$	0.728	0.047	15.513	-1.232	0.709	-1.737
	FRIENDS NO COLL, $\gamma_{01}$				-0.225**	0.113	-1.737
	FRIENDS 4YR COLL, $\gamma_{02}$				0.197*	0.115	1.722
	% FREE LUNCH, $\gamma_{03}$				0.009***	0.002	3.753
	CATHOLIC, $\gamma_{04}$				1.022***	0.192	5.323
	OTHER PRIVATE, $\gamma_{05}$				0.720**	0.331	2.177
	PAR DISCUSSIONS, $\gamma_{06}$				0.970***	0.281	3.457
ACH TEST slope, $\beta_{1j(1)}$	$\gamma_{10}$				0.083***	0.004	19.466
SES slope, $\beta_{2j(1)}$	$\gamma_{20}$				0.552***	0.059	9.318
ASIANPAC slope, $\beta_{3j(1)}$	$\gamma_{30}$				0.441**	0.172	2.568
BLACK slope, $\beta_{4j(1)}$	$\gamma_{40}$				0.147	0.115	1.278
FEMALE slope, $\beta_{5j(1)}$	$\gamma_{50}$				0.402***	0.073	5.547
FRIENDNOCOLL slope, $\beta_{6j(1)}$	$\gamma_{60}$				-0.115***	0.035	-3.289
FRIEND4YR COLL slope, $\beta_{7j(1)}$	$\gamma_{70}$				0.381***	0.037	10.354
PAR CONTACT BEHAV slope, $\beta_{8j(1)}$	$\gamma_{80}$				-0.289***	0.065	-4.453
PAR INVOLVEMENT, slope, $\beta_{9j(1)}$	$\gamma_{90}$				0.338***	0.063	5.384
PAR COLLEGE ACT, slope, $\beta_{10j(1)}$	$\gamma_{100}$				1.030***	0.151	6.830

## LEVEL-1 DESCRIPTIVE STATISTICS

<u>VARIABLE NAME</u>	<u>N</u>	<u>MEAN</u>	<u>SD</u>	<u>MINIMUM</u>	<u>MAXIMUM</u>
ASIAN/P.I.	9534	0.08	0.27	0.00	1.00
HISPANIC	9534	0.12	0.33	0.00	1.00
BLACK	9534	0.10	0.30	0.00	1.00
FEMALE	9534	0.51	0.50	0.00	1.00
SATACT	9534	0.68	0.47	0.00	1.00
F2QWT	9534	157.12	145.98	2.17	3859.57
ACHTEST	9534	52.04	9.41	31.05	71.82
SES	9534	0.01	0.79	-3.24	2.75

FRIENDSTUDY	9534	2.27	0.56	1.00	3.00
FRIENDSNOCOLL	9534	2.10	0.98	1.00	5.00
FRIENDS4YRCOLL	9534	3.51	0.95	1.00	5.00
MOVED	9534	0.14	0.31	0.00	1.00
PAR CONTACT ACAD	9534	1.75	0.79	1.00	4.00
PAR CONTACT BEHAV	9534	1.21	0.48	1.00	4.00
FAMILY INC OME	9534	10.44	2.08	1.00	15.00
PAR EDUCATION	9534	3.19	1.11	1.00	6.00
PAR EXPECTATIONS	9534	2.19	0.63	0.00	3.00
COLL EXPENSE/AID	9534	2.17	0.57	1.00	3.00
PAR DISCUSS	9534	2.11	0.41	1.00	3.00
FIRST GEN IMM	9534	0.06	0.21	0.00	1.00
SEC GEN IMM	9534	0.16	0.31	0.00	1.00
PAR INVOLVEMENT	9534	2.29	0.75	1.00	4.00
PAR COLLEGE ACTIV	9534	0.37	0.36	0.00	1.00
PAR COLLEGE GRAD	9534	0.33	0.41	0.00	1.00

## LEVEL-2 DESCRIPTIVE STATISTICS

<u>VARIABLE NAME</u>	<u>N</u>	<u>MEAN</u>	<u>SD</u>	<u>MINIMUM</u>	<u>MAXIMUM</u>
CATHOLIC	1025	0.08	0.27	0.00	1.00
OTHER PRIVATE	1025	0.09	0.29	0.00	1.00
URBAN	1025	0.36	0.48	0.00	1.00
RURAL	1025	0.27	0.44	0.00	1.00
% ASIAN/P.I.	1025	3.84	8.49	0.00	91.00
% HISPANIC	1025	10.49	19.84	0.00	100.00
% BLACK	1025	13.92	22.35	0.00	100.00
% WHITE	1025	70.21	30.94	0.00	100.00
AVE SES	1025	0.06	0.58	-1.61	1.77
% FREE LUNCH	1025	21.13	22.23	0.00	100.00
AVE PAR EDUC	1025	3.19	0.87	1.00	6.00
AVE ACHTEST	1025	51.82	6.13	33.48	69.68
% TAKE AP	1025	11.24	14.57	0.00	100.00
AVE FRIENDSTUDY	1025	2.28	0.31	1.00	3.00
AVE FRIENDSNOCOLL	1025	2.45	0.60	1.00	5.00
AVE FRIENDS4YRCOLL	1025	3.45	0.65	1.00	5.00
AVE MOVED	1025	1.82	0.21	1.00	2.00
AVE PAR EXPECT	1025	2.18	0.41	0.00	3.00
AVE PAR DISCUSS	1025	2.06	0.24	1.00	3.00
AVE PARENT INVOLV	1025	2.06	0.73	1.00	5.00

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**Table 2.29.** Multinomial Logit Models for Enrollment Data\*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ 

<i>Fixed Effect</i>	<i>(a) Unconditional Model</i>			<i>(b) Conditional Model</i>			
	<i>Coefficient</i>	<i>se</i>	<i>t Ratio</i>	<i>Coefficient</i>	<i>se</i>	<i>t Ratio</i>	
For category 1 (2-Year Institution)							
INTERCEPT, $\beta_{0j(1)}$	INTERCEPT, $\gamma_{00(1)}$	-0.796***	0.047	-16.596	-2.959***	0.544	-5.443
	FRIENDS 2 YR, $\gamma_{01(1)}$				0.865***	0.116	7.468
	% ASIAN/P.I., $\gamma_{02(1)}$				0.023***	0.005	4.598
	CATHOLIC, $\gamma_{03(1)}$				0.786***	0.193	4.083
	PAR EXPECT, $\gamma_{04(1)}$				0.344*	0.180	1.913
	% NONWHITE, $\gamma_{05(1)}$				-0.006***	0.002	-3.533
	FRIENDS NO COLL, $\gamma_{06(1)}$				-0.216*	0.115	-1.874
BLACK slope, $\beta_{1j(1)}$	$\gamma_{10(1)}$				-0.208	0.150	-1.388
FEMALE slope, $\beta_{2j(1)}$	$\gamma_{20(1)}$				0.290	0.073	3.981
SECOND GENERATION slope, $\beta_{3j(1)}$	$\gamma_{30(1)}$				0.299*	0.154	1.941
SES slope, $\beta_{4j(1)}$	$\gamma_{40(1)}$				0.517***	0.061	8.469
ACHIEVE TEST, $\beta_{5j(1)}$	$\gamma_{50(1)}$				0.025***	0.004	5.495
COLL EXPENSE/AID slope, $\beta_{6j(1)}$	$\gamma_{60(1)}$				0.126*	0.072	1.747
FRIENDS NO COLL slope, $\beta_{7j(1)}$	$\gamma_{70(1)}$				-0.125***	0.041	-3.042
FRIENDS 2 YR COLL slope, $\beta_{8j(1)}$	$\gamma_{80(1)}$				0.140***	0.047	2.978
FRIENDS 4 YR COLL slope, $\beta_{9j(1)}$	$\gamma_{90(1)}$				0.124***	0.044	2.815
MOVED slope, $\beta_{10j(1)}$	$\gamma_{100(1)}$				-0.414***	0.128	-3.225
PAR CONTACT ACAD slope, $\beta_{11j(1)}$	$\gamma_{110(1)}$				-0.027	0.052	-0.522
PAR CONTACT BEHAV slope, $\beta_{12j(1)}$	$\gamma_{120(1)}$				-0.336***	0.083	-4.032
PAR EXPECT slope, $\beta_{13j(1)}$	$\gamma_{130(1)}$				0.276***	0.062	4.479
PAR DISCUSS slope, $\beta_{14j(1)}$	$\gamma_{140(1)}$				0.300***	0.101	2.954
PAR INVOLVE slope, $\beta_{15j(1)}$	$\gamma_{150(1)}$				0.215*	0.055	3.882
For category 2 (Private 4-Year Institution)							
INTERCEPT, $\beta_{0j(2)}$	INTERCEPT, $\gamma_{00(2)}$	-1.152***	0.073	-15.738	-4.107***	0.516	-7.953
	FRIENDS 4 YR COLL, $\gamma_{01(2)}$				0.765***	0.152	5.019
	% ASIAN/P.I., $\gamma_{02(2)}$				0.014**	0.006	2.401
	CATHOLIC, $\gamma_{03(2)}$				1.158***	0.247	4.694

OTHER PRIVATE, $\gamma_{04(2)}$				0.795***	0.222	3.578
BLACK slope, $\beta_{1j(2)}$	$\gamma_{10(2)}$			0.825***	0.192	4.298
FEMALE slope, $\beta_{2j(2)}$	$\gamma_{20(2)}$			0.378	0.098	3.868
SECOND GENERATION slope, $\beta_{3j(2)}$	$\gamma_{30(2)}$			0.284	0.189	1.500
SES slope, $\beta_{4j(2)}$	$\gamma_{40(2)}$			0.867***	0.086	10.090
ACHIEVE TEST, $\beta_{5j(2)}$	$\gamma_{50(2)}$			0.118***	0.006	18.294
COLL EXPENSE/AID slope, $\beta_{6j(2)}$	$\gamma_{60(2)}$			-0.159	0.097	-1.638
FRIENDS NO COLL slope, $\beta_{7j(2)}$	$\gamma_{70(2)}$			-0.049	0.049	-0.992
FRIENDS 2 YR COLL slope, $\beta_{8j(2)}$	$\gamma_{80(2)}$			-0.253***	0.065	-3.860
FRIENDS 4 YR COLL slope, $\beta_{9j(2)}$	$\gamma_{90(2)}$			0.515***	0.066	7.772
MOVED slope, $\beta_{10j(2)}$	$\gamma_{100(2)}$			-0.054	0.149	-0.365
PAR CONTACT ACAD slope, $\beta_{11j(2)}$	$\gamma_{110(2)}$			-0.167**	0.068	-2.439
PAR CONTACT BEHAV slope, $\beta_{12j(2)}$	$\gamma_{120(2)}$			-0.435***	0.118	-3.681
PAR EXPECT slope, $\beta_{13j(2)}$	$\gamma_{130(2)}$			0.724***	0.097	7.487
PAR DISCUSS slope, $\beta_{14j(2)}$	$\gamma_{140(2)}$			1.007***	0.128	7.838
PAR INVOLVE slope, $\beta_{15j(2)}$	$\gamma_{150(2)}$			0.615***	0.068	9.049

## For category 3 (Public 4-Year Institution)

INTERCEPT, $\beta_{0j(3)}$	INTERCEPT, $\gamma_{00(3)}$	-0.360***	0.042	-8.468	-1.749***	0.557	-3.137
	FRIENDS NO COLL, $\gamma_{01(3)}$				0.206**	0.091	2.258
	FRIENDS 2 YR COLL, $\gamma_{02(3)}$				-0.169*	0.102	-1.655
	FRIENDS 4 YR COLL, $\gamma_{03(3)}$				0.429***	0.107	4.010
	CATHOLIC, $\gamma_{04(3)}$				0.631***	0.205	3.077
BLACK slope, $\beta_{1j(3)}$	$\gamma_{10(3)}$				0.555***	0.130	4.287
FEMALE slope, $\beta_{2j(3)}$	$\gamma_{20(3)}$				0.231***	0.075	3.103
SECOND GENERATION slope, $\beta_{3j(3)}$	$\gamma_{30(3)}$				0.328**	0.142	2.304
SES slope, $\beta_{4j(3)}$	$\gamma_{40(3)}$				0.692***	0.059	11.628
ACHIEVE TEST, $\beta_{5j(3)}$	$\gamma_{50(3)}$				0.101***	0.005	21.406
COLL EXPENSE/AID slope, $\beta_{6j(3)}$	$\gamma_{60(3)}$				0.073	0.072	1.008
FRIENDS NO COLL slope, $\beta_{7j(3)}$	$\gamma_{70(3)}$				-0.026	0.038	-0.673
FRIENDS 2 YR COLL slope, $\beta_{8j(3)}$	$\gamma_{80(3)}$				-0.340***	0.050	-6.831
FRIENDS 4 YR COLL slope, $\beta_{9j(3)}$	$\gamma_{90(3)}$				0.437***	0.050	8.736
MOVED slope, $\beta_{10j(3)}$	$\gamma_{100(3)}$				-0.349***	0.120	-2.900

PAR CONTACT ACAD slope, $\beta_{11j(3)}$	$\Upsilon_{110(3)}$	-0.117**	0.052	-2.234
PAR CONTACT BEHAV slope, $\beta_{12j(3)}$	$\Upsilon_{120(3)}$	-0.314***	0.086	-3.644
PAR EXPECT slope, $\beta_{13j(3)}$	$\Upsilon_{130(3)}$	0.702***	0.073	9.572
PAR DISCUSS slope, $\beta_{14j(3)}$	$\Upsilon_{140(3)}$	0.624***	0.100	6.245
PAR INVOLVE slope, $\beta_{15j(3)}$	$\Upsilon_{150(3)}$	0.447***	0.053	8.447

## LEVEL-1 DESCRIPTIVE STATISTICS

VARIABLE NAME	N	MEAN	SD	MINIMUM	MAXIMUM
ASIAN/P.I.	9113	0.08	0.27	0.00	1.00
HISPANIC	9113	0.12	0.32	0.00	1.00
BLACK	9113	0.10	0.30	0.00	1.00
ENROLLMENT	9113	2.86	1.12	1.00	4.00
F3QWTG12	9113	188.24	153.45	16.23	4049.40
FEMALE	9113	0.51	0.50	0.00	1.00
ACHTEST	9113	52.15	9.43	31.05	71.82
SES	9113	0.02	0.79	-3.24	2.75
FRIENDS STUDY	9113	2.27	0.56	1.00	3.00
FRIENDS NO COLL	9113	2.09	0.97	1.00	5.00
FRIENDS 2 YR COLL	9113	2.43	0.90	1.00	5.00
FRIENDS 4 YR COLL	9113	3.52	0.94	1.00	5.00
MOVED	9113	0.14	0.31	0.00	1.00
PAR CONTACT ACAD	9113	1.75	0.79	1.00	4.00
PARCONTACT BEHAV	9113	1.21	0.48	1.00	4.00
PAR EDUCATION	9113	3.20	1.11	1.00	6.00
PAR EXPECTATIONS	9113	2.19	0.63	0.00	3.00
COLL EXPENSE/AID	9113	2.16	0.57	1.00	3.00
PAR DISCUSSION	9113	2.11	0.41	1.00	3.00
FIRST GEN IMM	9113	0.06	0.21	0.00	1.00
SEC GEN IMM	9113	0.16	0.31	0.00	1.00
PAR INVOLVEMENT	9113	2.29	0.76	1.00	4.00
PAR COLL ACTIV	9113	1.53	0.36	1.00	2.00

## LEVEL-2 DESCRIPTIVE STATISTICS

VARIABLE NAME	N	MEAN	SD	MINIMUM	MAXIMUM
CATHOLIC	1016	0.09	0.28	0.00	1.00
OTHER PRIVATE	1016	0.09	0.28	0.00	1.00
URBAN	1016	0.36	0.48	0.00	1.00
RURAL	1016	0.27	0.44	0.00	1.00
% ASIAN/P.I.	1016	3.78	8.12	0.00	91.00
% HISPANIC	1016	10.58	19.88	0.00	100.00
% BLACK	1016	13.64	21.79	0.00	100.00
% WHITE	1016	70.64	30.52	0.00	100.00
% NON WHITE	1016	29.36	30.52	0.00	100.00
AVE SES	1016	0.07	0.58	-1.61	1.77
% FREE LUNCH	1016	20.70	21.76	0.00	100.00
ACHTEST	1016	51.97	5.97	33.48	69.68
% TAKE AP	1016	11.31	14.60	0.00	100.00
AVE FRIENDS STUDY	1016	2.28	0.30	1.00	3.00
AVE FRIENDS NO COLL	1016	2.12	0.61	1.00	5.00
AVE FRIENDS 2 YR COLL	1016	2.45	0.60	1.00	5.00
AVE FRIENDS 4 YR COLL	1016	3.46	0.64	1.00	5.00
AVE MOVED	1016	1.82	0.21	1.00	2.00
AVE PAR EXPECT	1016	2.18	0.40	0.00	3.00
AVE PAR DISCUSS	1016	2.06	0.24	1.00	3.00
AVE PAR INVOLV	1016	2.07	0.74	1.00	5.00

### Chapter 3

#### State College-Going Policy Orientation and High School Outcomes

Chapter two addressed the question of whether there was significant school-level variance in college-going outcomes after controlling for known student-level predictors such as race/ethnicity, SES, and academic preparation. It showed that not only is there significant school-level variance, but also that some of this variance can be explained by school-level variables such as the population served by the school in terms of income and race/ethnicity as well as level of parental involvement at the school. This research provides support for portions of Perna's model of college-going by affirming that not only do family background characteristics and academic preparation impact aspiration, preparation and enrollment, but also that the school-level context influences these outcomes over and beyond the student's individual *habitus*. Thus as we look at determinants of college-going, it is imperative that we not only consider the individual characteristics of students, but also the schools in which they develop college predisposition and make choices about their preparation and eventually enrollment (McDonough, 1997).

Perna's model, however, places student decisions not only within their personal *habitus* of family background and their K-12 schooling environment, but also a larger social, economic, and education policy context. Student decisions are theorized to respond also to social conditions such as racism and attitudes about immigration, economic conditions such as fiscal downturns and the labor market, and policy that impacts both K-12 schooling and higher education. This policy context might encompass education funding levels, accountability measures, and affirmative actions laws. Also within this domain is the myriad of policies that

have been implemented at both the federal and state level to actively encourage college going in the population. There is substantial research that documents the impact, or lack thereof, of various policies and programs on student college-going decisions, and also on the disparate impacts on students of different family backgrounds. What this policy research fails to acknowledge, however, is that the individual policies do not affect students in isolation, but rather form a field of policy influences on students, a field of overlapping policies which may reinforce or conversely undermine one another's disparate purposes. While the federal policy environment is constant across the nation at any one point in time, each state's array of policies creates a unique environment in which students formulate and realize their plans. Second, this policy literature fails to adequately address the fact that how students receive and respond to policy levers is mitigated by the high school which they attend. The impact of the high school may occur concretely through a policy or program being implemented by the secondary school, or more abstractly, through the ways that different types of high schools structure college opportunity through their resources (material, human, and social) and college-going activities offered.

Having assessed in chapter two the national impact of school-level indicators on college-going outcomes, this chapter focuses in more closely on college going in three states: California, Florida, and Georgia. In it, I assess the policy environment in these states vis-a-vis whom policies target, the barriers to college going addressed, and how the programs are implemented. More specifically I assess to what extent the college access policies in the state are dependent on local school resources to reach students. Second, I look at college-going outcomes in these states not in the aggregate, or by type of student, but by the type of school attended in terms of the racial/ethnic background and income of its students. The data are not available to conduct the

analyses from chapter one on the universe of students in these states. There are data, however, on the universe of public high schools in these states that can indicate whether or not college-going outcomes are equal across types of high schools and whether over time these patterns are changing. Given the investment in these states to encourage college going through a variety of policies and programs, what gaps exist in outcomes and do they improve over time?

Thus the research questions addressed for each study state are:

1. What are the state-level policies designed to encourage college-going in the state? How do these policies fit into a typology designed to assess the type and age of students targeted, the barriers to college going addressed, and what the implementing agencies are? What conclusions, if any, can be drawn regarding the college-going policy orientation of each state?
2. To what extent is student access to state policies and programs dependent on the high school that the student attends?
3. What are the college-going outcomes in these states for public high schools serving different types of populations in terms of the racial/ethnic and income makeup of the school over a five-year window affected by the policy environment detailed in questions 1 and 2?

### **Review of Literature**

There is a robust literature surrounding the influence of state policies designed to promote access to higher education on the college-going behaviors of students. I will trace the most recent research evaluating these programs. I will start with state financial aid programs reviewing first the need-based aid programs and then the merit-based programs. Research is reviewed that examines the impact of aid on outcomes prior to college as well as success in

college. The next group of studies is about the higher education policy environment in states more broadly, examining distribution and affordability of a state's higher education institutions, the funding of K-12 education, and the alignment between the two systems. The review concludes with the literature concerning the effectiveness of state early intervention programs.

A great deal of the research on college access policy has focused on student price response to state financial aid programs. Some of these studies analyze state-level data to understand the effect of aid expenditures on college going. Heller (1999) measured the impact of tuition and state financial aid across the country on public postsecondary enrollments from 1976 to 1994 and found increases in enrollment due to both tuition decreases and aid increases with African Americans, Hispanics, and community college students showing more sensitivity. St. John et al. (2004) explored the impact of state finance strategies such as tuition, need-based aid, and non-need grants on academic access defined as high school graduation and financial access defined as enrollment. The authors found that non-need grants decreased high school graduation and that both need and non-need aid increased enrollment but that need-based aid was the strongest predictor.

Other studies utilize student-level data within a state to assess the impact of a particular program. Abraham and Clarke (2003) studied the District of Columbia's Tuition Assistance Grant Program that was instituted in 1999 and allows high school graduates who are D.C. residents to attend public colleges and universities throughout the country at lower in-state tuition rates. They found that this program increased the number of students taking the SAT and applying to 4-year institutions. Freshman enrollment at eligible institutions increased as well as overall freshman enrollment though to a lesser extent. They note this effect was larger for more advantaged students (white students from private high schools, with higher SAT's and parents

who went to college). Kane (2004) also analyzed this program and found increases in enrollment as well as the number of students applying for federal financial aid for the first time and receiving Pell Grants. Kane (2003) analyzed the impact of receiving a CalGrant, a need-based California grant, and found that among financial aid applicants, recipients of the CalGrant were 3-4% more likely to enroll with an even larger impact on the choice of a private 4-year college. There have also been studies of Indiana's Twenty-First Century Scholars Program, a need-based financial aid program that also provides a variety of early intervention services for low-income middle-school students who meet certain basic criteria. Studies found that being a scholar was associated with higher aspirations for, applying to, and enrolling in college (St. John et al., 2004). The program was also found to increase the enrollment of African Americans even more than white students (St. John, 2004).

Other state research has focused on the impact of non-need based or merit aid on student college-going behaviors. Don Heller and Patricia Marin edited two volumes for the Harvard Civil Rights Project (now located at UCLA) entitled *Who Should We Help? The Negative Social Consequences of Merit Aid* (2002) and *State Merit Scholarship Programs and Racial Inequality* (2004). Both studies were comprised of chapters examining the role of individual state programs and came to the conclusion that merit aid is most likely to be offered to students who would already attend college and is less likely to be offered to low-income and minority students. The enrollment impact of merit aid has also been studied illustrating that the inception of the HOPE Scholarship in Georgia increased college enrollment by between 5 and 8 percentage points with increases concentrated in 4-year schools (Cornwell and Mustard, 2003; Dynarski, 2004). These studies had conflicting findings on the racial impacts of HOPE. A study of aid response at the University of Oregon found that merit aid increases the enrollment of all students but especially

higher income students (Singell & Stone, 2002). This study also found that a student's anticipated need for aid had more of an impact on the decision to apply to college than actual need had on the decision to enroll illustrating the impact of perceptions about finance on college-going behaviors prior to actual enrollment. An analysis of the Tennessee Education Lottery Scholarship by the Tennessee Higher Education Commission looks at retention of the scholarship and subsequent persistence in college (Wright & Anderson, 2007). The Tennessee program is unique in allowing qualification for the program by either high school GPA or ACT score and giving additional aid to students with financial need or exceptional merit. The study found that, controlling for GPA and ACT score, black students are less likely to retain the scholarship and that students in higher income quartiles are more likely to retain it. Of those who lose the scholarship, blacks and higher income students are more likely to persist.

Several other studies have also focused in on the impact of state financial aid on college persistence and completion. Hu and St. John (2001) found in an analysis of the effect of financial aid packages in Indiana colleges on within-year persistence that aid equalized the opportunity to persist and that the effect was stronger among minorities. A similar analysis by St. John, Hu, and Weber (2001) disaggregated the analysis of Indiana financial aid by loans and grants and found that a combination of loans and grants and other types of packages increased persistence in the three cohorts studied. Indiana's 21<sup>st</sup> Century Scholarship packages have been shown to increase persistence for freshmen in college and equalize persistence for sophomores (St. John et al., 2003).

Analysis by St. John (1999) using a similar methodology of the Washington state grant program found that being awarded both loans and grants, or a combination of loans, grants, and work increases persistence compared to those who didn't receive aid but that the amounts offered

in two of the years were insufficient to equalize the opportunity to persist. For the last year when aid amounts increased, all types of aid packages increased persistence and the amount of aid appeared sufficient to equalize opportunity. Aid increases over the time period increased persistence for minorities and the larger increase in the last year actually equalized persistence for African American students.

Finally, Titus (2006) found using a combination of institutional, state, and national data that, controlling for individual and institution-level variables, total state grants as a percentage of appropriations of state tax funds for operating expenses of higher education and state need-based grant dollars per individual in the traditional college-age population increase college completion within six years.

These studies of the impact in individual states and nationally of aid on college going have been enhanced by descriptive analyses of the state of college affordability in all 50 states in a Lumina Foundation study entitled *Unequal Opportunity* (Kipp, Price, & Wohlford, 2002). It analyzed the admissibility and affordability of public higher education in each state for low- and median- income students of median achievement who are either college-age dependents or non-traditional adult students. The authors found that in most states there is a limited range of affordable options for low-income undergraduates (both dependent and independent) especially at four-year institutions and that the percent of admissible and affordable institutions varies widely among states.

Other studies have sought to understand the impact not only of state financial aid policies, but other policies aimed at improving college access. These include K-12 student-to-teacher ratios, distribution of types of higher education institutions in a state, alignment of high school requirements with college admissions criteria, and early intervention programs. Perna

and Titus (2004) integrated national longitudinal survey data with state indicators to assess the role of state policies on college enrollment. With regard to finance variables, they found that increased state appropriations to higher education reduced the likelihood of out-of-state enrollment; an increased difference in the gap between tuition at public two-year institutions and four-year private institutions increased enrollment at four-year publics; and increased need-based aid increased enrollment at both public and private four-year institutions. They also found that a higher ratio of students to teachers in the K-12 schools reduced both four-year public and out-of-state enrollments. Finally, a higher ratio of two-year public colleges to four-year publics increased enrollment at four-institutions and a higher ratio of four-year publics to four-year privates reduced two-year enrollments and increased four-year public enrollments. Interestingly they also found that controlling for state and other student predictors was not sufficient to explain differences between low and high SES students in enrollment.

There has also been an increasing focus in research on the alignment of K-12 and higher education. A report from the Southern Regional Education Board (SREB) entitled *High School to College and Careers: Aligning State Policies* gave information about each member state regarding state-level early outreach programs, joint enrollment opportunities, financial aid opportunities, high school graduation testing and curricular requirements, college admission requirements, and feedback reports for high schools about the success of their students in college. The report noted differences among states in strategies to align K-12 with higher education policies but acknowledged that all states still struggle to achieve this goal. Kirst and Venezia (2004) analyzed this same problem by collecting data from state agency, higher education, and K-12 employees as well as students and parents in six states. They found that current policies perpetuate disjunctions between K-12 and postsecondary education through

multiple and confusing assessments, disconnected curricula, and insufficient K-16 data, accountability, and governance mechanisms. These result in misunderstandings about college among students, parents, and even K-12 educators as well as inequities both between and within high schools in aspirations and knowledge about college.

There have been many studies of state early intervention programs as well. Cunningham, Redmond, and Merisotis (2004) reviewed 17 state-sponsored early intervention programs in 12 states identified as leaders in this domain. It described various aspects of programs and the outcomes and merits of existing evaluations. They found that most offer awareness and academic support services without financial incentives. They provided a synthesis of proven practices: combining multiple components including tutoring, mentoring, and academic enrichment; ongoing contact between students and staff; involvement of higher education institutions; and alignment with other higher education initiatives. They pointed to the tradeoff between depth of services and the number of students able to be served.

There have been some rigorous evaluations of state intervention programs. Due to the aforementioned tradeoff between depth and number of students served as well as the variability between the implementation of state intervention programs in different schools and districts there are few studies of the impact of these programs at the state level. Studies have tended to focus on individual implementation sites or several in a district. An example of this type of research is that on the Early Academic Outreach Program operated by the University of California. This program provides academic development services to students to improve skills and assist students in completing college preparatory coursework. One study employed two cohorts of students in a large urban school district from their 7<sup>th</sup> to 12<sup>th</sup> grade years to estimate the impact of participation in EAOP on completion of courses required for admission to the University of

California (Quigley & Leon, 2002). This study found that 40% of participants in this program completed the academic courses needed to get into the University of California institutions opposed to only 9.5% of non-EAOP students in the school district. Another study examined 32 high schools in the Los Angeles area using longitudinal, year-to-year data on school performance from 1993-2000 (Wang, 2005). 16 of the schools were involved with the Early Academic Outreach Program and 16 were involved with the Career Based Outreach Program. The comparative effectiveness of EAOP and CBOP were assessed using measures of academic preparation and competitive eligibility. The study found that the “fidelity” or strength of implementation of an outreach program is a more crucial factor affecting student achievement than the program’s content. Fidelity was defined as the extent to which site coordinators and advisors were able to implement the various components of the program at their school. A unique contribution of this paper is the finding that the school context influences the effectiveness of the state policy, in this case early intervention programs.

While these studies focused in on students in a particular district, one analysis of EAOP did make an effort to assess its statewide impact through analysis of the universe of high school data in California (Bookman, 2005). Controlling for school academic performance, the degree of student disadvantages at a school, and proximity to the nearest UC campus, the study used multiple regression to determine the impact of EAOP in differing public high school environments. The author found that EAOP was most effective at middle-performing schools in improving UC course requirement taking, as well as application to, admission to, and enrollment at the UC. This study is unique in analyzing how a statewide program affects all schools where it is implemented and furthermore by paying attention to how the type of school the program is in makes a difference. As detailed above, there has also been statewide student-level analysis of

Indiana's Twenty-First Century Scholars Program, a financial aid program that also provides a variety of early intervention services for low-income middle-school students who meet certain basic criteria. Studies found that being a scholar was associated with higher aspirations, applying to, and enrolling in college.

This literature has mapped the terrain of research on state higher education policies aimed at increasing access to college for underrepresented populations. Much of this research has focused on impacts of financial aid programs, both need- and merit-based, on a variety of college-going behaviors ranging from aspirations to persistence. There has also been some rigorous research on the impacts of early intervention programs though the quantity and quality of this research has been hampered by the availability of data, the variability in implementation of programs, as well as the small numbers of students these programs can practically take on. There has also been some descriptive analysis of the landscape of higher education in states with respect to the affordability of institutions as well as the alignment of college admissions with high school requirements.

There has been limited research, however, on the combinations of programs that exist within a state to promote college going. Perna et al. (2008) created a policy typology of those college encouragement policies in five states for which reliable funding data were available to assess the college access policy environment in those states. Policies were categorized by their program components, target population, and level of implementation (government to student, government to school to student, government to higher education institution to student, etc.). The authors found that programs that provided financial aid directly from the government to students were universally most common but that there was some variability between the states in their approach. The study also concluded that the state of the college access policy landscape in

those states was similar to what Hearn (2001) found regarding federal higher education access policy. The policies were found to lack philosophical coherence, systematic and intentional policy development, and program clarity and distinctiveness. The Perna analysis moves us forward in appreciating the range of programs in a state as well as focusing not just on program sponsor but, “the specific contexts in which the policies and programs are implemented (e.g. states, higher education institutions, schools).” It leaves unanswered, however, the extent to which all programs, regardless of actual site of implementation, are accessed through the secondary schools.

## **Methods**

### *Policy Review*

The policy review portion of this chapter follows the methodology of the policy typology developed for a larger group of states in the Lumina Foundation for Education-funded College Access Policies Project on which I worked as a graduate assistant under the principal investigators, Dr. Laura Perna of the University of Pennsylvania and Dr. Scott Thomas while at the University of Georgia. This methodology is detailed in a paper produced for that project entitled “A typology of federal and state programs designed to promote college enrollment” (Perna et al., 2008). The five states used (California, Florida, Georgia, Maryland, and Pennsylvania) were purposively selected based on their variation in terms of several demographic, economic, political, and educational characteristics. I further narrowed down this sample to California, Florida, and Georgia due to data limitations in the other two states regarding school-level academic preparation and continuation information. Despite this narrowing, the three states still exhibit variation on these characteristics (see Table 3.5 at end of chapter).

All three states are among the nation's most populous and are projected to have substantial increases in high school graduates between 2001-2 and 2017-18 (Western Interstate Commission for Higher Education, 2008). Whereas Hispanics are the most populous minority among public high school graduates in California at 33%, blacks are most populous in Georgia at 45% and Florida is almost evenly mixed with blacks comprising 20% and Hispanics comprising 17% of public high school grads (WICHE, 2003). There is not much variation, however, among the states in the percent of students eligible for free and reduced lunch (NCES, 2006). The high school dropout rate is highest in Georgia but that state has the highest percent of graduates enrolling in college, whereas California does the best job of graduating students from high school but the worst in sending these graduates on to college (Chronicle of Higher Education, 2005; National Center for Higher Education Management Systems, 2006). It is not surprising that high school graduation rates and college continuation rates seem to be inversely related.

In terms of the population as a whole, there is not much variation in poverty rates and per capita income but California has the highest poverty rate and per capita income while Georgia has the lowest on both of these measures (Chronicle of Higher Education, 2005). California also has the highest percentage of the population aged 35-44 with a bachelor's degree or higher at 29% with Georgia at 26% and Florida at 25%.

Other differences can be discerned regarding funding and organization of K-12 and higher education. Georgia spends the highest percentage of its state expenditures on both K-12 (26%) and higher education (14%) whereas Florida is the lowest with 21% and 8% respectively (National Association of State Budget Officers, 2004). California governs its higher education system loosely with a weak coordinating board and the University of California system has constitutional autonomy. Florida and Georgia, on the other hand, utilize governing boards.

California's organization of its higher education institutions is also unique in having three intentional and explicit sectors formed by its Master Plan for higher education: the University of California system, the California State University system, and the community college system. Florida and Georgia's institutions obviously also vary in prestige, selectivity, and research activity but these differences are institution specific and less systematic. California's and Florida's higher education institutions are comprised of higher percents of private four-year institutions (36%, 31%) while 41% of Georgia's institutions are public two-years (Chronicle of Higher Education, 2005). A final and important aspect of the educational context in these states is the type and level of financial aid offered to students for pursuing higher education. Whereas Florida and Georgia are dominated by aid based only on merit, 59% and 68% of state grant aid respectively, the proportion of California aid based solely on merit is low: 8% (National Association of State Student Grant and Aid Programs, 2005). Georgia has one of the highest amounts of grant aid per resident aged 18-24 at \$479 (third in the nation). Florida spends \$214 and ranks 16<sup>th</sup> and California spends \$182 and ranks 19<sup>th</sup> (NASSGAP, 2005).

The next step was to select the policies and programs to analyze. Programs and policies were selected which were funded largely by state governments: departments of elementary and secondary education, state postsecondary education departments, state financial aid commissions, and state systems of higher education. Programs were identified through on-line review of government web sites as well as searches for programs containing "college" or "higher education" in the title or description. State officials were contacted in some instances to learn more about programs. While many education programs such as curricular reform or accountability efforts likely have an influence on college-going outcomes, the searches were more directly focused on programs with the expressed purpose of increasing access to college.

The review in this paper does not include federal programs or programs offered by particular higher education institutions in an effort to focus in on state-level efforts to promote college going.

The analysis of policies follows the method of others who have conducted typologies (e.g., McKernan, Bernstein, & Fender, 2005; Perna et al., 2007; Richards, 1998). Programs were classified according to literature-supported college enrollment indicators such as purpose, components, requirements for participation, funding level where available, number of participants, implementation history, barrier to college enrollment addressed, implementing agency, and demographic and academic characteristics and grade-level of students targeted.

This information was then used to develop a typology of the state policies and programs. A typology is defined as “a simplification, a heuristic device, which helps us to organize important points of comparison” (Richards, 1998, p. 107). The first and primary distinction made among programs is the extent to which access to programs is dependent on or routed through high schools. There are four other dimensions on which policies were analyzed. The level of implementation of the program is important in discerning which levels of the conceptual model are employed and of special importance to this study, whether the program is directly implemented through the local school. The second dimension is the barrier to college going addressed: academic preparation, financial resources, knowledge about college, or a combination of these. The final dimension is the demographic and academic characteristics of students targeted, consistent with my interest in equity in access for low-income and minority populations. Each program is categorized along each of these dimensions and then placed within a matrix by the extent of school role necessary to access the program. The aggregate of programs is assessed to uncover state patterns and foci in the policies employed as well as

whether the different types of policies employed are reliant on schools to reach students. I use the typologies to compare the three states in their college-encouragement policy orientation.

### *High School College-Going Outcomes*

Descriptive analyses are used to compare the college-outcomes of schools in the three states that serve different populations in terms of race/ethnicity and income. I obtained demographic data on the universe of regular, public high schools from the Common Core of Data. Charter schools were excluded due to data limitations. The schools were divided up into quartiles based on the percent of their student body that is non-white for one set of analyses and the percent of their student body that received free or reduced lunch for the second set. The quartiles were compared over a five-year window from the 1999-2000 school year up to the 2003-2004 school year to discern gaps and trends on a number of literature supported college-going indicators. Academic preparation of the student body was measured by the percent of 11<sup>th</sup> and 12<sup>th</sup> graders that took AP tests and the percent of AP tests that received a passing score (3,4, or 5). AP test taking is a proxy for the availability of AP courses and the number of students taking them. AP courses are representative of the rigorous courses that have been established to be an important predictor of college going (Adelman, 1999). A second set of indicators of academic preparation is the percent of 12<sup>th</sup> graders taking the SAT and the average total score of students' most recent test sitting. SAT taking rates are an indicator of students taking the appropriate steps to meet college admissions requirements. While ACT taking rates might fulfill the same purpose, the data for these years is not complete and the ACT is not as universally taken by those preparing for college as the SAT in these states. The school quartiles were also compared on the number of students that the schools send on to the public higher education institutions in the state as a whole and broken down into two-year and four-year institutions. It is

necessary to include the separate two- and four-year continuation rates to discern whether lower-income and high minority serving high schools are disproportionately sending students to the two-year institutions which are less prestigious and less likely to lead to baccalaureate attainment (Cabrera, et al., 2005).

### **Limitations**

There are various limitations to both portions of this study. The policy review does not control for the size and scope of programs in each state. Data about funding and reach of the individual programs is not always available and where available not consistent in what it includes. The Perna et al. (2008) policy typology of all five states in the College Access Policies Project did use what funding data was available to describe states in terms of their policy components, target population, and implementation agency but this limited the number of policies that were able to be used in the analysis. The policy typology also does not include many state policies, programs, and funding structures that undoubtedly have an impact on college access, such as high school graduation requirements or higher education tuition levels. The focus of this study however, was to catalog those programs and policies specifically targeted at increasing college going.

The academic preparation and college continuation high school outcomes data is limited in its approach to racial composition of the high schools. I have only organized schools by the percent of the population that is non-white which may gloss over distinctions in how proportion of different races and ethnicities within a school shapes college-going outcomes. This may also help explain why outcomes by racial composition of the school were inconsistent. Future research should repeat these same outcomes by school proportion of discrete racial and ethnic groups. Also, ACT data was not available in all three states but is necessary to completely

understand the proportion of students taking the college admissions tests necessary to enroll in many colleges. Another shortcoming is the lack of high school dropout data to hold up against these outcomes. High dropout rates ironically would boost the outcomes included here by removing from the analysis students who would be less likely to be in AP classes, take the SAT, and go on to college. Finally the extent to which these findings are applicable to other settings is limited. Only three states with their unique state contexts are explored for a short time period of five years. Future research should explore the relationships in other states over broader time periods.

### **Policy Review Findings**

A total of 51 state-level policies were reviewed in California, 38 in Florida, and 36 in Georgia. In Tables 3.6-3.8 at the end of the chapter, each of the programs is categorized by the extent of school involvement in students accessing it. The following procedures were used to categorize programs. Each program was assessed as to whether it physically took place at the high school and/or was administered by high school personnel. If the answer was yes, then that program is a high involvement program. Examples of high involvement programs include early intervention programs that occur on school grounds, programs that provide incentives for schools to improve academic offerings, and programs that provide college credit for or postsecondary alignment with high school courses. If a program did not fit the high involvement criteria, I assessed whether gained access to the program through high school personnel (recommendations, processing, etc.) or high school achievement (academic or otherwise) was used as a criterion for receiving services. If the answer was yes, then this program was categorized as medium involvement. Examples are merit-based aid, scholarships, and academic enrichment that takes place away from the high school but is provided to students based on their

achievement in high school. If the answer to both of the previous questions was no, then a program was categorized as low involvement. These programs have no explicit connection to the secondary schools and are often financial assistance provided directly from the government to students without academic criteria, or college information or preparation provided through state agencies, the internet, or community organizations. A potential shortcoming of this categorization based on where programs take place and how they are accessed is the fact that learning about programs is a prerequisite to accessing them. It is likely that many programs characterized as low actually do require access through the secondary schools due to the fact that students rely very heavily on school sources to learn about higher education institutions, programs, and policies. This reality, however, is difficult to capture through analysis of the programs themselves and will be explored in the following chapter.

Programs in California are disproportionately high secondary school involvement programs; these are listed in detail in Table 3.6 at the end of the chapter but the proportions are summarized below in Table 3.1. Of the 51 programs, 29 or 57% are implemented at or through the high schools. Nine programs or 18% of programs are medium involvement and require school involvement to be accessed. Thirteen programs or 25% of programs require no school involvement. This trend is reversed in Florida and Georgia (details in Tables 3.7 and 3.8). In Florida, 17 of the 38 programs, or 45%, are low school involvement. Eleven or 29% of Florida

**Table 3.1 Percent of Programs by Extent of School Involvement**

State	Low	Medium	High
California	25%	18%	57%
Florida	45%	29%	26%
Georgia	50%	22%	28%

programs are medium involvement and only 10 or 26% are high school involvement. Very similarly in Georgia, 18 of the 36 programs, or 50% are low school involvement. Eight programs or 22% require medium involvement and 10 or 28% are high involvement programs.

Table 3.2 below shows how the states vary in the proportion of their programs that offer different types of assistance to students in facilitating college-going: academic preparation, financial assistance, college knowledge, or some combination of the three. California has the strongest emphasis on academic preparation with 55% of its statewide programs involving academic preparation alone or with other components as compared with 47% for Florida and only 36% for Georgia. Florida (66%) and Georgia (69%) have similar high proportions of programs providing financial assistance to students either alone or in combination. California has the highest proportion of programs aimed at increasing college knowledge with 28% of programs; only 16% and 14% of Florida and Georgia programs have this focus.

**Table 3.2 Percent of Programs by Components**

Components	California	Florida	Georgia
Academic Preparation	33%	18%	17%
Financial Resources	35%	53%	58%
College Knowledge	10%	0%	6%
Academic Preparation and Finances	4%	13%	11%
Academic Preparation and Knowledge	18%	16%	8%

Tables 3.9-3.11 at the end of the chapter characterize for each state the programs by both their extent of school involvement and the components of the program. In general, programs that involve academic preparation, alone or in combination with other components, are more likely to

have high secondary school involvement. In California, 28 of the 31 academic preparation programs are high involvement; 10 of the 17 in Florida are high involvement as well as 8 of the 13 in Georgia. These high secondary school involvement programs range from early outreach with academic components to various policies and programs designed to encourage the taking of Advanced Placement and International Baccalaureate courses and tests. Policies and programs that offer financial assistance to students, conversely, tend to be low or medium school involvement programs. Of the 17 in California, 8 are medium and 8 are low; in Florida, of the 20, 8 are medium and 12 are low; and in Georgia, of the 21, 5 are medium and 16 are low. These are primarily financial aid programs some of which, such as Georgia's HOPE scholarship, Florida's Bright Futures, and California's Cal-Grant. The medium involvement programs both within these large state scholarship and grant programs and others require students to do well in high school and have documentation from the high school to that effect in order to receive funds. The low involvement finance programs use other criteria for receipt of funds that operate completely outside of the high schools. Knowledge programs tend to be split between low programs such as state higher education information web portals and high involvement programs that are high school-based early intervention programs.

Table 3.3 below gives for each state the population targeted by the college-encouragement policies. This designation is irrespective of the services offered and made according to explicit eligibility criteria. Columns do not total to 100 because programs can be targeted to a combination of these categories. Combination targeting is shown in the individual state tables of targeting by school involvement (Tables 3.12-3.14 at end of chapter).

**Table 3.3. Percent of Programs by Targeted Population**

Target Population	California	Florida	Georgia
High Academic Achievement	24%	24%	28%
Low Academic Achievement	12%	8%	6%
Low Income	22%	16%	8%
Low College Participation	16%	8%	0%
Racial/Ethnic Minority	0%	5%	3%
Career-focus	8%	13%	28%
No targeting	20%	21%	22%

States are similar in terms of the proportion of programs targeted to high academic achievement students and programs with no targeting at all. California has the highest proportion of programs targeted at students with low academic achievement, low family income, and from populations with low college participation. The large proportion of programs for low-income students is partially due to the fact that even the CalGrants targeted at high academic achievement students also have income ceilings. The outlawing of affirmative action in California has resulted in programs changing their focus from ethnic and racial minorities to populations with low college participation. Florida also has programs aimed at underrepresented students but Georgia has no programs of this type. Georgia is unique in offering a high proportion of programs with a career focus. Many of these are service-cancelable loans in high need fields.

Tables 3.11-3.13 at the end of the chapter organize each state's policies by targeted population and school involvement. In general, across all three states, programs aimed at high

academic achievement students are high and medium involvement programs. The high involvement programs are mostly those designed to increase Advanced Placement and International Baccalaureate course and test taking which are both implemented through the high school. The medium programs tend to be scholarships and grants that require high school documentation of academic achievement for receipt. Career-focused programs are mostly low involvement. Programs targeted at other finite populations are all low school involvement as these are grant programs aimed at groups like foster children or children of deceased police, firemen, or service men. California's profile is unique in that it operates a large number of early intervention programs targeted at low income, low academic achievement, and low college participation groups that are implemented through the high schools. Early intervention for these populations in Florida by contrast is more through low school involvement programs (College Reach-Out Program and the programs of the Florida Education Fund) rather than the one program that is high involvement (Postsecondary Opportunity Alliances with Colleges and Universities). In Georgia the one early intervention program for these populations is a high involvement program. Both Florida and Georgia still offer some programs specifically aimed at minority students. In Florida these are scholarships while in Georgia this was a Board of Regents effort to research African American male attendance patterns followed by grants to higher education institutions to implement programs to improve access and success for this population. In neither state do these programs operate directly through the secondary schools.

Table 3.4 below provides the proportion of programs in each state by implementing agency or agencies. Whereas 27% of California programs are implemented directly by the government, Florida and Georgia each route about half of their programs directly from government to student. The states have similar proportions of programs implemented through

higher education institutions only. California is highest in total programs routed through higher education institutions (47%) compared to 26% for Florida and 34% for Georgia. California also has a far greater proportion of its programs that are explicitly implemented through secondary schools. 24% are implemented through secondary schools only; 33% are through both higher education institutions and secondary schools for a total of 57%. Florida and Georgia have roughly equal and much lower shares of programs implemented through secondary schools alone or with higher education institutions, 26% and 31% respectively.

**Table 3.4. Percent of Programs by Implementing Agency**

Implementing Agency	California	Florida	Georgia
Government	27%	53%	50%
Higher Education Institution	14%	13%	17%
Secondary School	24%	13%	14%
Higher Ed. Inst. and Secondary School	33%	13%	17%
Community Organization	2%	8%	0%

Tables 3.15-3.17 at the end of the chapter give the level of program implementation by the level of secondary school involvement. Implementation refers to who actually administers the program and where. Level of secondary school involvement gives a more nuanced understanding of the degree to which schools are involved in students being able to access a program. Implementation and level of school involvement coincide where a program is implemented through the secondary school. This program would be classified as high secondary school involvement. Most programs in all three states that are programs designed to be implemented directly from the government to students require low school involvement. Yet in

each state some of government-to-student programs require medium or even high levels of school involvement (6 of 14 in California; 8 of 21 in Florida; and 3 of 18 in Georgia). Similarly in all three states, some of the programs that are implemented by higher education institutions require access through the secondary school or medium-level involvement (5 of the 7 in California; 3 of the 5 in Florida; and 2 of the 6 in Georgia). As indicated above, all programs implemented through the secondary school are high involvement programs. Thus while Table 3.4 above illustrates who is responsible for programs, Tables 3.15-17 show that in all three states some programs implemented through agencies other than the secondary school still require student access through the school. Georgia has the lowest proportion of programs that are implemented directly from the government or higher education institutions to students that still require medium or high levels of school involvement for students to access.

### **Policy Review Discussion**

Calculation of proportion of college access programs in each state that require high involvement of the secondary school for students to utilize them reveals interesting differences among the states. Furthermore, subsequent analysis of the components, targets, and implementing agencies of these programs explains some of the reasons for differences in a state's degree of school involvement required. California has about twice the percentage of programs that have high secondary school involvement as do Florida and Georgia. Florida and Georgia, which have very similar college access portfolios overall, have about twice the level of low school involvement programs as California.

Part of this difference can be explained by the larger numbers of programs in California that seek to improve the academic preparation of students for college and their knowledge about college. Whether academic preparation or college knowledge alone or academic preparation

bundled with college knowledge, these programs are largely early outreach programs that take place through the high schools. Another aspect of program components that contributes to the level of school involvement is the nature of the finance programs in these states. While many finance programs in these states minimally involve the secondary schools, the fact that several of the scholarships within the principal grant programs in these states have merit components means that schools are necessarily involved in qualifying and processing their students for these state funds. Even California's CalGrant, which is largely thought of as a need-based program, has GPA cutoffs for many of its programs.

Level of high school involvement is also related to the target populations of the state programs. The states are similar in their proportion of programs that are targeted to high academically achieving students. These programs are more likely to be high secondary school involvement programs. The states are also similar in their proportion of programs with no explicit target population. California's profile is unique in having the greatest focus on low academic achievement and low-income students as well as students from populations with low historical college representation. Again the targeting of these groups is primarily through early intervention programs with high secondary school involvement. Georgia and Florida have fewer outreach programs proportionally. Georgia is unique in offering a larger share of programs with a career focus. Many of these are service cancelable loans for high need career fields that require low school involvement.

Finally, the agencies through which programs are implemented influences the degree to which schools are involved in the implementation of college-going policies. In both Georgia and Florida about half of the programs are routed directly from the government to the students compared to about a quarter of programs in California. The fact that most programs that go

directly from government to student have low school participation is reflected in the higher shares of programs in Georgia and Florida with low school involvement. The states are similar in their proportion of programs that are implemented from the government through higher education institutions to students. In all three states however, it is important to note that many of the programs that are implemented by the government or by higher education institutions nevertheless require medium or even high school involvement for students to access them. This varies from 11 of 21 programs in California, to 11 of 26 in Florida, down to 5 of 24 in Georgia. California has a far higher share of programs that are explicitly implemented through the secondary schools either alone or in conjunction with higher education institutions than Georgia or Florida and these programs are automatically high secondary involvement programs.

In summary, California has the highest proportion of programs that require high involvement of the school to be accessed. This is related to their greater focus on early outreach to facilitate academic preparation and knowledge about college for low academic achievement, low income, and low college-going populations. Florida and Georgia have much higher proportions of programs that require low involvement of the secondary schools. This is related to their greater focus on financial aid program and in the case of Georgia, those with a career focus. The states differ in their shares of programs that are implemented by different agencies, with California relying the most on secondary schools. Implementing agency is misleading in all states, however, in that many programs ostensibly implemented by the government or higher education institutions still require involvement of the secondary school for students to benefit from them. Even though funding and administration come from the state, the programs are tied to the schools through students having to succeed in school to qualify for them or in some instances actually occurring at the school.

## **Findings on High School College-Going Outcomes**

### *Percentage of Students Taking AP Tests*

In all three states the percentage of 11<sup>th</sup> and 12<sup>th</sup> grade students who took AP tests decreases with each rising quartile of free and reduced lunch participation (Figures 3.1-3.3). Florida had the greatest disparity between quartile one (the schools with the lowest free lunch participation) and quartile four (the school with the highest free lunch participation). All quartiles in all three states showed an increase in participation from the 1999-2000 to 2003-2004 school year with the increases in the first quartile being larger than quartiles two or three. In Florida and Georgia, the increase in quartile one was also greater than quartile four but in California there was a particularly large increase in quartile four with poorest schools actually outperforming the middle two quartiles by the end of the period. The gaps between the first quartiles and all other quartiles grew over the time period in Florida and Georgia.

Figures 3.4-3.6 show AP test taking by a school's proportion of non-white students quartiles. In California, there was little disparity to begin with and the biggest increase occurred at the highest minority schools that also ended up highest at the end of the time period. In Florida, the percent taking AP tests actually increased with the proportion of the school that is non-white and all groups experienced approximately equal increases over time. Georgia overall had lower AP test taking rates with not much disparity between the racial quartiles. All quartiles increased but quartiles two and three increased slightly more ending up higher than the lowest and highest quartiles.

### *Percentage of Students Passing AP Tests*

There were large gaps in the proportion of students passing AP tests by the quartiles of free and reduced lunch participation percentage: 22.6% between quartile one and four in

California in 2000, 25% in Florida, and 37% in Georgia (Tables 3.7-3.9). Pass rates were highest in California and lowest in Georgia. The pass rates dropped in every quartile in every state except the lowest free lunch quartile in Georgia that experienced a small .2% increase. The gaps between quartiles grew in California and Georgia but decreased slightly in Florida from 25% to 20.2%.

Figures 3.10-3.12 provide the pass rates by school non-white quartiles. In California, the pass rates decreased with the racial quartiles and all quartiles lost ground over time with the third quartile experiencing the largest loss. The 20% gap between the first and fourth quartiles persisted throughout the time period. Florida had less disparity at the beginning (a 12.6% gap between one and four). All quartiles lost ground over time but quartiles two, three, and four less so with the result that the gap between them and the lowest minority quartile shrank. In Georgia, the second quartile started out highest and was the only quartile to increase over time. The highest minority quartile was at least 20 percentage points below the other three quartiles both at start and finish of the time period.

Looking across the states, California and Florida had higher AP participation than Georgia and also larger increases in participation over the five-year window. California and Florida also had higher pass rates at the beginning of the time period. All states during this time period experienced a tradeoff in percentage of students taking the AP exams and passing the exams. California and Florida had larger increases in test taking and similarly large decreases in pass rates. Georgia's increase in test taking was lower and its loss in pass rate was smaller.

#### *Percentage of Students Taking the SAT*

The proportion of students taking the SAT by school free and reduced lunch participation quartiles is provided in Figures 3.13-3.15. California had the lowest rates of the states. There

was a persistent disparity in California of about 20 percentage points between the first quartile and the other three that actually grew for the two highest free lunch quartiles. In Florida there was a steep decline as free lunch quartiles increased with little change over the time period. In Georgia, there was also a steady decline by rising free lunch quartiles but all quartiles dropped in SAT participation slightly over time. In all three states, the wide gaps changed little over time.

Gaps in SAT taking by school percent non-white quartiles were much smaller than those by free lunch quartiles Figures 3.16-3.18. California and Georgia experienced slight declines over time while most quartiles in Florida experienced slight increases. Florida was also unique in that its lowest SAT taking rates were found at the schools with the smallest proportion of non-whites. Georgia had the highest SAT taking rates of the states.

#### *Combined SAT Scores (Most Recent Sitting)*

All three states had wide gaps in SAT scores by school quartiles of free lunch participation with the largest in Georgia and smallest in Florida (Figures 3.19-3.20). In California, scores increased slightly for quartiles one through three but fell for the highest free lunch quartile resulting in a growing SAT score gap. There was little change over time in Florida. There were increases in all quartiles in Georgia but smaller ones in the higher quartiles with the result that the gaps grew over time.

There were also gaps, but smaller ones, between the quartiles based on percentage of school that is non-white (Figures 3.21-3.24). Furthermore, the gaps were the biggest in all three states between the third and fourth quartiles, those with the next to highest and highest proportion of non-white students. There were small increases over time in scores in the lowest three minority quartiles in California and Georgia and the lowest two in Florida resulting in slightly widening gaps by school racial composition.

Across the three states, Georgia had the highest SAT test-taking rate. Similarly to AP test taking and passing patterns, there were tradeoffs between proportion taking the SAT and combined SAT scores though to a much smaller extent. Slight decreases in test taking in California and Georgia were accompanied by small increases in SAT scores whereas slight increases in SAT taking in Florida were accompanied by small decreases in scores. Furthermore, Florida has less disparity in SAT scores than Georgia or California.

#### *Continuation to Two-Year Colleges*

Figures 3.25-3.27 show data on the continuation rates of recent high school graduates to in-state public two-year colleges by quartile of school free lunch participation percentage. An important distinction about the data in Georgia is that two-year education in Georgia is split between the University System of Georgia's nine community colleges and the larger 34 institutions of the Technical College System of Georgia (recently renamed from the Department of Adult and Technical Education). The two-year number presented here for Georgia only represent enrollment at the two-year institutions that are part of the University System of Georgia and are therefore considerably lower than the enrollments at the more unified two-year systems of California and Florida. In California and Florida, which are fairly similar in two-year going rates, the quartiles are roughly equal and end at a level not far from where they were in 2000. In Georgia all quartiles increase over the time period. The third and fourth quartiles with higher free lunch participation had slightly higher two-year participation throughout.

When two-year continuation is analyzed by school non-white quartiles (Figures 3.28-3.30), California had little spread across the quartiles. In Florida there was a slight gap at the beginning that grew through disparate increases over time to 7 percentage points between quartiles one and four by the end of the period. In Georgia, like its free lunch distribution, the

second and third quartiles had higher two-year continuation, experienced larger increases over time, and ended with an even larger advantage over the first and fourth quartiles.

It was not possible to compare the three states on two-year rates due to the differences in the system organization. However, Georgia did differ from the other two in exhibiting larger increases in two-year enrollment over the time period whereas California and Florida two-year enrollment increased only slightly. Furthermore, two-year continuation was where we saw the most departures from the systematic ordering of the quartiles on outcomes by school racial and income composition.

#### *Continuation to Four-Year Colleges*

All three states had lower continuation rates to in-state public four-year colleges and universities in the schools with higher proportions of free and reduced lunch students (Figures 3.31-3.33). California had the lowest overall four-year continuation of the three states. Small increases in the lower quartiles and a slight drop in the highest free lunch quartile resulted in a slightly larger gap at the end of the time period between the low and high free lunch quartiles. In Florida, there was larger disparity between the quartiles but, like California, an increase over time in the lowest free lunch quartile and a drop in the highest resulted in a larger gap by 2004. Georgia had the highest four-year rates and all quartiles increased over time but the lowest quartiles more so. Thus all states had larger gaps in four-year enrollment across the free lunch quartiles by the end of the time period.

When examined by racial composition (Figures 3.34-3.36), California's four-year continuation was roughly equal among the four quartiles and moved little over the time period. Florida's second, third, and fourth quartiles were approximately equal over time but the lowest quartile, the schools with lowest non-white proportion, had lower four-year continuation

throughout. All quartiles remained stable over time. Georgia had only a three point gap between quartiles one and four in 2000 and all groups increased over time but disparately so that the gap grew to 7.3% by 2004.

In general, Georgia had the highest four-year continuation rates and experienced considerable increases over the time period. California and Florida had similar rates overall and showed no growth in four-year attendance. California had smallest disparity between the quartiles. Georgia had the largest and the disparity grew along with the four-year continuation increases.

### *Overall College Continuation*

In total college continuation (Figures 3.37-3.39), all states showed gaps by free and reduced lunch participation school quartiles. There were slight increases in all quartiles over time in California and Florida and much larger ones in Georgia. All states showed a widening over time in the gaps in continuation between the richest and the poorest schools.

Overall continuation by school non-white percentage quartiles was less consistent (Figures 3.40-3.42). In California all groups started at a similar point, increased slightly for two years and then settled back at levels approximately equal to where they began. Florida had similar overall continuation levels to California. The four groups started out close, with the middle two quartiles on top and all groups increasing slightly and ending at very similar levels. Georgia had small gaps at the beginning with quartiles two and three on top and quartile four on the bottom. All experienced increases but unequal ones so that the three quartiles with the lowest proportions of non-whites ended up further ahead of the fourth quartile schools by 2004.

Overall continuation is difficult to compare across the states due to the different two-year reporting in Georgia. Florida's overall continuation was slightly higher than California's and

both states experienced very small increases over the time period. Georgia's overall continuation climbed markedly over the period for all quartiles but climbed most for the most affluent and lowest-minority schools.

### **Discussion of High School College-Going Outcomes**

#### *Free and Reduced Lunch Quartiles*

Throughout almost all of the outcomes in all three states there was consistent disparity by the school's quartile based on percentage of free and reduced lunch participation. Schools with larger shares of poor students did less well on Advanced Placement test taking and pass rates, SAT taking and scores, and four-year and overall college continuation. Furthermore, in most instances, these gaps by school free and reduced lunch quartiles grew over the time period covered. There were a few exceptions. In California the gap in percentage of students taking AP tests decreased slightly for the poorest quartile but still grew for the middle two when compared with the most affluent schools. In Florida, the gap in percentage of students passing AP tests shrank due to small decreases over the time period in the fourth quartile as compared with large losses in the more affluent three. Also, the gap in percentage of student taking the SAT in Florida shrank slightly. The overall dynamic, however, is that where there were gaps by school free and reduced lunch participation, these gaps grew over time. Not only were there inequalities by the income served by the school, but also these inequalities got worse over time.

The only outcome where there was not a decrease as proportion of free and reduced lunch students increased was two-year continuation. In California, there was little difference in the quartiles but the second quartile for most years had the highest two-year continuation. In Georgia, the third and fourth quartiles, those with the largest share of poor students, had higher two-year continuation than the more affluent schools and the disparity increased over time. In

Florida, quartiles two and three had slightly higher two-year continuation than the first and fourth. In both Florida and Georgia, the most affluent schools actually had the lowest two-year continuation rates. This is in keeping with the findings in chapter one of this study, as well as those of others, that higher income students are over-represented at four-year institutions and lower income students are more likely to end up in two-year institutions (Kane, 2001; Perna & Titus, 2004). My findings show that this trend is evident at the school level as well. Students at low-income serving schools continued on to two-year schools in equal or higher numbers than students in more affluent schools whereas the students from the poorer schools still lagged far behind in four-year continuation and overall continuation. This is likely a combination of the lower preparation detailed above, higher tuition at four-year institutions, and the greater proximity of the numerous two-year schools. Given that students who start at four-year institutions are more likely to go on to earn a bachelors degree, it is problematic that students at less affluent schools are less likely to begin at a four-year college (Adelman, 2006; Cabrera et al., 2005).

#### *Race/Ethnicity Quartiles*

The disparity in the outcomes studied here by the proportion of the school that was non-white was much smaller than the gaps by proportion of school that was low-income. This is consistent with the multi-level findings in chapter one showing much more consistent effects of income than race on the outcomes of expectation, academic preparation, and actual enrollment. There were larger gaps in all states for the categories of AP pass rates and SAT scores than the percentage taking these tests. There was little inequity in continuation by racial composition in both California and Florida but more in Georgia. In several instances, the quartiles did not follow the general pattern of schools with a higher non-white population doing more poorly. An

interesting finding is that the Florida schools with the largest white population perform the lowest on percentage taking AP tests, taking the SAT, four-year continuation, and overall continuation (in some years). These schools were likely predominately rural schools in the panhandle and further research is needed to understand the challenges these schools face. The fourth quartile with the highest non-white population in Florida had the highest AP test taking and highest four-year continuation in most years. The lowest minority schools in Florida did, however, have the highest AP pass rates and SAT scores. These findings in contrast to the more predictable findings in Florida by school income suggest that minority and income composition of high schools in Florida are less correlated than in the other two states. In Georgia, the second and third quartiles had the highest rates of two-year continuation and overall continuation.

In addition to the gaps being smaller and the order of quartiles less consistent when schools were categorized by proportion non-white, there were fewer instances of existing gaps growing over time. Gaps by percentage non-white did grow over the period for SAT scores in all three states. Also, there was growth in the disparity in two-year and four-year continuation in Georgia as well as two-year continuation in Florida. While in most outcomes the gaps stayed about the same size, there were a few outcomes where high minority schools gained ground. In California, the highest minority population schools moved from the next to last in AP test taking to the highest quartile by 2004 with an 11.4 percent increase. Further research is required to understand exactly how this gain was achieved. Gaps in proportion passing AP tests decreased slightly in both Florida and Georgia while gaps in overall continuation decreased slightly in California and Florida. Thus, overall, gaps by school racial composition were smaller, not always in favor of the low minority schools, and less likely to increase when compared to these same outcomes by school income composition.

### *Category Trends Over Time*

The overall trends in these outcomes suggest difficult realities. All states made strides in increasing the number of students taking Advanced Placement tests. This increase in taking of rigorous academic courses has been shown to improve college going (Adelman, 2006). Nevertheless, there was a distinct tradeoff in all states and all quartiles between participation and pass rates. More students taking the exams means that not just the academic elite were given access to these courses and tests. It is not surprising then that the pass rates declined. For students to reap the full benefits of taking AP courses (receiving college credit and the attendant boost to confidence as well as financial advantage), students must also pass them. Perhaps there is a lag between schools offering more AP courses to students and these courses producing passing students. Follow-up research about the future of these trends could answer this question.

There was a similar tradeoff in SAT-taking and pass rates. Here the slight decrease in SAT taking in California and Georgia with the accompanying small rise in scores illustrates the reality that a drop in students taking the SAT was a result of less prepared students not taking it. This is unfortunate; even at non-selective public colleges in Georgia, for example, students are required to submit SAT or ACT scores for admission. Further research should address whether there was a simultaneous rise in California and Georgia in ACT taking.

Overall continuation in California and Florida showed a slight increase that was constituted of small increases in two-year college going and overall stagnant four-year college going. This suggests capacity constraints at the four-year level as well as the tendency for the two-year college to be the entrance point for first-generation college students. Furthermore, whereas the gaps by income and race in two-year enrollment were small and relatively stable over time, the gaps in four-year enrollment by income were large and actually gradually

widened. Georgia on the other hand had large increases in continuation comprised of slightly larger increases in four-year enrollment than in two-year enrollment. These increases have resulted in greater increases in two-year enrollment for less affluent and higher minority schools and larger increases in four-year enrollment for the most affluent, low-minority schools. Disparity in overall continuation increased in Georgia as well by income and race. These findings show that while all three states have had some increase in access to college over the time period studied, this growth was not enjoyed as much by those attending schools that serve the poorest and highest minority schools. Furthermore, there was increasing stratification by sector. Specifically, students at the poorest schools were less likely than their peers at more affluent schools to enroll in four-year colleges, the type of enrollment that has been shown to most likely lead to baccalaureate success.

### **State College Access Policy Orientation and High School Outcomes**

Relationships between the college access policy orientation in a state and the high school level outcomes were tenuous. Despite greater targeting in California of low-income students through school-implemented programs, there was still great disparity by schools serving different income populations on all outcomes except 2-yr continuation. Nevertheless, the gaps by income in California were smaller than those in Florida and Georgia in the percentage that took AP courses, four-year continuation, and overall continuation. This may have been related to their school-implemented focus on low-income students. There was also less disparity in percentage taking the SAT than Florida where it was also not required for two-year enrollment (unlike Georgia). California furthermore had the greatest focus on academic preparation through the high schools. Possible results were the large improvement in the lowest quartiles by race and income in the percentage taking AP tests.

Georgia has larger gains in continuation compared with the nearly stagnant continuation rates in the other two states. These gains in continuation occurred despite smaller gains than California and Florida in percent taking AP tests and little movement on other outcomes. Increasing continuation in Georgia without simultaneous gains in academic preparation may have been related to its greater focus on providing financial assistance to attend college as opposed to academic preparation. It was unclear whether the increases in college going and the attendant growing disparity in college going by both race and income composition of high schools were related to the fact that secondary schools were involved least in Georgia in students accessing the college encouragement policies. It is conceivable that the smaller focus on academic preparation and both little improvement and increased income stratification in academic preparation outcomes was related to the increased stratification in continuation. It is also possible that the policy orientation in Georgia, more finance and less academic preparation, has increased access but exacerbated college retention and completion. This is beyond the scope of this paper however.

Even though Florida and California were more alike in high school outcome patterns, Georgia and Florida were more alike in their policy orientation. This suggests that the outcomes were more related to other state factors such as demographics, how race and poverty interacted, and the structure and capacity of the higher education system.

There is an unfortunate reality in holding up these policy-orientation data to outcomes disaggregated by school race and income composition. States have created unique approaches to encouraging college that differed in program components, target population, implementing agencies, and the extent to which the schools were involved in routing policies to students. And the components, target, and implementation methods were related to how much schools were

involved in students accessing state policies. But despite this variety in policy orientations, the outcomes were disappointingly similar. There were large gaps in all outcomes except for two-year enrollment by the proportion of poor students in one's schools. Furthermore, these disparities did not shrink and in many outcomes actually grew. Outcomes by race were less unequal for some outcomes but still large for percentage passing AP and SAT scores, outcomes that are difficult to change and the culmination of students' entire academic careers to that point. It was difficult to see relationships between racial outcomes and policies as so few policies were targeted to minority populations.

Persistent and in some cases widening gaps by school income and less consistently, by school race beg the question of whether these programs are having any effect. The literature reviewed at the beginning of this chapter suggests that they do. Studies on the impact of the state grant programs in California and Georgia have shown that they do increase enrollment in the state though with mixed results on the differential results for different races in Georgia (Cornwell & Mustard, 2003; Dynarski, 2004; Kane, 2003). Perna and Titus (2004) found in a national study that a variety of state policies regarding educational funding and policy impacted college enrollment but that these policies did little to alleviate enrollment differences by SES. Studies have been done on early outreach programs in California and have shown that they do improve the academic course-taking but that the effectiveness of programs is related to the extent of implementation at the school site and the performance level of the school (Quigley & Leon, 2002; Bookman, 2005; Wang, 2005). My research does not seek to assess the impact of individual programs but rather to look broadly at what college-going behaviors look like in states with different orientations to promoting college access. My findings corroborate these in that limited support is found for the effect of certain types of policies, but also that school matters a

great deal. Despite expensive and thoughtful investments in access policy with different foci, outcomes by school income and often race persist. One potential explanation is that these disparities would be much worse without the state interventions and that the state policies only keep these outcomes from becoming unacceptably unequal.

Another explanation for little response to policies by school racial and free lunch quartiles is what goes on at the school level to implement them. This paper found limited evidence that differences in the extent of school involvement needed to access state policies affected the outcomes modeled. My policy typology however was limited in being able to assess only differences in the extent to which schools were needed to access programs. The policy research, however, provided no information about how dependent students were on their schools to find out about the state programs offered. In other research, students have been shown to rely heavily on school personnel and resources to access information about college and financial aid (Bell, Rowan-Kenyon, & Perna, in press). This is likely true of information about other college-going policies and programs whether they take place in the school or not. Furthermore, there may be great variability between schools within states (that coincides with school income and racial makeup) in the mechanisms by which students learn of and access state policies designed to encourage college going. To understand the dynamics, it is necessary to go inside the schools themselves and examine the college-going processes in them with a specific eye to their role as a bridge for students to state policies.

### **Recommendations for Policy and Future Research**

The California findings suggest that school-based academic preparation programs targeted to low-income, underrepresented populations are successful in increasing the proportion of students at low-income and minority serving schools taking Advanced Placement courses

known to promote college going. Programs like these should be continued where in place and implemented at more low-income and minority-serving schools. Given that AP pass rates for these schools dropped in response to increased participation, research needs to be done to see if these pass rates recovered after a period of time. Also, methods used at schools with high pass rates serving similar populations should be studied and emulated.

Georgia's focus on financial assistance largely independent of school involvement coincided with increases in enrollment in both the two-year and four-year sectors. These findings along with those of others (Cornwell & Mustard, 2003; Dynarski, 2004) suggest the power of abundant aid to influence continuation where capacity exists. The lack of improvement on most academic preparation indicators along with the increasing stratification of continuation however imply that more research needs to be done on who qualifies for this aid and where they go to college.

Finally, the persistence of ubiquitous large gaps by income composition of schools and some by racial composition of school despite varied state approaches to and considerable investments in encouragement of college going suggest school-based causes of these gaps. The following chapter examines the college-going processes of schools serving different SES populations in these three states and how the schools serve as intermediaries between the state policy environment and the unique population of students served.

**Table 3.5.** Demographic, Economic, and Educational Characteristics of Study States

Characteristics	California	Florida	Georgia
Population rank, 2006 <sup>a</sup>	1	4	9
Population, 2006 <sup>a</sup>	36,132,147	17,798,864	9,072,576
% population up to age 4 <sup>a</sup>	7%	6%	8%
% population age 5 to 17 <sup>a</sup>	19%	17%	18%
% population age 65 and older <sup>a</sup>	11%	17%	10%
% high school graduates from public schools <sup>b</sup>	91%	86%	89%
Projected change high school graduates, 2001-02 to 2017-18 <sup>b</sup>	10%	30%	45%
% public h.s. grads who are black, 2001-02 <sup>b</sup>	7%	20%	33%
% public h.s. grads who are Hispanic, 2001-02 <sup>b</sup>	33%	17%	2%
% speak language other than English at home <sup>a</sup>	41%	24%	11%
% eligible for free and reduced lunch, 2003 <sup>c</sup>	39%	37%	38%
Poverty rate, 2002-03 <sup>a</sup>	13.1%	12.6%	11.5%
Per capital income, 2004 <sup>a</sup>	\$35,019	\$31,455	\$30,051
Strength of governor (range 2.7 to 4.1), 2005 <sup>d</sup>	3.2 (moderate)	3.6 (moderate)	3.2 (weak)
% 35-44 with BA or higher, 2003 <sup>a</sup>	29%	25%	26%
% total state expenditure to K-12, 2004 <sup>e</sup>	23%	21%	26%

**Table 3.5.** Demographic, Economic, and Educational Characteristics of Study States (continued)

Characteristics	California	Florida	Georgia
% of total state expenditure to higher ed, 2004 <sup>e</sup>	11%	8%	14%
High school dropout rate, 2003 <sup>a</sup>	7%	8%	11%
% H. S. graduates enrolling in college, 2002 <sup>f</sup>	51%	55%	59%
Postsecondary governance structure <sup>h</sup>	Weak Coordinating Board	Governing Board	Governing Board
# degree-granting Title IV-eligible institutions, 2003-04 <sup>a</sup>	401	169	126
% total institutions that are private 4-year <sup>a</sup>	36%	31%	26%
% total institutions that are public 4-year <sup>a</sup>	8%	9%	17%
% total institutions that are public 2-year <sup>a</sup>	27%	15%	41%
% state grant aid based only on merit, 2003-04 <sup>g</sup>	8%	59%	68%
Total state grant \$ per 18-24 population, and state rank, 2003-04 <sup>g</sup>	\$182 (19)	\$214 (16)	\$479 (3)

Source of Table: Perna, Rowan-Kenyon, Bell, Thomas, and Li (2008).

<sup>a</sup>Source: Chronicle of Higher Education (2005).

<sup>b</sup>Source: Western Interstate Commission for Higher Education (2003).

<sup>c</sup>Source: National Center for Education Statistics (2006).

<sup>d</sup>Source: Gray & Hanson (2003).

<sup>e</sup>Source: National Association of State Budget Officers (2004).

<sup>f</sup>Source: National Center for Higher Education Management Systems (2006).

<sup>g</sup>Source: National Association of State Student Grant and Aid Programs (2005).

<sup>h</sup>Source: State Higher Education Executive Officers (2007).

**Table 3.6.** California Extent of Secondary School Involvement

Low	Medium	High
Assumption Program of Loans for Education (APLE)	Cal-Grant A Competitive	Advanced Placement program
Cal-Grant A Community College Transfer Grant	Cal-Grant A Entitlement	Advanced Placement Test fee reimbursement
Cal-Grant B Community College Transfer Grant	Cal-Grant B Competitive	Advancement Via Individual Determination(AVID)
Cal-Grant C	Cal-Grant B Entitlement	ArtsBridge
Cal-Grant T	Community College Reserve Grant	CA Student Opportunity & Access Program (Cal-SOAP)
California Chafee Grant program (aka Education & Training Voucher)	Dual Enrollment	California Academic Partnership Program (CAPP)
CaliforniaColleges.edu	Middle College High School	Collaborative Academic Preparation Initiative
Child Development Grant Program	University of CA Alumni Scholarships	College Admission Test Preparation Program
CSU Mentor	University of CA Regents Scholarships	College Prep Initiative
Golden State ScholarShare		College Preparation Program
Law Enforcement Personnel Dependents Grant Program		College Readiness Program
UC Online Undergraduate Admission Information (Pathways)		CSU-Lottery funded outreach
University of CA Restricted Scholarships		Early Academic Outreach Program (EAOP)
		Early Assessment Program
		Early College High School
		Educational Opportunity Program (EOP) Outreach
		GEAR-UP
		Governor's Scholarship Program
		International Baccalaureate Diploma Program, Professional development grants
		International Baccalaureate Diploma Program, Fee Reimbursement Program
		K-12 School-University Partnerships
		Mathematics Engineering Science Achievement (MESA) Schools Program
		MESA Learning Loops
		MESA Mathematics-Physics-Technology Institutes
		P-16 Council
		Pre-Collegiate Academic Development Program (PAD)
		Puente
		School-to-Career Education
		Student Notification Regarding Approved College Preparatory Courses

**Table 3.7.** Florida Extent of Secondary School Involvement

Low	Medium	High
Florida Prepaid Education Foundation	Bright Futures Academic Scholars	PSAT/NMSQT/PLAN administration and fee payment
Florida Work Experience	Bright Futures Top Academic Scholars	AP fee payment for all
Florida Student Assistance Grant Programs	Talented Twenty	IB fee payment for all
Rosewood Family Scholarship Program	Bright Futures Medallion Scholars	AP District Incentives
The William L. Boyd, IV Florida Resident Access Grant (FRAG)	Bright Futures Gold Seal Vocational Scholars	AP Teacher Incentives
Access to Better Learning and Education Grant Program	José Martí Scholarship Challenge Grant Fund	Early Admission
Scholarships for Children of Deceased or Disabled Veterans	Florida Prepaid Education Foundation Scholarship Tuition for At-Risk Students (Project STARS)	Postsecondary Opportunity Alliances
Ethics in Business Scholarship Program	Florida Virtual School	Tech Prep
Florida Fund for Minority Teachers	College Reach-Out Program	Dual Enrollment
Road-to-Independence Scholarship	Governor's Summer Program	Articulation
Critical Teacher Shortage Student Loan Forgiveness Program (CTSLF)	Mary McLeod Bethune Scholarship	
Critical Teacher Shortage Tuition Reimbursement Program (CTSTR)		
Florida Education Fund		
SAT Preparation Projects		
Centers of Excellence		
FACTS.org		
College Placement Test		

**Table 3.8.** Georgia Extent of Secondary School Involvement

Low	Medium	High
Georgia Tuition Equalization Grant	Governor's Scholarship	High Schools That Work
LEAP Grant	HOPE Scholarship	High School Financial Aid Workshops
HOPE Grant	Governor's Honors Program	AP One Test Payment
HOPE GED Grant	Dual Enrollment	AP All Tests Payment
Promise Teacher Scholarship Loan	Postsecondary Options	PSAT Test Payment
Allied Health Field Service Cancelable Loans	Georgia's African-American Male Initiative	Articulation
Agriculture Education Service Cancelable Loan		PRISM
Northeast Georgia Health System SCL		Georgia P-16
Registered Nurse SCL Program		Tech Prep
Law Enforcement Personnel Dependents Grant		PREP
Public Safety Memorial Grant		
Georgia Higher Education Savings Plan		
Charles McDaniel Teacher Scholarship		
Georgia National Guard SCL		
Intellectual Capital Partnership Program (ICAPP)		
Georgia Student Financial Aid Chat Night		
Scholarship for Engineering Education		
North Georgia College and State University ROTC Grant		
North Georgia College and State University Military Scholarship		
Georgia Military College State Service Scholarship		

**Table 3.9.** California Program Components and Extent of Secondary School Involvement

Extent of School Involvement			
Program Components	Low	Medium	High
Academic Preparation		Dual Enrollment	Advancement Via Individual Determination (AVID)
			Mathematics Engineering Science Achievement (MESA) Learning Loop
			Mathematics Engineering Science Achievement (MESA) Mathematics-Physics-Technology Institutes
			Mathematics Engineering Science Achievement (MESA) Schools Program
			College Prep Initiative
			College Readiness Program
			Early Assessment Program
			College Admission Test Preparation Program
			College Preparation Program
			California Academic Partnership Program (CAPP)
			Early College High School
			P-16 Council
			Collaborative Academic Preparation Initiative
			IB Professional Development Program
			AP Program
			K-12 School-University Partnerships
Financial resources	Cal-Grant A Community College Transfer Grant	Cal-Grant A Entitlement	Governor's Scholarship Program
	Cal-Grant B Community College Transfer Grant	Cal-Grant A Competitive	
	Cal-Grant C	Community College Reserve Grant	
	Cal-Grant T	Cal-Grant B Entitlement	
	Golden State ScholarShare	Cal-Grant B Competitive	
	California Chafee Grant program (aka Education & Training Voucher)	University of CA Regents Scholarships	
	Assumption Program of Loans for Education (APLE)	University of CA Alumni Scholarships	
	Child Development Grant Program		

	Law Enforcement Personnel Dependents Grant Program		
	University of CA Restricted Scholarships		
College Knowledge	UC Online Undergraduate Admission Information (Pathways)		CSU-Lottery funded outreach
	CSU Mentor		School-to-Career Education
	California Colleges.edu		
Academic prep & financial resources			International Baccalaureate Diploma Program, Fee Reimbursement Program
			AP fee reimbursement
Academic prep & knowledge		Middle College High School	Educational Opportunity Program (EOP) Outreach
			Puente
			Pre-Collegiate Academic Development Program (PAD)
			Early Academic Outreach Program (EAOP)
			ArtsBridge
			Student Notification Regarding Approved College Preparatory Courses
			GEAR-UP
			CA Student Opportunity & Access Program (Cal-SOAP)
Financial resources & knowledge			
Academic prep, financial resources, knowledge			

**Table 3.10.** Florida Program Components and Extent of Secondary School Involvement

Program Components	Extent of School Involvement		
	Low	Medium	High
Academic Preparation	SAT Preparation Projects-FEF	Advanced Placement Courses, Florida Virtual School	AP District Incentive funds
	College Placement Test policy	Governor's Summer Program	AP Teacher Incentive Funds
			Articulation
Financial Resources	Rosewood Family Scholarship Program	Florida Bright Futures Academic Scholars	
	Florida Student Assistance Grant Programs	Florida Bright Futures Top Academic Scholars	
	The William L. Boyd, IV Florida Resident Access Grant (FRAG)	Florida Bright Futures Medallion Scholars	
	Access to Better Learning and Education Grant Program	Florida Bright Futures Gold Seal Vocational Scholars	
	Scholarships for Children of Deceased or Disabled Veterans	José Martí Scholarship Challenge Grant Fund	
	Ethics in Business Scholarship Program	Mary McLeod Bethune Scholarship	
	Florida Fund for Minority Teachers	Talented Twenty Program	
	Road-to-Independence Scholarship	Scholarship Tuition for At-Risk Students	
	Critical Teacher Shortage Student Loan Forgiveness Program (CTSFLF)		
	Critical Teacher Shortage Tuition Reimbursement Program (CTSTR)		
	Florida Prepaid Education Foundation		
	Florida Work Experience		
College Knowledge			
Academic Prep and Financial Resources			PSAT/NMSQT/PLAN Payment
			AP Fee Payment for all
			International Baccalaureate Fee Payment for all
			Early Admission
			Dual Enrollment
Academic Prep and Knowledge	Centers of Excellence	College Reach Out Program	Postsecondary Opportunity Alliances
	Florida Education Fund		Tech Prep

	FACTS.org		
Financial Resources and Knowledge			
Ac Prep, fin. Resources, and knowledge			

**Table 3.11.** Georgia Program Components and Extent of Secondary School Involvement

Program Components	Extent of School Involvement		
	Low	Medium	High
Academic preparation		Governor's Honors Program	High Schools That Work
		Dual Enrollment	Articulation
			Partnership for Reform in Science and Mathematics (PRISM)
			Georgia P-16
Financial resources	HOPE Grant	HOPE Scholarship	
	HOPE GED Grant	Charles McDaniel Teacher Scholarship	
	LEAP Grant	North Georgia College and State University Military Scholarship	
	Georgia Tuition Equalization Grant	Georgia Military College State Service Scholarship	
	Law Enforcement Personnel Dependents Grant	Governor's Scholarship	
	Public Safety Memorial Grant		
	Georgia Higher Education Savings Plan		
	PROMISE TEACHER SCHOLARSHIP Loan		
	Allied Health Fields Service Cancelable Stafford Loans		
	Agricultural Education Service Cancelable Loans		
	Northeast Georgia Health System Service Cancelable Loan		
	Registered Nurse (RN) Service-Cancelable Loan Program		
	Intellectual Capital Partnership Program (ICAPP)		
	Scholarship for Engineering Education		
	Georgia National Guard Service Cancelable Loan		
	North Georgia College and State University ROTC Grant		
College knowledge	Georgia Student Financial Aid Chat Night		High School Financial Aid Workshops

Academic prep & financial resources		Postsecondary Options	PSAT Test Payment
			AP All Tests Payment
			AP One Test Payment
Academic prep & knowledge		Georgia's African-American Male Initiative	Tech Prep
			PREP
Financial resources & knowledge			
Academic prep, financial resources, knowledge			

**Table 3.12.** California Program Targeting by Extent of Secondary School Involvement

Targeted Population	Extent of School Involvement		
	Low	Medium	High
High Academic		University of CA Regents Scholarships	College Prep Initiative
		University of CA Alumni Scholarships	AP Program
			Govnornor's Scholarship
			IB Professional Development Grants
Low Academic		Middle College High School	Advancement Via Individual Determination (AVID)
			Mathematics Engineering Science Achievement (MESA) Schools Program
			MESA Mathematics-Physics-Technology Institutes
			Pre-Collegiate Academic Development Program (PAD)
Low Financial Resources	Cal-Grant B Community College Transfer Grant	Cal-Grant B Entitlement	GEAR-UP
		Cal-Grant B Competitive	
High academic - Low financial	Cal-Grant A Community College Transfer Grant	Cal-Grant A Entitlement	Advanced Placement test fee reimbursement
		Cal-Grant A Competitive	International Baccalaureate Diploma Program, Fee Reimbursement Program
		Community College Reserve Grant	
Low academic - Low financial			College Preparation Program
Career Focus	Cal-Grant C		
	Cal-Grant T		
	Assumption Program of Loans for Education (APLE)		
	Child Development Grant Program		
Other Finite Populations	California Chafee Grant program (aka Education & Training Voucher)		
	Law Enforcement Personnel Dependents Grant Program		
Minorities			
None	Golden State ScholarShare	Dual Enrollment	Early Assessment Program

	UC Online Undergraduate Admission Information (Pathways)		College Admission Test Preparation Program
	CSU Mentor		Student Notification Regarding Approved College Preparatory Courses
	California Colleges.edu		MESA Learning Loop
			P-16 Council
Other/unknown	University of CA Restricted Scholarships		College Readiness Program
			School-to-Career Education
			CSU-Lottery funded outreach
			Collaborative Academic Preparation Initiative
Low college participation rate			Educational Opportunity Program (EOP) Outreach
			California Academic Partnership Program (CAPP)
			Early College High School
			K-12 School-University Partnerships
			Puente
			Early Academic Outreach Program (EAOP)
			ArtsBridge
			CA Student Opportunity & Access Program (Cal-SOAP)

**Table 3.13.** Florida Program Targeting by Extent of Secondary School Involvement

	Extent of School Involvement		
Targeted Population	Low	Medium	High
High Academic		Governor's Summer Program	AP test fee payment
		Bright Futures Academic Scholars	AP District Incentives
		Bright Futures Top Academic Scholars	AP Teacher Incentives
		Talented Twenty	
		Bright Futures Medallion Scholars	
Low Academic	The College Reach-Out Program (CROP)	Florida Prepaid Education Foundation Scholarship Tuition for At-Risk Students (Project STARS)	Postsecondary Opportunity Alliances with Colleges and Universities
Low Financial Resources	Florida Student Assistance Grant Programs		
	The William L. Boyd, IV Florida Resident Access Grant (FRAG)		
	Access to Better Learning and Education Grant Program		
	Ethics in Business Scholarship Program		
	Florida Work Experience		
High Academic-Low Financial		Mary McLeod Bethune Scholarship	
Low Academic - Low Financial			
Career focus	Florida Fund for Minority Teachers	Bright Futures Gold Seal Vocational Scholars	Tech Prep
	Critical Teacher Shortage Student Loan Forgiveness Program (CTSFLF)		
	Critical Teacher Shortage Tuition Reimbursement Program (CTSTR)		
Other Finite Populations	Road-to-Independence Scholarship		
	Scholarships for Children of Deceased or Disabled Veterans		
	Florida Resident Access Grant		
Minorities	Rosewood Family Scholarship Program	José Martí Scholarship Challenge Grant Fund	
None	Florida Prepaid Education Foundation	Florida Virtual School	Dual Enrollment
	College Placement Test		PSAT/NMSQT/PLAN provision and fee payment

	FACTS.org		Articulation
			Early Admission
Underrepresented Populations	SAT Preparation Projects- FEF		
	Centers of Excellence		
	Florida Education Fund		

**Table 3.14.** Georgia Program Targeting by Extent of Secondary School Involvement

Targeted Population	Extent of School Involvement		
	Low	Medium	High
High Academic		Dual Enrollment	AP One Test Payment
		HOPE Scholarship	
		North Georgia College and State University Military Scholarship	
		Georgia Military College State Service Scholarship	
		Governor's Honors Program	
		Governor's Scholarship	
		Postsecondary Options	
Low Academic	HOPE GED Grant		
Low Financial Resources	LEAP Grant		
High academic - Low financial			AP All Tests Payment
Low academic - Low financial			PREP
Career Focus	Promise Teacher Scholarship Loan		Articulation
	Allied Health Field Service Cancelable Loans		Tech Prep
	Agriculture Education SCL		
	Northeast Georgia Health System SCL		
	Registered Nurse SCL Program		
	ICAPP		
	Scholarship for Engineering Education		
Other Finite Populations	Georgia Tuition Equalization Grant		
	Law Enforcement Personnel Dependents Grant		
	Public Safety Memorial Grant		
	Georgia National Guard SCL		
	North Georgia College and State University ROTC Grant		
Minority		Georgia's African-American Male Initiative	
None	Georgia Student Financial Aid Chat Night		High School Financial Aid Workshops
	HOPE Grant		High Schools That Work

	Georgia Higher Education Savings Plan		Georgia P-16
			PSAT Test Payment
			PRISM
High Academic Career	Charles McDaniel Teacher Scholarship		

**Table 3.15.** California Level of Implementation and Extent of Secondary School Involvement

Implementation level	Extent of School Involvement		
	Low	Medium	High
Government-Student	Cal-Grant A Community College Transfer Grant	Cal-Grant A Entitlement	Governor's Scholarship Program
	Cal-Grant B Community College Transfer Grant	Cal-Grant A Competitive	
	California Chafee Grant program (aka Education & Training Voucher)	Cal-Grant B Entitlement	
	Assumption Program of Loans for Education (APLE)	Cal-Grant B Competitive	
	Child Development Grant Program	Community College Reserve Grant	
	Law Enforcement Personnel Dependents Grant Program		
	Golden State ScholarShare		
	CaliforniaColleges.edu		
Government-Higher Ed-Student	UC Online Undergraduate Admission Information (Pathways)	University of CA Regents Scholarships	
	CSU Mentor	University of CA Alumni Scholarships	
		University of CA Restricted Scholarships	
		Middle College High School	
		Dual Enrollment	
Government-school-student			Advancement Via Individual Determination(AVID)
			College Readiness Program
			Early Assessment Program
			College Admission Test Preparation Program
			College Preparation Program
			School-to-Career Education
			International Baccalaureate Diploma Program, Fee Reimbursement Program
			International Baccalaureate Diploma Program, Professional development grants
			Advanced Placement Test fee reimbursement
			Advanced Placement program
			GEAR-UP

			Student Notification Regarding Approved College Preparatory Courses
Government-Higher Ed-School-Student			Mathematics Engineering Science Achievement (MESA) Schools Program
			MESA Mathematics-Physics-Technology Institutes
			MESA Learning Loops
			California Academic Partnership Program (CAPP)
			Early College High School
			P-16 Council
			Puente
			Pre-Collegiate Academic Development Program (PAD)
			Early Academic Outreach Program (EAOP)
			ArtsBridge
			K-12 School-University Partnerships
			College Prep Initiative
			Collaborative Academic Preparation Initiative
			CSU-Lottery funded outreach
			Educational Opportunity Program (EOP) Outreach
			College Prep Initiative
			Educational Opportunity Program (EOP) Outreach
Government-community organization-student			CA Student Opportunity & Access Program (Cal-SOAP)

**Table 3.16.** Florida Level of Implementation and Extent of Secondary School Involvement

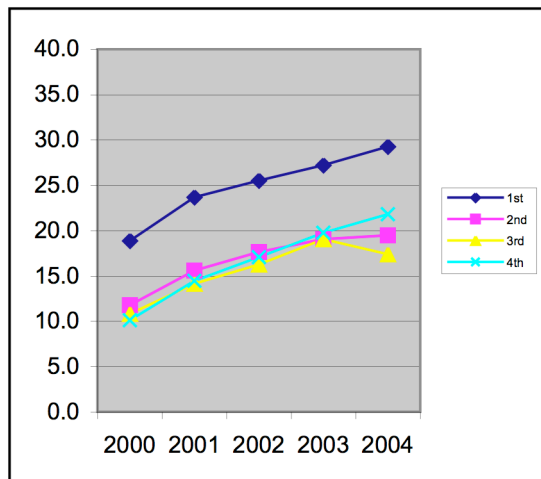
Implementation level	Extent of School Involvement		
	Low	Medium	High
Government-Student	Florida Prepaid Education Foundation	Bright Futures Academic Scholars	
	Florida Student Assistance Grant Programs	Bright Futures Top Academic Scholars	
	Rosewood Family Scholarship Program	Talented Twenty	
	The William L. Boyd, IV Florida Resident Access Grant (FRAG)	Bright Futures Medallion Scholars	
	Access to Better Learning and Education Grant Program	Bright Futures Gold Seal Vocational Scholars	
	Scholarships for Children of Deceased or Disabled Veterans	José Martí Scholarship Challenge Grant Fund	
	Ethics in Business Scholarship Program	Florida Prepaid Education Foundation Scholarship Tuition for At-Risk Students (Project STARS)	
	Florida Fund for Minority Teachers	Florida Virtual School	
	Road-to-Independence Scholarship		
	Critical Teacher Shortage Student Loan Forgiveness Program (CTSLF)		
	Critical Teacher Shortage Tuition Reimbursement Program (CTSTR)		
	FACTS.org		
Government-Higher Ed-Student	Florida Work Experience	College Reach-Out Program	
	College Placement Test	Governor's Summer Program	
		Mary McLeod Bethune Scholarship	
Government-School-Student			PSAT/NMSQT/PLAN administration and fee payment
			AP fee payment for all
			IB fee payment for all
			AP District Incentives
			AP Teacher Incentives
Government-Higher Ed.-School-Student			Dual Enrollment
			Articulation
			Early Admission

			Postsecondary Opportunity Alliances
			Tech Prep
Government-Community Organization-Student	Florida Education Fund		
	SAT Preparation Projects		
	Centers of Excellence		

**Table 3.17.** Georgia Level of Implementation and Extent of Secondary School Involvement

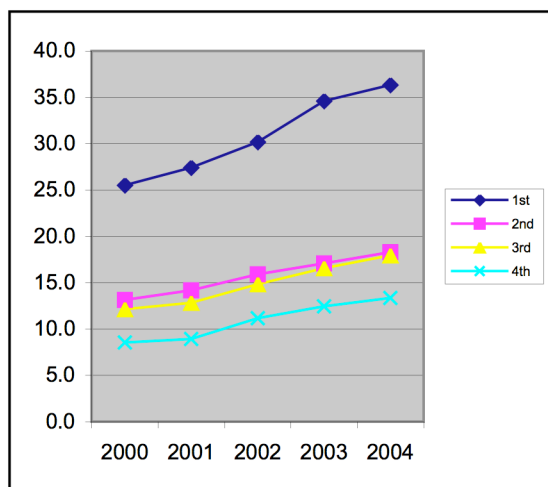
Implementation level	Extent of School Involvement		
	Low	Medium	High
Government-Student	Georgia Tuition Equalization Grant	Governor's Scholarship	
	LEAP Grant	HOPE Scholarship	
	HOPE Grant	Postsecondary Options	
	HOPE GED Grant		
	Promise Teacher Scholarship Loan		
	Allied Health Field Service Cancelable Loans		
	Agriculture Education Service Cancelable Loan		
	Northeast Georgia Health System SCL		
	Intellectual Capital Partnership Program (ICAPP)		
	Registered Nurse SCL Program		
	Law Enforcement Personnel Dependents Grant		
	Public Safety Memorial Grant		
	Georgia Higher Education Savings Plan		
	Charles McDaniel Teacher Scholarship		
	Georgia National Guard SCL		
Georgia Student Financial Aid Chat Night			
Government-Higher Ed-Student	Scholarship for Engineering Education	Governor's Honors Program	
	North Georgia College and State University ROTC Grant	Dual Enrollment	
	North Georgia College and State University Military Scholarship		
	Georgia Military College State Service Scholarship		
Government-School-Student			High Schools That Work
			High School Financial Aid Workshops
			AP One Test Payment

			AP All Tests Payment
			PSAT Test Payment
Government-Higher Ed-School-Student		Georgia's African-American Male Initiative	Articulation
			PRISM
			Georgia P-16
			Tech Prep
			PREP



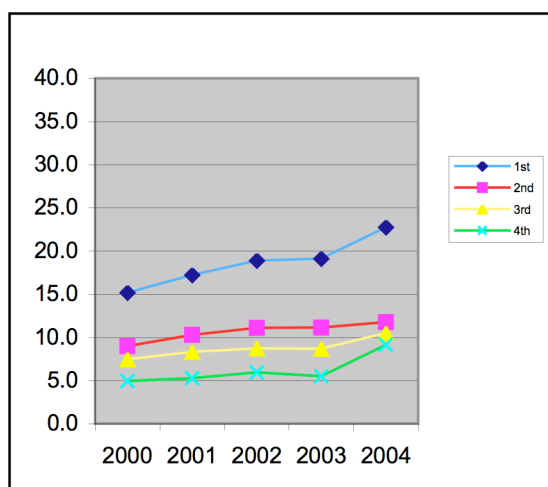
Year	1st	2nd	3rd	4th
2000	18.9	11.8	10.8	10.1
2001	23.7	15.6	14.1	14.4
2002	25.5	17.6	16.2	17.1
2003	27.2	19.1	19.1	19.8
2004	29.3	19.5	17.4	21.8

**Figure 3.1.** California Percent Take AP Exams by School Free Lunch Quartiles



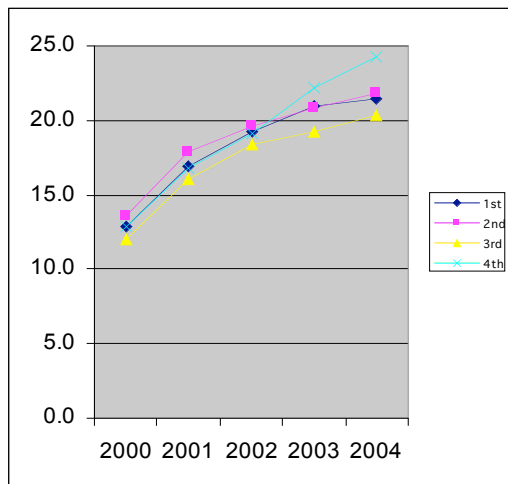
Year	1st	2nd	3rd	4th
2000	25.5	13.1	12.1	8.5
2001	27.4	14.2	12.8	8.9
2002	30.2	15.9	14.8	11.2
2003	34.6	17.1	16.6	12.5
2004	36.3	18.3	18.0	13.4

**Figure 3.2.** Florida Percent Take AP Exams by School Free Lunch Quartiles



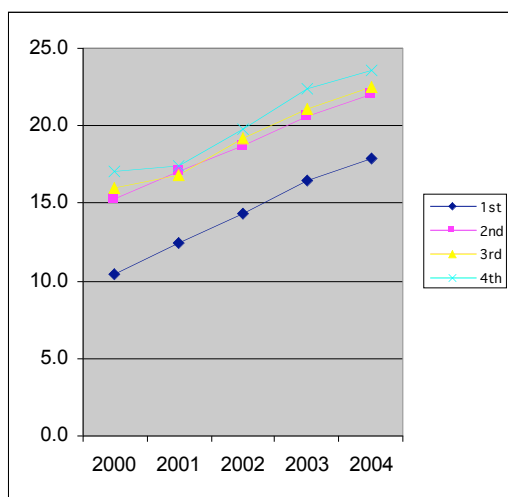
Year	1st	2nd	3rd	4th
2000	15.2	9.0	7.5	4.9
2001	17.2	10.3	8.3	5.3
2002	18.9	11.1	8.7	5.9
2003	19.1	11.1	8.7	5.5
2004	22.7	11.8	10.5	9.1

**Figure 3.3.** Georgia Percent Take AP Exams by School Free Lunch Quartiles



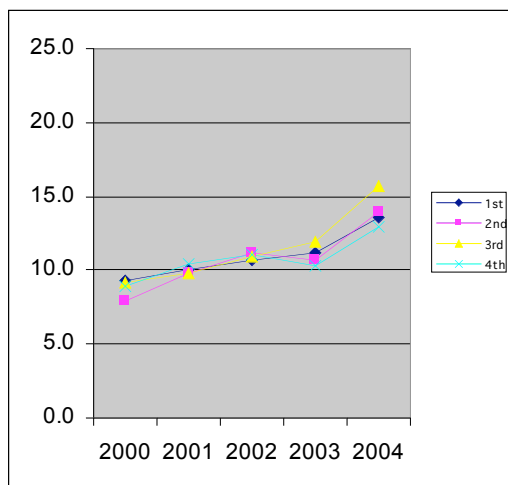
**Figure 3.4.** California Percent Take AP Exams by School Non-White Quartiles

Year	1st	2nd	3rd	4th
2000	12.9	13.7	12.0	12.8
2001	16.9	17.8	16.0	16.8
2002	19.2	19.6	18.4	19.2
2003	20.9	20.9	19.2	22.2
2004	21.5	21.8	20.3	24.2



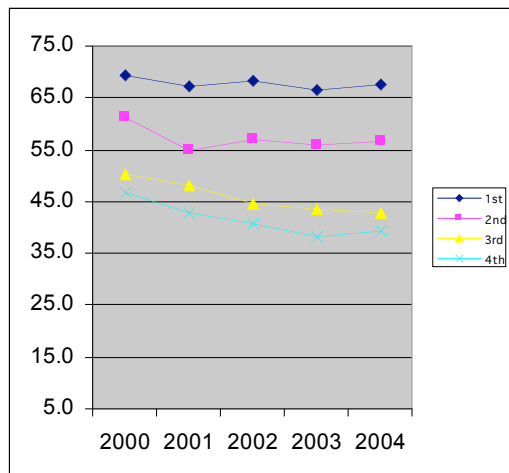
**Figure 3.5.** Florida Percent Take AP Exams by School Non-White Quartiles

Year	1st	2nd	3rd	4th
2000	10.4	15.3	16.0	17.1
2001	12.4	17.0	16.9	17.4
2002	14.4	18.8	19.2	19.8
2003	16.5	20.6	21.1	22.3
2004	17.9	22.0	22.5	23.6



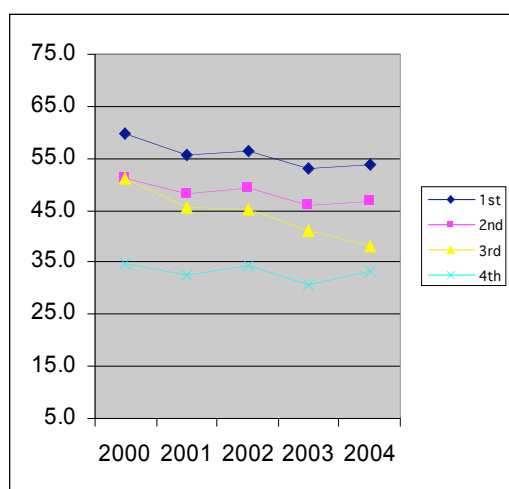
**Figure 3.6.** Georgia Percent Take AP Exams by School Non-White Quartiles

Year	1st	2nd	3rd	4th
2000	9.3	7.9	9.2	8.9
2001	10.1	9.8	9.9	10.5
2002	10.6	11.2	11.0	11.1
2003	11.2	10.7	12.0	10.3
2004	13.6	14.0	15.7	13.0



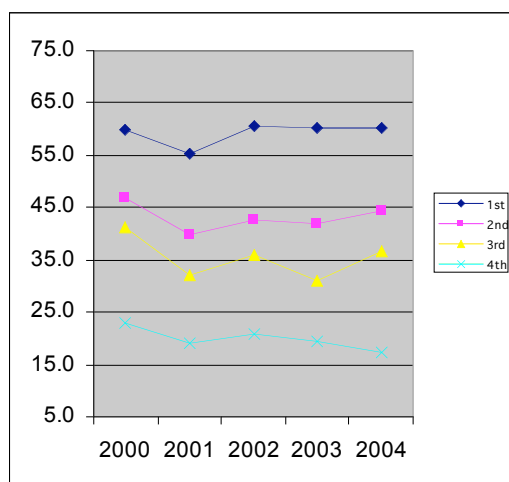
Year	1st	2nd	3rd	4th
2000	69.4	61.2	50.2	46.7
2001	67.1	54.8	48.2	43.0
2002	68.2	56.9	44.5	40.8
2003	66.7	55.8	43.5	38.4
2004	67.5	56.6	42.9	39.4

**Figure 3.7.** California Percent Pass AP Exams by School Free Lunch Quartiles



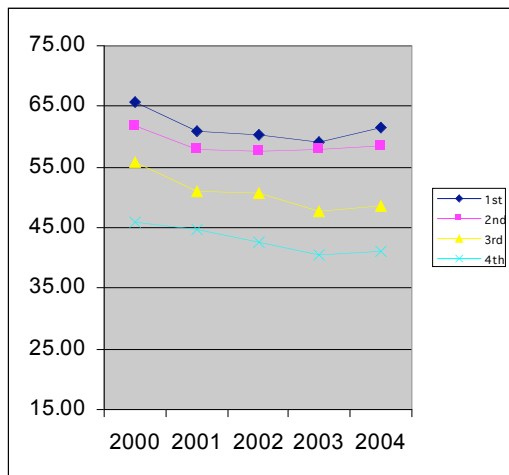
Year	1st	2nd	3rd	4th
2000	59.8	51.3	51.0	34.8
2001	55.8	48.1	45.6	32.5
2002	56.3	49.5	45.1	34.5
2003	52.9	46.0	41.0	30.6
2004	53.6	46.8	38.1	33.4

**Figure 3.8.** Florida Percent Pass AP Exams by School Free Lunch Quartiles



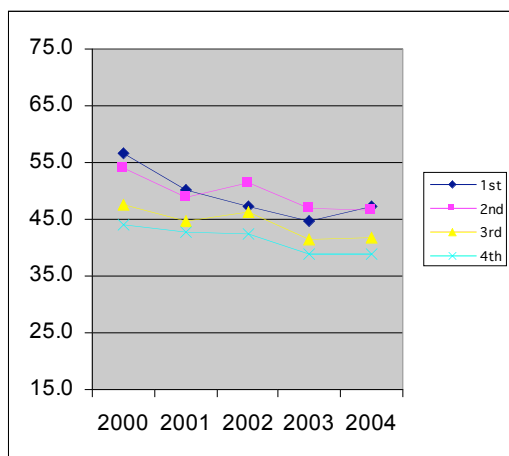
Year	1st	2nd	3rd	4th
2000	59.9	47.0	41.2	22.8
2001	55.3	39.7	32.1	19.2
2002	60.6	42.6	35.9	20.8
2003	60.4	41.8	31.0	19.4
2004	60.1	44.3	36.7	17.4

**Figure 3.9.** Georgia Percent Pass AP Exams by School Free Lunch Quartiles



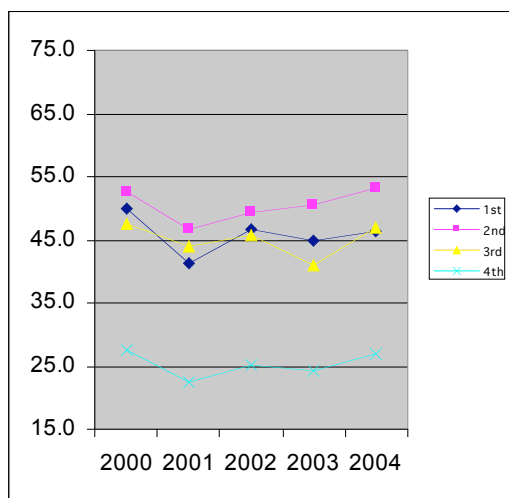
Year	1st	2nd	3rd	4th
2000	65.61	61.8	55.8	45.9
2001	60.93	57.9	51.0	44.6
2002	60.17	57.5	50.6	42.7
2003	59.16	58.0	47.7	40.5
2004	61.58	58.4	48.5	41.0

**Figure 3.10.** California Percent Pass AP Exams by School Non-White Quartiles



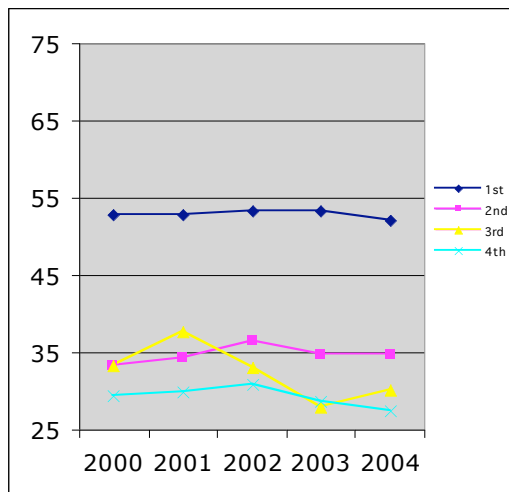
Year	1st	2nd	3rd	4th
2000	56.7	54.1	47.5	44.1
2001	50.1	48.8	44.7	42.7
2002	47.1	51.4	46.2	42.5
2003	44.6	46.8	41.5	38.8
2004	47.2	46.5	41.9	38.9

**Figure 3.11.** Florida Percent Pass AP Exams by School Non-White Quartiles



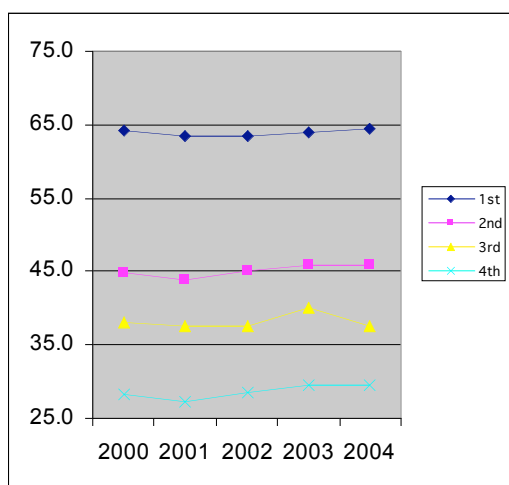
Year	1st	2nd	3rd	4th
2000	49.9	52.6	47.4	27.7
2001	41.2	46.8	44.0	22.5
2002	46.7	49.3	45.7	25.0
2003	45.0	50.5	41.1	24.4
2004	46.4	53.1	46.9	27.0

**Figure 3.12.** Georgia Percent Pass AP Exams by School Non-White Quartiles



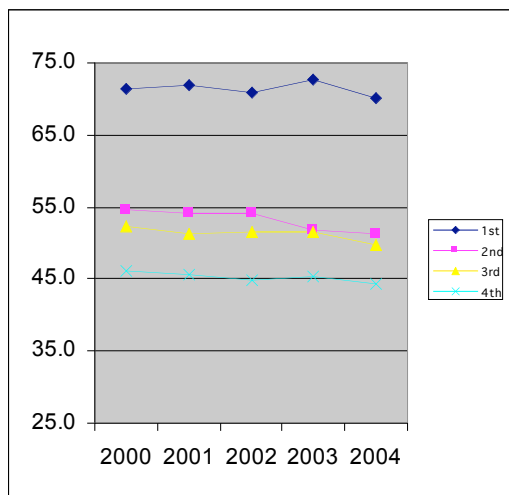
Year	1st	2nd	3rd	4th
2000	52.68	33.4	33.2	29.5
2001	52.72	34.2	37.6	29.8
2002	53.22	36.4	33.1	30.9
2003	53.29	34.9	27.9	28.7
2004	52.19	34.9	30.2	27.5

**Figure 3.13.** California Percent Take SAT by School Free Lunch Quartiles



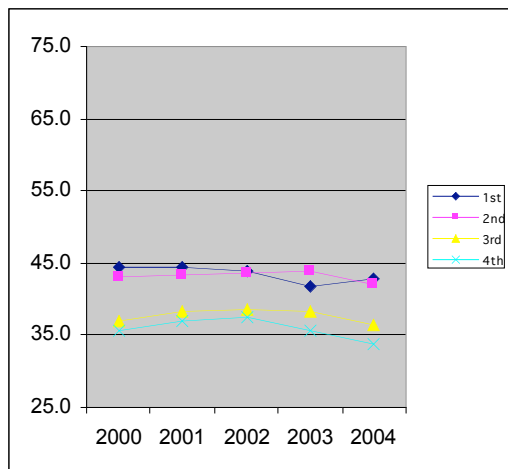
Year	1st	2nd	3rd	4th
2000	64.3	44.7	38.0	28.3
2001	63.5	43.8	37.7	27.2
2002	63.4	45.2	37.5	28.5
2003	64.0	45.7	40.1	29.6
2004	64.4	45.8	37.6	29.5

**Figure 3.14.** Florida Percent Take SAT by School Free Lunch Quartiles



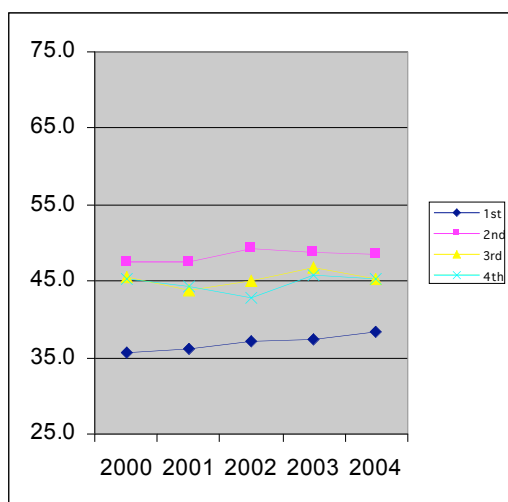
Year	1st	2nd	3rd	4th
2000	71.3	54.6	52.4	46.2
2001	72.0	54.0	51.3	45.7
2002	70.8	54.1	51.5	44.8
2003	72.7	51.8	51.5	45.3
2004	70.2	51.2	49.7	44.4

**Figure 3.15.** Georgia Percent Take SAT by School Free Lunch Quartiles



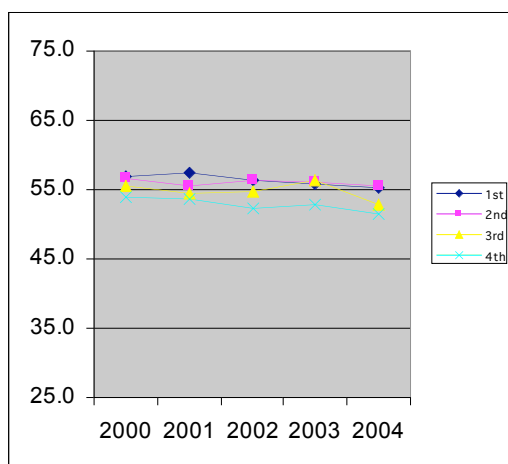
Year	1st	2nd	3rd	4th
2000	44.4	43.0	37.0	35.7
2001	44.5	43.2	38.3	37.1
2002	44.0	43.6	38.5	37.4
2003	41.7	43.8	38.2	35.5
2004	42.7	42.1	36.5	33.7

**Figure 3.16.** California Percent Take SAT by School Non-White Quartiles



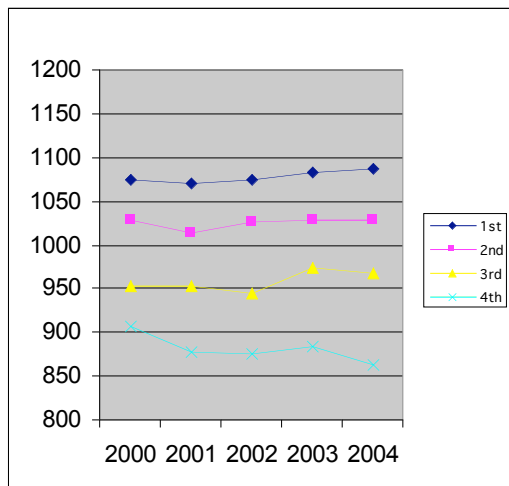
Year	1st	2nd	3rd	4th
2000	35.5	47.5	45.5	45.4
2001	36.2	47.4	43.7	44.2
2002	37.2	49.3	45.1	42.9
2003	37.5	48.8	46.8	45.8
2004	38.2	48.6	45.4	45.3

**Figure 3.17.** Florida Percent Take SAT by School Non-White Quartiles

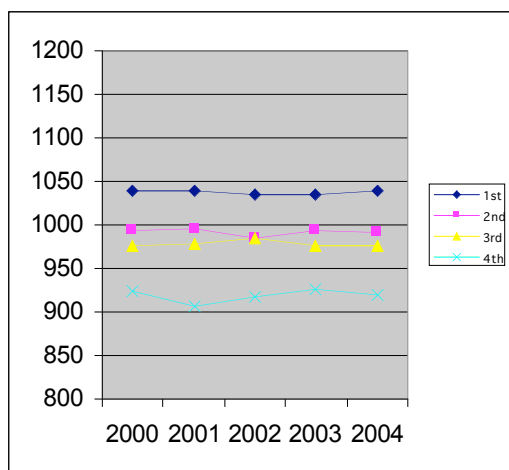


Year	1st	2nd	3rd	4th
2000	56.9	56.7	55.4	53.9
2001	57.3	55.5	54.6	53.6
2002	56.3	56.2	54.7	52.4
2003	55.8	56.0	56.2	52.8
2004	55.2	55.5	52.7	51.6

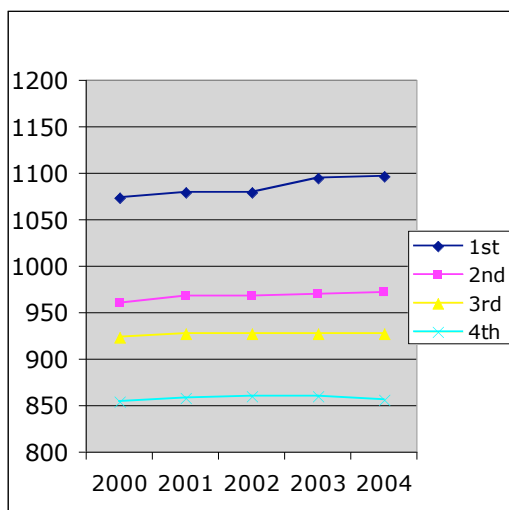
**Figure 3.18.** Georgia Percent Take SAT by School Non-White Quartiles



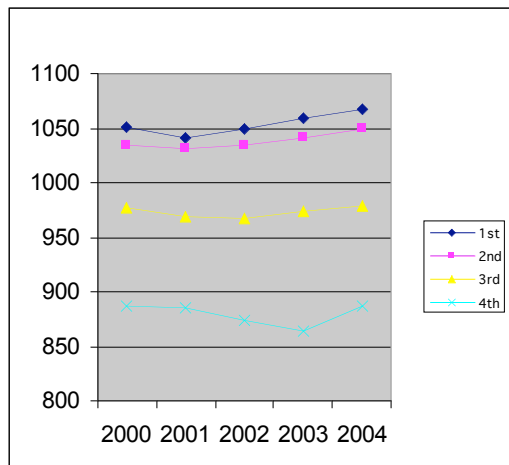
**Figure 3.19.** California Combined SAT Scores by School Free Lunch Quartiles



**Figure 3.20.** Florida Combined SAT Scores by School Free Lunch Quartiles

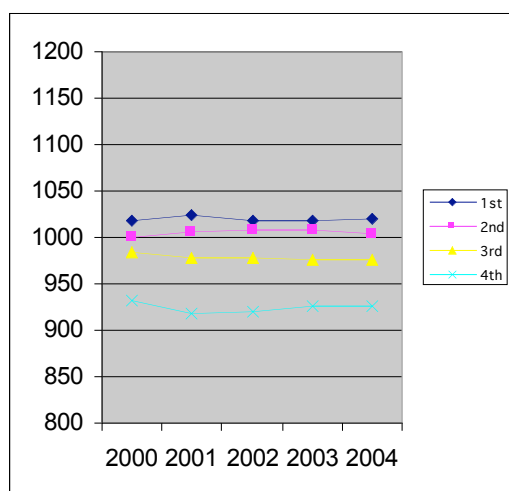


**Figure 3.21.** Georgia Combined SAT Scores by School Free Lunch Quartiles



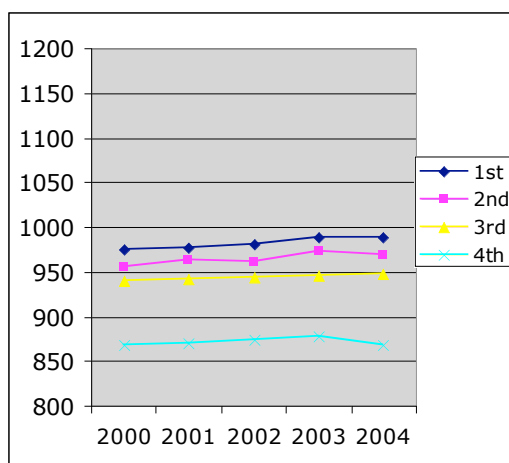
**Figure 3.22.** California Combined SAT Scores by School Non-White Quartiles

Year	1st	2nd	3rd	4th
2000	1051	1034	978	887
2001	1041	1032	969	885
2002	1049	1034	967	874
2003	1058	1041	974	864
2004	1067	1050	979	886



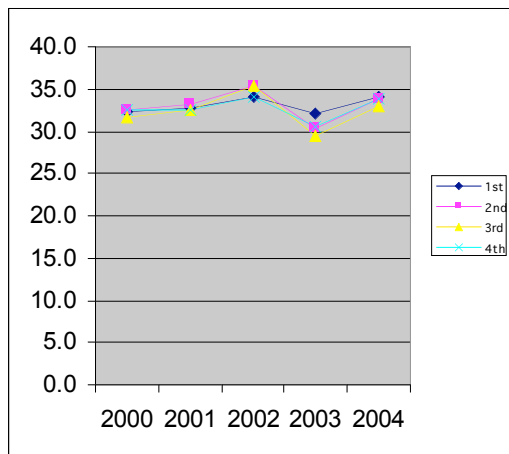
**Figure 3.23.** Florida Combined SAT Scores by School Non-White Quartiles

Year	1st	2nd	3rd	4th
2000	1018	999	984	932
2001	1024	1005	977	918
2002	1019	1007	978	920
2003	1019	1009	976	926
2004	1021	1005	976	927



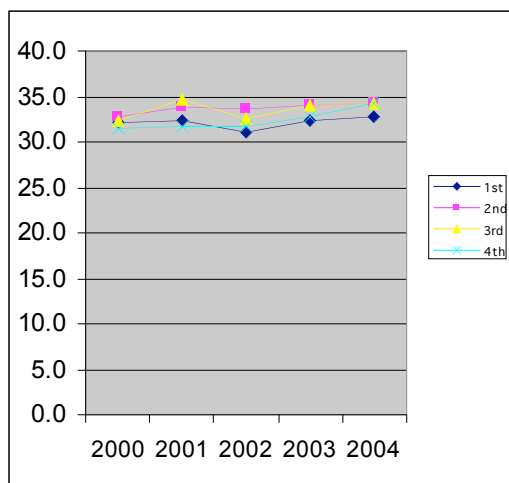
**Figure 3.24.** Georgia Combined SAT Scores by School Non-White Quartiles

Year	1st	2nd	3rd	4th
2000	974	955	940	867
2001	978	963	943	870
2002	981	962	943	874
2003	988	973	946	877
2004	987	969	949	868



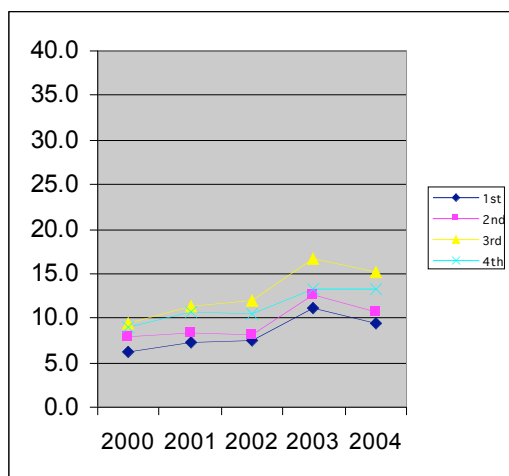
Year	1st	2nd	3rd	4th
2000	32.3	32.5	31.6	32.6
2001	32.8	33.3	32.6	32.5
2002	34.0	35.3	35.3	34.1
2003	32.0	30.4	29.6	30.5
2004	34.1	33.8	32.9	33.8

**Figure 3.25.** California Two-Year Continuation by School Free Lunch Quartiles



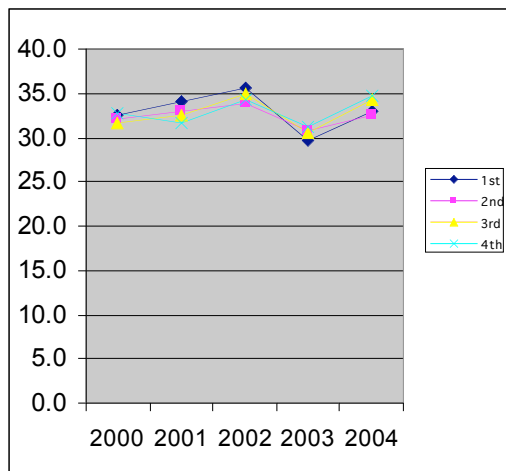
Year	1st	2nd	3rd	4th
2000	32.1	32.8	32.4	31.5
2001	32.4	33.9	34.7	31.6
2002	31.0	33.5	32.6	31.6
2003	32.2	34.1	34.0	32.8
2004	32.7	34.2	34.3	34.1

**Figure 3.26.** Florida Two-Year Continuation by School Free Lunch Quartiles



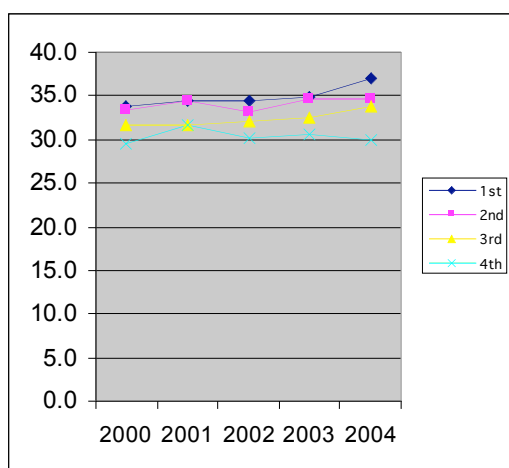
Year	1st	2nd	3rd	4th
2000	6.3	7.8	9.4	8.9
2001	7.3	8.2	11.4	10.8
2002	7.5	8.1	12.0	10.6
2003	11.2	12.6	16.6	13.2
2004	9.4	10.8	15.1	13.2

**Figure 3.27.** Georgia Two-Year Continuation by School Free Lunch Quartiles



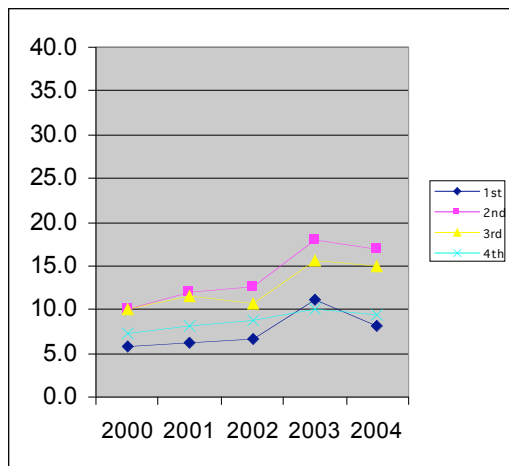
Year	1st	2nd	3rd	4th
2000	32.6	32.2	31.6	32.7
2001	34.1	32.9	32.5	31.7
2002	35.6	33.9	34.9	34.3
2003	29.8	30.8	30.6	31.3
2004	33.1	32.6	34.2	34.7

**Figure 3.28.** California Two-Year Continuation by School Non-White Quartiles



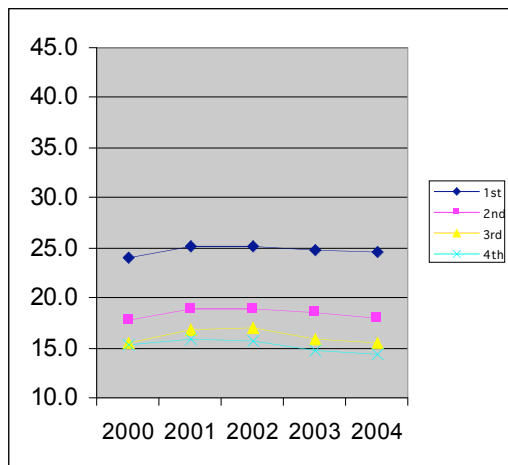
Year	1st	2nd	3rd	4th
2000	33.8	33.4	31.7	29.5
2001	34.5	34.5	31.7	31.7
2002	34.4	33.1	32.0	30.3
2003	34.8	34.6	32.6	30.7
2004	36.9	34.7	33.8	29.9

**Figure 3.29.** Florida Two-Year Continuation by School Non-White Quartiles



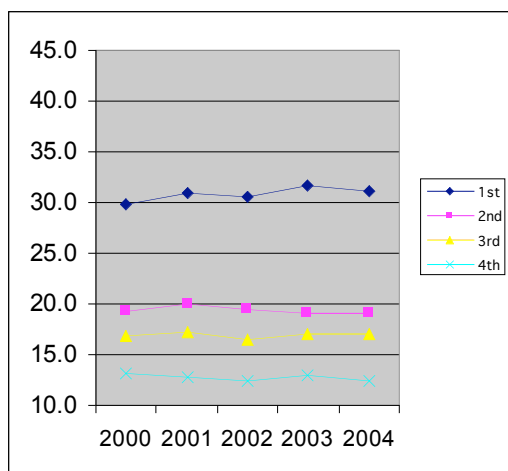
Year	1st	2nd	3rd	4th
2000	5.7	10.0	10.1	7.2
2001	6.3	11.9	11.5	8.2
2002	6.7	12.7	10.6	8.7
2003	11.2	18.0	15.5	10.0
2004	8.1	16.8	15.1	9.5

**Figure 3.30.** Georgia Two-Year Continuation by School Non-White Quartiles



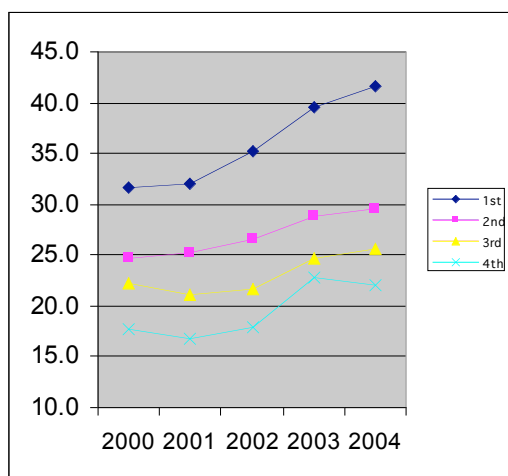
**Figure 3.31.** California Four-Year Continuation by School Free Lunch Quartiles

Year	1st	2nd	3rd	4th
2000	24.0	17.8	15.6	15.3
2001	25.1	18.9	16.8	15.9
2002	25.2	18.9	17.0	15.7
2003	24.7	18.5	15.9	14.6
2004	24.6	17.9	15.6	14.4



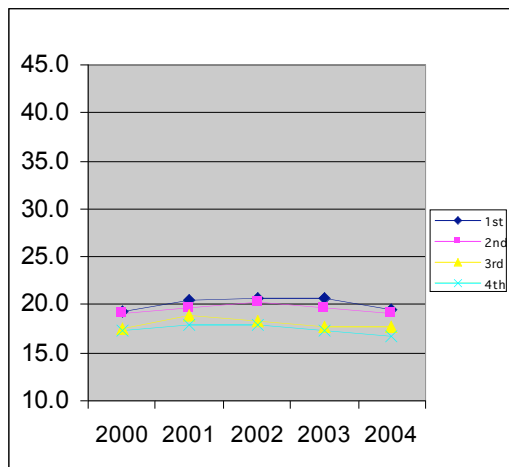
**Figure 3.32.** Florida Four-Year Continuation by School Free Lunch Quartiles

Year	1st	2nd	3rd	4th
2000	29.8	19.3	16.9	13.2
2001	30.9	20.0	17.1	12.8
2002	30.6	19.5	16.5	12.3
2003	31.6	19.2	17.1	12.9
2004	31.1	19.1	17.0	12.4



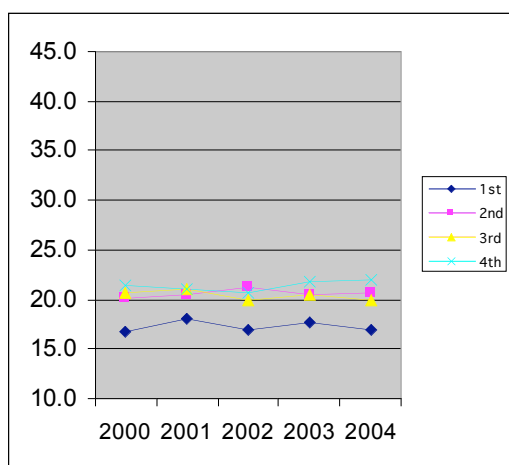
**Figure 3.33.** Georgia Four-Year Continuation by School Free Lunch Quartiles

Year	1st	2nd	3rd	4th
2000	31.6	24.8	22.2	17.7
2001	32.1	25.2	21.1	16.7
2002	35.3	26.6	21.6	17.8
2003	39.6	28.8	24.8	22.8
2004	41.6	29.5	25.6	21.9



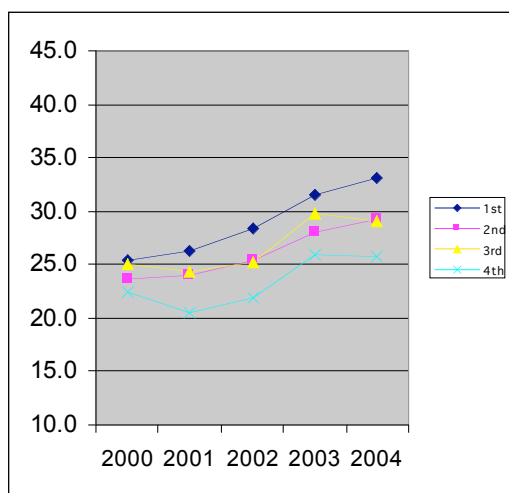
**Figure 3.34.** California Four-Year Continuation by School Non-White Quartiles

Year	1st	2nd	3rd	4th
2000	19.3	19.0	17.5	17.2
2001	20.5	19.7	18.9	17.9
2002	20.6	20.3	18.4	17.8
2003	20.7	19.6	17.7	17.3
2004	19.4	19.1	17.7	16.8



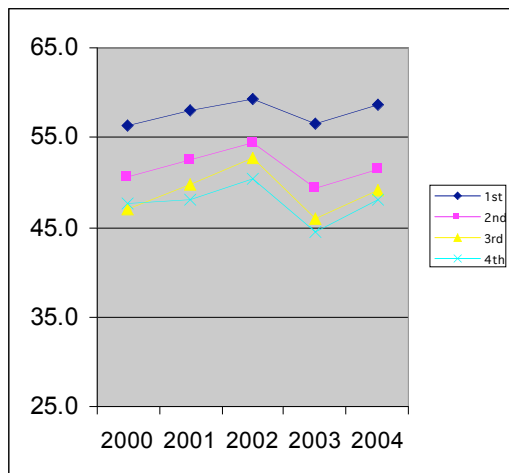
**Figure 3.35.** Florida Four-Year Continuation by School Non-White Quartiles

Year	1st	2nd	3rd	4th
2000	16.8	20.1	20.6	21.4
2001	18.1	20.5	21.0	21.0
2002	16.9	21.2	19.9	20.6
2003	17.7	20.5	20.4	21.8
2004	16.9	20.6	20.0	21.9



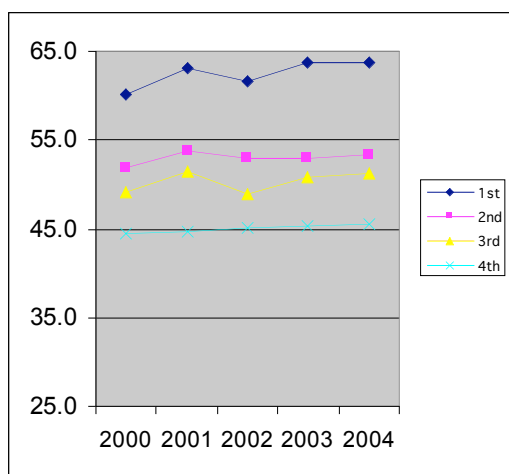
**Figure 3.36.** Georgia Four-Year Continuation by School Non-White Quartiles

Year	1st	2nd	3rd	4th
2000	25.4	23.6	25.1	22.3
2001	26.3	24.0	24.4	20.4
2002	28.3	25.3	25.3	22.0
2003	31.5	28.0	29.8	26.0
2004	33.1	29.2	29.1	25.8



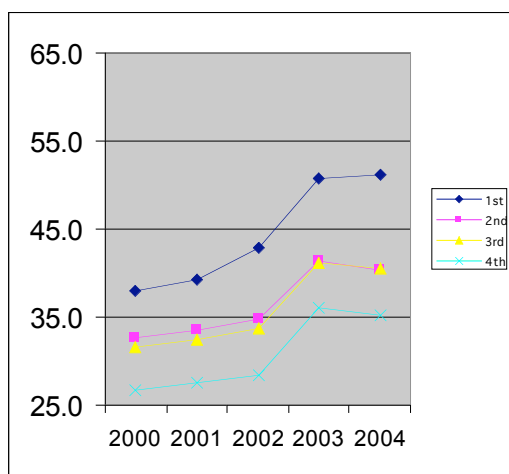
Year	1st	2nd	3rd	4th
2000	56.3	50.5	46.9	47.6
2001	58.0	52.4	49.7	48.0
2002	59.2	54.4	52.8	50.4
2003	56.5	49.3	46.0	44.6
2004	58.8	51.5	49.2	48.0

**Figure 3.37.** California Overall Continuation by School Free Lunch Quartiles



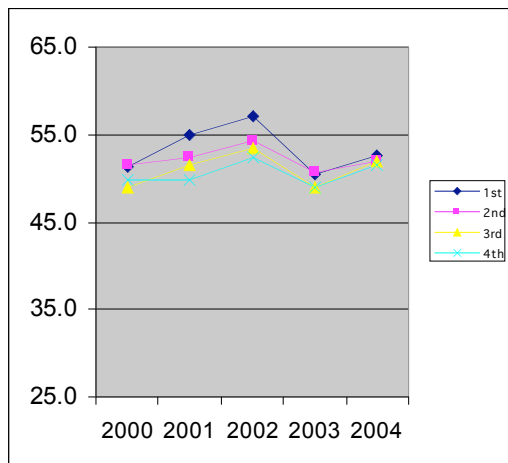
Year	1st	2nd	3rd	4th
2000	60.2	51.9	49.0	44.4
2001	63.0	53.9	51.6	44.6
2002	61.5	53.0	49.0	45.2
2003	63.8	52.9	50.8	45.3
2004	63.8	53.3	51.2	45.5

**Figure 3.38.** Florida Overall Continuation by School Free Lunch Quartiles

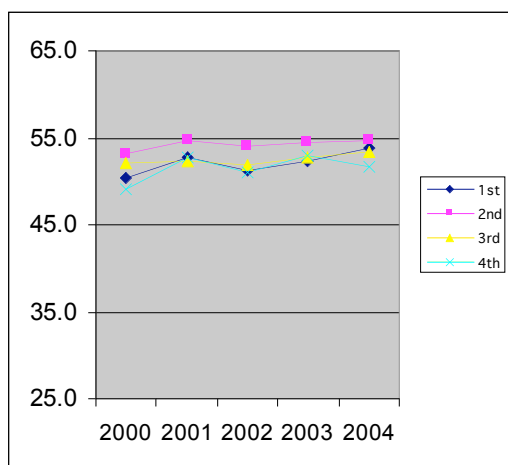


Year	1st	2nd	3rd	4th
2000	37.9	32.6	31.7	26.8
2001	39.3	33.5	32.5	27.5
2002	42.8	34.7	33.6	28.4
2003	50.8	41.3	41.1	36.0
2004	51.2	40.3	40.5	35.2

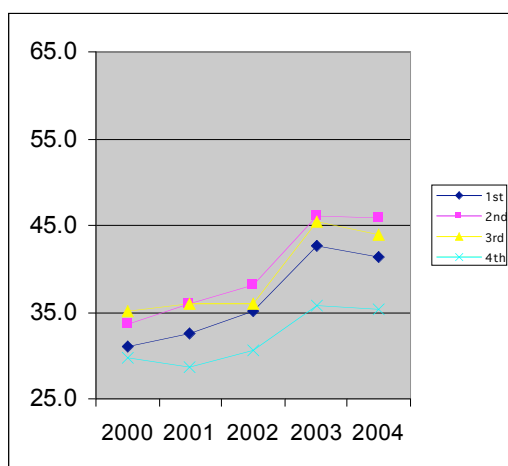
**Figure 3.39.** Georgia Overall Continuation by School Free Lunch Quartiles



**Figure 3.40.** California Overall Continuation by School Non-White Quartiles



**Figure 3.41.** Florida Overall Continuation by School Non-White Quartiles



**Figure 3.42.** Georgia Overall Continuation by School Non-White Quartiles

**Chapter 4**  
**An Ecological Understanding of College-Going Processes**  
**in Low-Income Serving High Schools**

The analysis in chapter two illustrated that various aspects of schools matter in the shaping of college expectations, preparation, and enrollment over and above the individual characteristics known to impact college going. These school characteristics included racial composition, control of high school, and some school-level social and cultural capital variables. Although the study identified several of these influential school variables, significant levels of school-level variance remained. Thus there are reasons beyond those incorporated in the model responsible for differences by school in college-going outcomes. Chapter three showed that schools serving larger shares of minorities and low-income students in three states with different types of college encouragement policy environments in general were not gaining ground in college preparation and enrollment outcomes during the period studied. While there was some tentative evidence of a relationship between the orientation of a state's college access policy efforts and outcomes by school racial and SES composition, much of the ongoing disparity remained unexplained. Chapter two explained some of the school variance with the characteristics of the students themselves as well as some school variables. Chapter three illustrated that state policy efforts explain little difference in outcomes and are doing little to shrink gaps in most outcomes by income of schools. That these programs are not making a difference contradicts intuition and contradicts research that has shown the effectiveness of discrete programs on individual students. This gives rise to the question of what is going on in schools serving low-income and minority students to encourage college going and what efforts

are taking place to help students take advantage of the programs emanating from the state level to this same end. Do school college-going processes differ by population served and how effective are schools at employing state college access policy to benefit their students?

### **Review of Literature**

Early studies regarding the effects of schools on college-going outcomes tended to focus on school composition in terms of student SES and academic ability (Alexander & Eckland, 1977; Alwin & Otto, 1977; Meyer, 1970; Nelson, 1971). These studies found that students at higher status schools did somewhat better in terms of college aspirations and enrollment. Studies in the 1980's explored differences between public and private high schools in college enrollment. Coleman and Hoffer (1987) using High School and Beyond data found that private high schools had better college enrollment outcomes and attributed this to the curriculum and academic programming found in these schools. Falsey and Heyns (1984) used descriptive analyses to argue that the better outcomes at private schools were due to school processes such as college counseling and an organizational commitment to facilitating college going. McDonough (1997) employed case studies of four high schools to show how schools that serve different SES students vary in the amount, timing, and orientation of college counseling. She argued that the college counseling is part of the school's "organizational *habitus*" which structures what postsecondary educational avenues students see as viable. McDonough's work is important in showing how what schools do to encourage college going is related to the students served by a school and that these processes reproduce inequities.

Building on this previous literature, Hill used data from the High School Effectiveness Study to examine whether school strategies to facilitate college going impact enrollment and whether this effect varied by race and SES of students (2008). She categorized schools by the

extent of their college linking activities as well as their attempts through outreach to offer these services to all students. Schools with low college-going resources had the highest proportion of minority students. Schools with more college-going resources, but without the emphasis to reach out to all families, were the schools with the lowest SES and achievement. Hill found that schools with more resources devoted to college linking processes had better enrollment outcomes, especially those that also reached out to all parents about college going. Schools with adequate college-going resources but that do not conduct outreach to facilitate all students using these resources had a negative impact on Latino two-year enrollment. This suggests that level of resources is important but that for underrepresented students, outreach to all students by school staff in the distribution of these resources is necessary. These findings are supported by the report from Stanford University's Bridge Project, a multi-state study of K-16 policies, alignment, and student interpretation of them (Kirst & Venezia, 2004). Counselors and students in the schools studied believed that only the most motivated students talk with counselors about college and that these exchanges are initiated by the students.

These studies point to the role that schools play in facilitating college going through curriculum type offered, the availability and orientation of college counseling, and the utilization and promotion of specific college linking activities. McDonough and Hill furthermore move us forward by identifying the types of schools (in terms of who they serve) that are likely to have different levels of college-going resources. They also illustrate through qualitative and quantitative methodology, respectively, how the amount and orientation of college-going resources differentially impacts students of different SES and race/ethnicity. While these studies acknowledge that college-going activities differ at schools serving different populations, they do not attend to the fact that schools and students exist within a particular state higher education and

policy environment. Schools thus are positioned as intermediaries between students and the larger policy context. Thus it is important to understand not only what programming schools serving different SES students offer to encourage college going for their population, but also how well the high schools serve as translators of and give students access to state policies designed to increase access to college.

### **Theoretical Framework**

Perna's model (Figure 1.1) advances thinking about college decision making by integrating both human capital theory with sociological theories of social and cultural capital and by nesting student decisions within several layers of context. This model proposes that, moving from the outermost layer inward, the larger social, economic, and policy context; the higher education context; and the school and community context impact the layers within them and also directly impact the student and family layer where decisions are made by students based on their resources and expected costs and benefits to invest in higher education. Paying specific attention to the school and community layer, this model leaves us with questions about how inner layers might affect outer ones, particularly how the students and families within a school shape the school and community context and how the school is influenced by outer layers. The model also tends to imagine the influences on college decision making as fixed impacts with little insight into the processes by which these influences operate. Finally, theoretical refinement is needed to model how students internalize these layers of context and over a period of time during middle and high school come to aspire to college, understand college-going processes, prepare academically, and take the pragmatic steps necessary to attend.

These gaps can be addressed by conceiving of student college decision making as a developmental process in Urie Bronfenbrenner's ecological systems theory. In this theory, the

child is at the center of nested layers called, moving from the inside out, the microsystem, mesosystem, exosystem, and macrosystem (see Figure 4.1). The microsystem is “a pattern of activities, roles, and interpersonal relations experienced by a developing person in a given face-to-face setting with particular physical and material features and containing other persons with distinctive characteristics of temperament, personality, and systems of belief” (Bronfenbrenner, 1989). For the high school student making decisions about college going, both the family and school are microsystems. Activities and processes go on both at home and at school that shape the student’s thinking about going to college, academic preparation, and taking the steps necessary to enroll. The mesosystem “comprises the linkages and processes taking place between two or more settings containing the developing person...a system of microsystems” (Bronfenbrenner, 1989). For our high school student this would be the system or relations between home and school and the developing child. The relationship between the home and school and the student’s interaction with both shape a student’s academic development and ability to negotiate the steps requisite to enrolling in college. The exosystem “encompasses the linkage and processes taking place between two or more settings, at least one of which does not ordinarily contain the developing person, but in which events occur that influence processes within the immediate setting that does contain that person” (ibid.). This might be the relationship between home and the parent workplace. For our high school student, the types of higher education institutions available, their requirements, the nature of state financial aid, and other state programs designed to facilitate college going can directly impact college-going decisions. Yet the degree to which students find out about these structures and actually access them through the school make the relationship of the school and the higher education and policy environment an exosystem. How the school facilitates student understanding and negotiation of

these structures shapes opportunity. The macrosystem “consists of the overarching pattern of micro-, meso-, and exosystems characteristic of a given culture, subculture, or other broader social context with particular reference to the developmental-instigative belief systems, resources, hazards, life styles, opportunity structures, life course options, and patterns of social interchange that are embedded in each of these systems” (ibid). It is constituted of things that influence child development broadly such as culture, norms, and laws.

The value added by imagining the layers of context that shape college decision making as the various systems in the ecological theory of development is that Bronfenbrenner emphasizes the bidirectional nature of relationships. Students and families are impacted by schools but also create its culture, assets, and needs and thereby impact the school. Furthermore, Bronfenbrenner draws attention to the relationships between layers or systems. This helps us to see schools not only as the microsystem in which students make decisions, but also as part of the mesosystem of the student-school-family relationship. An underpinning of Bronfenbrenner’s theory is that social institutions and services have the responsibility to facilitate development of the child through bolstering of family as a whole wherever possible. This requires in college-going activities not just institutional replacement of parent activities, nor the laying of responsibility on the unequipped student, but adapting processes to enable families to fulfill roles themselves.

Ecological systems theory places schools also as the institution responsible for being the intermediary between the student/family and the elements of the exosystem affecting college going. It has been shown that many state and federal policies designed to encourage college going are delivered through the secondary school (Perna et al., 2007). These include Upward Bound, California’s AVID program, and Georgia’s Virtual School. But even in the case of programs designed to be delivered directly from state entities or higher education institutions to

students and their families, knowledge about the programs, or application for them occurs through the high school (See chapter 3). Students find out about websites and programs through school sources: Cal-Grants require school GPA verification; school GPAs qualify students for HOPE and Bright Futures in Georgia and Florida. This central role of schools not only implementing programs to encourage college going, but also functioning as the gatekeeper to many other programs, necessitates examination of how schools go about promoting college going. Furthermore, given the racial and income segregation in our communities and schools, an examination of college promotion activities at schools must take into account the activities' usefulness to the specific population involved. Are schools undertaking the activities necessary to foster college going for their unique environment and serving as the connection between the population they serve and the higher education and policy environment?

This focus on activities is in keeping with how the microsystem is defined as a pattern of activities, roles, and interpersonal relations experienced by the developing person. Furthermore, it is consistent with Bronfenbrenner's advocacy of research models that assess development through a "process-person-context" model. This design seeks to understand how outcomes are shaped not just by personal attributes such as IQ or gender, or social addresses such as rural vs. urban or social class but to look at what the environment is like, what people are there, what they are doing, and how the activities taking place could affect the student (Bronfenbrenner & Crouter, 1983). While this study is not a full assessment of developmental outcomes as shaped by process, person, and context, it does explore what college going processes look like in the low-income serving high school context so as to better understand the outcomes for the students who inhabit them.

Utilizing Bronfenbrenner's ecological systems theory, this chapter examines the college-going programs and activities of schools serving different socioeconomic populations in the same larger policy exosystem. The research questions guiding this chapter are:

1) Do low-income serving schools, as part of the student college-going microsystem, structure the processes necessary to foster college-going for their unique population?

2) Do the schools serve as effective intermediaries between their students and the higher education and policy environment?

## **Methods**

This paper uses multiple descriptive case studies of 9 high schools, three in each of three states. These nine high schools are a subset of 15 used in the larger College Access Policies Project funded by the Lumina Foundation. Data was collected and initially coded for that project and then recoded for the analyses here. Case study methodology is appropriate given my interest in understanding not only *what* programs exist at schools, but also *how* the programs are implemented, and because of my focus on the “contextual conditions” that shape college opportunity (Yin, 2003b).

The three states are: California, Florida, and Georgia. These states were purposively selected because of their variation on a number of demographic, economic, political, and educational characteristics including the differences in college encouragement policy environment detailed in chapter three. The 9 high schools within these states were purposively selected by first constructing a demographic and academic profile of all high schools in each of the five states using data from the Common Core of Data, the U.S. Census Bureau, and each state's department of education. Selecting three high schools within one school district or metropolitan area helps to control for alternative explanations for observed differences across

schools, specifically geographic proximity to higher education institutions and the local policy and socioeconomic environment. It should be noted, however, that while the three schools in Florida were inside one large city, the high schools in California and Georgia were in separate small towns proximal to one another. The three high schools in each state vary in terms of their demographic and academic characteristics. Specifically, in each state three high schools were chosen: one that served a student population with high average socioeconomic status and achievement, one that served a student population with medium average socioeconomic status and achievement, and one that served a population with low socioeconomic status and achievement.

#### *Data Collection and Analysis*

Reflecting Yin's (2003a) emphasis on the role of theory in guiding case study research, we developed data collection protocols based on the conceptual framework and a review of what is known from the literature about the predictors of college enrollment. The use of these protocols also helped ensure comparability of data collection procedures across the 15 schools (Yin, 2003a). The protocols included such questions as: What programs at your school have influenced your thinking about college? How do students at this school learn about financial aid?

The research team collected data from individual and focus group interviews at each of the 9 high schools. At each school, we conducted focus groups with 9<sup>th</sup> grade students, 11<sup>th</sup> grade students, and parents of 9<sup>th</sup> and 11<sup>th</sup> graders as well as semi-structured interviews with teachers and counselors. The contact counselor at each school was asked to identify groups of students in the 9<sup>th</sup> and 11<sup>th</sup> grade who were planning on going to college. These students were given parent consent forms. Those that returned them with parent signatures were included in the focus groups. At some schools, letters were sent to specific parents of college-bound students

to request the parents' participation; at other schools broad notices were sent to all parents via email or newsletters. Counselors were also asked to identify a variety of teachers to participate in the interviews. All interviews and focus groups were audio-recorded and transcribed.

To analyze the data, we first created a case study database (Yin, 2003b) that included transcriptions from the focus groups and interviews, as well as data from the policy analyses and demographic and academic profiles. We developed a preliminary list of codes using the conceptual framework and knowledge of prior research, while also allowing additional codes to emerge. We employed HyperResearch software to assist in the coding and compiling of data into categories. For this paper, data were compiled for all college-going activities either sponsored by or located at the school. The activities taking place were compared for the schools serving different income populations in the states.

We used several strategies to ensure the trustworthiness and credibility of the findings and conclusions. To ensure construct validity, we collected information from multiple sources including participants with different perspectives (i.e., students, parents, teachers, counselors) (Yin, 2003b). In addition, we produced a draft case study report for each school and asked the primary contact at each school (typically a school counselor) to review the report and provide feedback (Yin, 2003b).

### **Limitations**

Several aspects of this study limit its ability to be generalized to all schools. These findings reflect the processes at only three high schools in each of three states. The schools themselves and the states may not be representative of other schools in the country. Furthermore, students were requested for the focus groups that had plans to attend college. Thus the responses of these students are not representative of all students at the school; counselors and

teachers were consulted also, however, to get a fuller view of all of the postsecondary processes at the school.

### **Georgia Findings**

Table 4.1 provides information about the Georgia high schools that participated in the study. All three schools are located in small towns within an hour of the state flagship university and several public and private less selective institutions. While none of the schools are designated as Title I schools, there is a range in the percentage of students participating in the federal free and reduced lunch program from 11% at the high SES-serving school to 36% at the low SES-serving school. The lower-income serving school also has a higher proportion of black students (28%) with very small proportions of other minorities (1% Asian and 1% Hispanic). The proportion of students who take the SAT at the low-SES school is 56% with an average score of 932 whereas at the middle- and high-SES schools the proportion is 60% and 80% with an average of 1077 at both schools. The percentage of students passing the Georgia High School Graduation Test in reading and math increases slightly with the resource level of the school as well. In terms of college-going (Table 4.2), whereas 29% of students went on to public colleges in Georgia the fall after graduation at the low-SES school, 47% went on at the middle-SES school and 65% at the high-SES school. Table 4.3 shows the counseling resources available at the school. While the ratio of students per counselor is high at all schools, ranging from a high of 486 to 1 at the low resource school to 421 to 1 at the middle-resource school, there are also differences in the amount of resources devoted specifically for college counseling. While the high-resource school has a full-time staffed college and career center in addition to the actual guidance counselors, the low-resource school has neither a center nor a counselor specifically

devoted to college counseling. Furthermore, while the middle- and high-SES school guidance departments have an office secretary/administrator, the low-resource school does not.

All of the high schools visited in Georgia offer the following programs and activities to facilitate college going: Advanced Placement courses, dual enrollment with higher education institutions in the area, SAT preparatory courses as electives, one-on-one meetings of seniors with counselors, notebooks in central locations containing scholarship information for students, a financial aid information night for senior students and parents, parent orientation for rising ninth graders which orients parents to the high school curriculum and postsecondary processes, and access to the Georgia Career Information Survey computer program. Furthermore, all schools place a great deal of emphasis beginning in the 9th grade on the requirements for the HOPE scholarship. All schools calculate students' HOPE scholarship grade point average at their senior meeting with a counselor. Finally, all schools have created a teacher advisement program. Groups of students are assigned to a teacher whom they stay with ideally for all four years of high school and meet periodically to participate in advisement activities ranging from course registration, career surveys, dissemination of college information, and also more administrative-oriented tasks.

There are also some unique aspects of the low-income serving school in Georgia. While the school does offer Advanced Placement, it has only two on-site Advanced Placement courses. Despite the fact that the state of Georgia pays for one AP test each year for every student, there are no plans to expand the number of AP courses taught on campus. The school is able to expand its AP offerings through the new Georgia Virtual School but there are only four slots funded per school by the state; additional students wishing to participate must pay approximately \$300 per course. The counselor indicated, furthermore, that it would be her preference for the

state-funded Virtual School slots to be used for students who need to make up courses to graduate rather than expanding accelerated course options. Beyond AP and the Virtual School, students desiring advanced curricular options participate in dual enrollment with a nearby college. Many participants commented on the lack of a rigorous curriculum at the high school ranging from lack of advanced curricular options to failure of the school to adequately prepare students even in honors courses. When asked if the school prepares students for higher education, one parent said: “I don’t know if (the school) prepares you for higher education. Our biggest concern.” Another said, “...we’ve had a daughter graduate from UGA and her first perception at UGA when she went there was (the school) did not prepare me for this.”

Due to lack of counseling resources, the counselors distribute college-related material to junior and senior homeroom teachers to put in a designated notebook in their classroom. These materials include scholarship information and college-oriented websites. The counselor lamented:

If we had a better way of distributing even the scholarships, it’s hard, you know, when I’ve tried last year and this year, other than putting them in notebooks and just telling them when they come in, it’s still hard to know...to take all the time to read every single one that comes in the door and they’re like targeted to these fifteen kids and give it to them, on top of SAT, on top of this High Schools That Work assessment I’ve got to give next week.

All college preparatory track 10<sup>th</sup> graders take the PSAT in their English class at this school; the state of Georgia pays for all 10<sup>th</sup> grade students to take the PSAT though not all schools structure it so that all students take it. There is an Upward Bound program at the school

that has 6 participants and a Talent Search program is just getting underway. The school offers a college/career fair each year for juniors and seniors.

The school has tried a number of methods to increase historically low parent involvement including parent access to grades on the internet and in recent years conducting registration activities in the evening and offering parent conference slots both during the work day and in the evening. A teacher expressed, however, that there are not a lot of ways for parents to get involved with the college-going process:

Of course, we don't have a lot of programs where parents can really come in and work with that, either. We've just started in the past maybe three years having early release days where the parents can come in and have conferences during their day.

The school had failed to meet AYP for No Child Left Behind for two years prior to our visit and was in the process of implementing two initiatives to boost achievement and ultimately higher educational attainment: the High Schools that Work program and a ninth grade academy. A great deal of effort goes on at the school to get students to pass the state high school graduation tests as well as the end of course tests that are required by the state for certain courses. There are specific classes for those who haven't passed the graduation test as well as a program that pulls students out of electives if they haven't passed the science portion. Focus on passing state tests is cited as the reason that there is not more of a focus on college preparation and why it is difficult to organize more college-going counseling activities as these would reduce class instructional time (Perna et al., 2008). The counselor explained:

But there again, you've got to work everything into the curriculums, and teachers are so worried about meeting, you know, standards and passing those tests and everything, it's hard to go in and ask them, Can this be part of your curriculum?

There are numerous ways in which this school serves as the intermediary for the state higher education and policy environment for its students. The school has purchased and employs both in 9<sup>th</sup> grade computer courses as well as senior counseling sessions the Georgia Career Information Survey computer program that offers interest surveys as well as college information. The school emphasizes early the criteria for receipt of the HOPE scholarship and alerts students to their likely eligibility during their senior year. When asked about what type of financial aid the students are the most knowledgeable, the counselor replied, "Well, I would say HOPE. I mean, that's...we stress that from the day they walk in the door."

The school takes advantage of the newly created Georgia Virtual School to supplement its curricular offerings and gives the state-funded PSAT to all college preparatory students as sophomores. Counselors also direct seniors in their counseling sessions to the newly created state higher education web portal called GAcollge411. During the senior year, a financial aid night is offered which gives students and parents information about HOPE as well as federal need-based financial aid.

### **Georgia Discussion**

This low-income school structures many of the basic activities to facilitate college going for students. However, like so many other schools, it focuses its specific college-going efforts on the seniors at the school. Given the prevalence of students at this school who are low -income and whose parents have not attended college, these efforts to provide students with college and financial aid information are likely too late to encourage college going for students who are not

already oriented in that direction. It has been shown that while parents who haven't gone to college often encourage their children to pursue higher education, they do not have the knowledge themselves to facilitate this process (Rowan-Kenyon et al., 2007). This has been the experience of the counselor at this school:

Parents don't know what to ask when. I think that the majority of the parents in our community don't understand what to ask. They don't really understand HOPE. They really don't understand financial aid. They don't particularly know to ask the questions that when their child first enters school so they can keep their grades up and qualify for HOPE.

Provision of information about need-based financial aid does not occur until student's senior years. A teacher explained:

...unless they have a parent that somehow is aware of like a Pell Grant or whatever, I think that all they get from the counselors office is, you know, one of their last interviews or whatever with the counselors... they may find out they're eligible for HOPE and be given paperwork or told how to apply for HOPE.

Thus if students aren't on track to receive a HOPE scholarship or likely to receive other sufficient scholarship aid, both the student's and parent's sense of lack of funding to attend college may deter many students from academically preparing and taking the steps to enroll. A student expressed that this affects some students at the school:

...there's people that go here and stuff and they're smart enough to go to college but they just don't know enough about it to like, you know, apply or learn how to pay for it or anything like that.

The school has in place some mechanisms to orient students to higher education options such as use of the Georgia Career Information System in 9<sup>th</sup> grade computer courses and a 9<sup>th</sup> grade student and parent orientation which includes some information about postsecondary processes. The school also gives the PSAT to all college preparatory students in 10<sup>th</sup> grade. This will begin the flow of information from colleges to students that has been shown to be helpful to students and instigate parent/child discussions about college (Hossler, Vesper, & Schmidt, 1997; Rowan-Kenyon et al., 2007). Furthermore, the school has implemented a teacher advisement system designed at least partially to give students an opportunity to explore career interests and learn about college going processes. So far this program, however, has yet to be implemented as intended and mostly is used for administrative tasks. Students, counselors, and teachers all complained about the lack of usefulness of this advising strategy as currently implemented. One of the counselors explained the problems with the program:

Well, it is where kids go to get their report cards. Yeah, other things are supposed to be going on. Advisement can be utilized in a much better and a lot better way and I have Advisement curriculum that I wrote at my last school last year in this thing. And we can put, I mean I have it. We could change some things and put it in here, but it hasn't happened yet..."

This leaves a large gap of time between initial career exploration in 9<sup>th</sup> grade and 12<sup>th</sup> grade when just-in-time college information is disseminated. Unlike the high-resource school in Georgia, this school does not have a staffed college/career center where students know they can go to find information. One of the counselors noted the need for this resource:

If you can't afford more counselors or that's not a possibility, there needs to be another source of information where kids can go besides us, that the community

knows about, that the administration knows about, that the teachers know about and more importantly that the students know about. Which the answer of a lot of schools I've seen, their answer to that is career counseling, like basically a career room or a career counseling office room and it's just one person that does just that. So and they have their own office and their own room where kids can come freely in.

The middle resource school does not have a center either, but has yearly one-on-one meetings of all students with the guidance counselor. These meetings include college and career guidance in conjunction with course selection. These two methods provide ongoing resources throughout high school for students to obtain information and feel supported in their desire to attend college. The students at the low-SES school who have parents who encourage higher education and have the knowledge to consistently assist their child in moving in this direction can flourish without these resources. Students and parents without these assets need activities and information between 9<sup>th</sup> and 12<sup>th</sup> grade to continue orienting them toward the education necessary to meet their career goals and the steps necessary to achieve it. A teacher expressed how not having resources for underclassmen deters preparation:

By the time they get to be seniors, if they haven't already made some choices and made some advancements toward this, they're not going to get anywhere. We need to start with them a little bit earlier.

In terms of the school's role in orienting students to the higher education and policy environment, the school emphasizes the HOPE scholarship in keeping with the state's very heavy reliance on this merit-based aid program to make college affordable. Yet this exclusive focus on the HOPE admittedly leaves students who are not eligible for it discouraged about

college going in general. When asked what would happen if she didn't get HOPE, a student responded, "Can't go to college." The majority of this group of 11th graders also had no fallback plans for financing and indicated they were just hoping to get HOPE. Furthermore, while the HOPE pays for full tuition at public institutions in the state and provides a \$300 per academic year book allowance, it only pays part of private tuition and does not cover room and board and other costs of attendance. More of an emphasis, earlier on, needs to be given to the larger need-based federal policy environment which would help cover the other costs of college for students receiving the HOPE and give financial reassurance to those who fear they may not qualify for HOPE. Early provision of information about the variety of methods of financing college may encourage more students, especially less affluent ones, to take the steps to prepare for college. Other research has found that students' sense that they have funding to attend college makes a difference both in their preparation for and enrollment in higher education (St. John, 2004). The school does take full advantage of other aspects of the environment like GCIS, GACollege411, dual enrollment opportunities, free PSAT tests, and the Georgia Virtual School.

One other aspect of the school's role in conforming to the policy environment for its current population is the time and energy it must devote to trying to make AYP and have students pass the Georgia High School Graduation Test. Necessary focus on this limits the school's ability to cater more to college preparation either with counseling initiatives or curricular enhancement both of which are deemed by most participants to be falling short of facilitating college going. A teacher acknowledged the orientation the school has:

We have a big lack of focus on the college students, but I believe that has a lot to do with the percentage of our students that go to college is very low. We're now having to meet state standards that deal more with the "No child left behind."

We're having to focus on the middle of the road kids and the lower level kids, and our higher-level kids are just getting watered down material.

The school had no plans to expand very limited Advanced Placement offerings at the school. The Georgia Virtual School can provide opportunity for a very few at no cost but the \$300 per course fee plus the added initiative needed to do courses in a distance format probably will deter many borderline students from using this method for curricular enrichment. Students may also elect to take dual enrollment courses at a nearby college. While this avenue works for many, costs may be a deterrent as dual enrollment must either be student funded or students must qualify for the HOPE scholarship and use up some of their HOPE eligible hours. Furthermore, like the Virtual School, the initiative needed to dual enroll and go to a college campus every day while in high school may deter students from using this method to enhance their academic preparation. These alternatives to actually increasing the number of Advanced Placement courses at the school likely are most effective for students with financial and other resources and less effective at encouraging larger numbers of more diverse students to take a more rigorous curriculum.

Very limited counseling resources to begin with, coupled with a school-wide focus on increasing achievement on standardized assessments, leave little time or effort for systematic college-going programming. There are sporadic career/college orientations provided prior to senior year through GCIS, 9<sup>th</sup> grade orientation, and college/career fairs. But there is no integration of career interest exploration, educational goals, and the corresponding high school curriculum necessary to achieve them. Counseling is largely outsourced to the teachers through the teacher advisement system and the placing of college and scholarship information in notebooks in junior and senior classrooms. Some of the teachers at this school explained ways

that they incorporate college encouragement into their courses but there is no systematic training on college counseling for teachers and none of the teachers interviewed felt that they were knowledgeable about financial aid issues. A teacher explained:

I mean I would say that the communication between the top people and the teachers is not (and guidance could be lumped in with the top people), there's not a lot of communication there so therefore we're not as informed. Even when we switched to the advisement and the idea was to make that better, it didn't.

Thus students are being guided in their early college exploration by teachers who are self-reportedly not prepared to do so along with college literature in the guidance office or placed in notebooks in classrooms. While the school is making efforts to orient its population to the higher education and policy environment, its predominate population served and the onus of the school to satisfy K-12 standards leave too few resources to increase college-going efforts. The mass communication and just-in-time efforts employed are sufficient for the more affluent constituents of the school who are in the minority but are unlikely to encourage college going for those not already oriented toward it.

### **California Findings**

Table 4.1 shows the characteristics of the California schools visited. All three schools are located in mid-size cities with a public community college in the city. The high resource school has a University of California institution in town and is less than an hour from the nearest California State University institution. The middle- and low-resource schools are about an hour from the nearest University of California institution and a half hour from the nearest California State University. The low-SES school is a Title I school with 37% of its 3,803 students eligible for free and reduced Lunch. The middle-SES school is also a Title I school with 20% of its

2,583 students free and reduced lunch eligible. The high-SES school is not Title I and only 11% of its 2,273 enrollment are free and reduced lunch eligible. The percentage of students at the three schools that are Asian or black is about equal and low but the percent Hispanic range from a high of 78% at the low-SES school to 29% at the high-SES school. In terms of test taking, the percentage of students taking the SAT, average SAT scores, and percentage passing the state-mandated math and reading exams all rise with the SES served by the school. The percentage of students at these schools that go on to California public colleges ranges from 39% at the low-resource school to 48% at the middle school to 71% at the high-resource school. The highest student-to-counselor ratio was at the low-resource school (475:1) followed by the high-resource (455:1) and the best ratio was at the middle-resource school (369:1). All three schools had a designated college or career coordinator and the low- and medium-resource schools, but not high, had a college or career center.

All of the high schools visited in California offer the following programs and activities designed to foster college-going: Advanced Placement courses and fee waivers for low-income students, announcements about scholarship opportunities, financial aid meetings conducted in both Spanish and English, a career/college center, and attention to getting school courses approved as part of the state's four-year college requirements (A-G requirements). Furthermore, all schools have an Upward Bound program and participate in CAL-SOAP (the California Student Opportunity and Access Program) which is a program consisting of consortia of high schools, colleges, and community organizations designed to improve the flow of information about postsecondary education and financial aid while raising achievement levels of targeted students through advising, tutoring, parent outreach, and college awareness workshops.

The low-income serving school in California has some unique college-going activities as well. Advanced Placement and Honors courses are open access due to a lawsuit a few years prior to our visit. This has increased the reach and nature of these courses. One teacher reflected:

And so now what you see in our AP classes is definitely representative of what we have here on campus, the minorities, the ethnicities. It's been hard for the teachers because they absolutely are having to provide some skills that aren't there. So they definitely have had to change some of their teaching styles as well.

The school has a strong AVID (Advancement Via Individual Determination) program. This program funded by the state is a college preparatory program for students of medium academic achievement who are often economically disadvantaged and underachieving. It enables disadvantaged secondary students to succeed in rigorous curricula, enter mainstream activities in school, and increase their opportunities to enroll in four-year colleges (<http://www.cde.ca.gov/ci/gs/ps/avidgen.asp>, 11-4-07). Parents noted the effect of the program, with one Spanish-speaking parent saying through a translator, "AVID really motivates and encourages students to think about going straight to the 4-year university." The program at this school is larger than the middle-income serving school and is conducted in the morning prior to the school day rather than in place of another class during the day to prevent students from losing their electives. Due to the large size of the program, tutors had to be recruited from other students at the high school. This has had the consequence of disseminating college information to AVID tutors as well as participants. One of the counselors explain that the aim is to spread the benefits of the program to all students in the school:

But our goal is to AVID-ize this school, and I've spoken to the superintendent about it. Everybody has Cornell notes, everybody has the Socratic method, and so on. Because what the guidance techs do for their kids who are not in the AVID program, and they have a greater number of counsel... clients, but they provide the same services, so we've had equal access. We're very much aware of what (the AVID counselor) does with AVID and we want the same services. (The AVID counselor) comes to all our guidance meetings.

The college and career center at the school is staffed from 7:15 a.m. until 8 p.m. to facilitate parents coming in during the evening and has resources to which students may not otherwise have access such as computers, a phone to make long-distance calls, and a fax machine. The college center director explained:

The college center kind of evolved because of our parents into something that took on a life of its own. So I come in about 7:15 in the morning, and often I'm here until between 7:00 and 8:00 because our parents will come in. And the only time they can get in here is after 5 and 6 o'clock.

This center in addition to the usual college information also has a bulletin board of student college acceptances and another student-initiated bulletin board for alumni to come back and post messages of encouragement to current students. The center director also makes efforts to broaden the reach of the center:

(I) see them kind of lingering outside the door, and looking in and wondering, what is this all about. Then I'll just run out there and grab them and bring them in and say, welcome to the college center, and what are your plans, and start a

dialogue with them, and find out what their needs are. They need to talk to a college counselor just to get them interested in starting it.

Both the college center and AVID grew out of the recognition by the principal a few years earlier that other similar schools were better at sending students to college.

The school deals with counselor constraints and the fact that guidance technicians are not paid for activities after school by employing full-time an intern counselor from the closest University of California institution. Nevertheless, student course counseling for rising sophomores and juniors occurs in class groups rather than individually. During senior counseling sessions, every student fills out the form to apply for the CalGrant, the state's need-based grant program. The college counselor explained:

This year AVID gave us some money to make sure that we were hitting every single senior, which we do when we go into the classroom, and we have everyone that we can find fill out the actual Calgrant form, and then we do an electronic transfer. We send it to the California Student Aid Commission to make sure because that's a lot of money as well.

The counseling load is also shared due to the fact that teachers who teach either AVID or AP courses go to financial aid conferences to be knowledgeable and most of the teachers we spoke with see educating students about financial aid as part of what they do. When asked what she would do if a student came to her with a financial aid question, a teacher replied, "I sit down with them. I go over what I can and when my ability to help them stops, I send them to various places on campus." She said she gets her information predominately from the college center and sometimes on line. The school also has a person specifically for researching and disseminating scholarship information. A teacher touted this asset:

We have the college center here and we have the scholarship center with Jan Campaign, and she (is) wonderful and like clockwork she sends out everyone the list of scholarships. She's active. She is on top of it. And our kids are writing scholarship applications.

Finally, the school offers a small-group debriefing for students who take the PSAT to help students understand their scores and how to improve.

The school also has a unique approach to its after-school college-going programming. At its financial aid night, the school offers the opportunity for students and parents to get one-on-one assistance. The intern explains:

When I first started they were doing financial aid. We did a lot of financial aid and we had a lot of financial aid workshops, and we stayed open until eight, nine o'clock. We were here until the last student left. So if the student left at ten, we would leave at ten, yeah, with the student. We had a lot of parents coming in and each family, it's so different, and each family has such different questions so we did a lot of that.

The parent meeting aimed at disseminating college-going information is characterized as an "event"; a representative from every academic department at the school is present as well as some alumni to talk about their experiences in college. Teachers who have children in college are also on hand to talk with parents. One of the counselors related:

We bring in the staff whose kids are at college and parents can talk to parents.

And I think that's a major, major link to get the kids out of here and feel comfortable at San Diego, at a major university.

The school Parent Teacher Student Association (PTSA) conducts a silent auction with part of the proceeds going to provide scholarships for students. The school also takes students on college trips both near and far funded by AVID, Title I, and student fundraisers.

The school serves as the intermediary for the state higher education and policy environment for its students in a number of ways. The school has employed state funding for AP teacher training to increase its AP offerings. When asked about the AP program at the school, a teacher said:

And it's expanded tremendously over the last six years. And when you say expanding, that involves a lot. That involves money to send people for training. We had a grant that ran out. It was a grant we got from the state that helps support increasing your AP courses, and money to send people to conferences. So we used all that, so now we have staff – Calculus, AP Physics, multiple sections.

It has maximized its AVID program to deal with the large number of disadvantaged students it serves. It employs AVID funding to facilitate college trips as well as meeting with every senior to have them fill out the Cal-Grant application. It uses the day for state high school exit exams as an opportunity for seniors to take the community college placement exam. There is also a good relationship between the school and the local community college. A guidance technician explained:

And then we also have a representative that's here I think like twice a week that comes in from (the community college) to answer any questions. So we know that they're here and if an issue comes up with a student, we send them to the counselor.

One conspicuous absence, when compared to the two higher-income serving schools in the area, is that the low-income serving school does not counsel incoming freshmen with a comprehensive plan of courses that is tied to the state's A-G requirements for four-year institutions. Several students commented on the need to meet with counselors earlier to figure out a plan and take the right courses. One noted that the burden is on the students to find out what classes to take:

It's not like our counselors come to us, so we have to like make time to come over here and find out everything and know what classes we're going to take, and like what you have to get, and like all that stuff, and the scholarships if you need them.

The school also goes to great lengths to celebrate the college-going efforts and successes of its students. A guidance technician explained how the school recognizes those who apply to college in a senior medal day:

They come up and they read every college they got into, and then the student announces what college they will attend to the rest of the group. The guidance technicians are there. The guidance technicians have the medal and they put it around their neck. And so everybody is participating in the celebration and they wear this with their cap and gown.

Furthermore, the school publicizes the college acceptances of students throughout the year:

The other thing that happens that's really wonderful is every Friday the principal reads off any new acceptances. And so the entire school is listening to where the kids are going, including the teachers. And I think that gets everybody pretty jazzed to know that somebody has gotten into Cal Tech or that we have another student in Harvard, or another student into Stanford. That's pretty exciting.

## **California Discussion**

Several years ago, the administration at this school recognized that it was not sending as many students to college as other similar schools and adopted an “any means necessary” approach to remedying this problem. This school created a college center and an AVID program designed to give early information about college and financial aid to all students, not those already likely to go to college. The college center is run in a way to encourage both student and parental involvement. It celebrates student success and provides a means for former students in college to come back and communicate with those aspiring to attend college. It is open long hours and has an open door policy for both students and parents. It has a University of California student employed as a counselor in the career center to overcome limitations of the guidance technicians employed in the district. This method of counseling has the advantage of being an actual college student whom high school students can meet and learn from. The AVID program is large and utilizes other students at the school as tutors so that it has an overflow affect on other students. Parents are incorporated into the college-going process through the college center, engaging evening college-going activities, and one-on-one assistance. The school takes students on low-cost or free college trips to institutions near and far and even includes parents on these trips. In short, the school has taken the initiative to ensure that their population of students and parents, most of whom did not go to college, get the college and financial aid information and support needed. The one-on-one assistance with applications and the long hours the college center is open are both intentionally geared toward assisting students’ whose immigrant parents are unfamiliar with the U.S. education system and work long hours for the community’s agricultural economy. These accommodations have been found to be important for encouraging parental involvement for low-income and immigrant parents (Rowan-Kenyon et al., in press).

The school functions well also as the intermediary for its population with the larger higher education and policy environment. In a need-based aid state, it informs students of the existence of this aid and facilitates them receiving it. Hands-on assistance is given with applying both for the CalGrant and for federal need-based aid. Furthermore, AVID and AP teachers are given financial aid training so that those closest to college-bound students have the expertise to assist them. However, if students are not in AVID, do not receive information from these trained teachers, and do not make it to the college center, they may not get the vital information that need-based aid is available to them early enough that it impacts their aspirations and preparation for college. Early systematic dissemination of this information is needed. One student noted the dedication of the counselors and college center but acknowledged their inability to reach all those who aspire to college:

The amount of people that are... like they say that they're inspirational and you know they're there for you and they're committed to the people, but there's not enough for the amount of people who really want to go to college.

The school capitalizes on state-funded programs to encourage college going such as early intervention programs and AP teacher training. For example, compared to the middle-resource school, the AVID program here has twice as many classes and is conducted outside the school day so that it doesn't reduce students' elective options and does not impact the size of other classes. The school also provides an opportunity for students to take the community college placement test. Research has shown that students often believe community colleges have no academic requirements (Kirst & Venezia, 2004). Having students sit for this test ensures that students have met this requirement and also gives them important information about their readiness for college.

However, while the school does these things to orient its largely less-affluent, first generation students to their higher education and financial aid options, it does less well in orienting all students to the state's A-G high school academic requirements for four-year colleges. There is no general mechanism to tie students' career aspirations to the postsecondary education needed and what curriculum must be taken in the high school to achieve these goals. The high-resource school in California has its rising 9<sup>th</sup> graders select their track of courses by their intended college destination. The middle-resource school has 9<sup>th</sup> graders create a six-year plan that directs them through two years after high school and the guidance technicians explicitly use these plans in their yearly one-on-one meetings with students. No such structures exist at the low-resource school where counseling occurs in class format for rising sophomores and juniors. Knowledge of the required curriculum for the state's four-year institutions must be provided early in the high school career to facilitate academic preparation. These findings are consistent with those of Kirst & Venezia (2004) that knowledge of college admission requirements varies by type of school attended.

### **Florida Findings**

The three Florida high schools visited are located in a large city that is home to a large community college with some four-year degree programs, a large public university, and a large private university. The three high schools (See Table 4.1 for characteristics) range in size from 2,002 students at the low-resource school to 3,633 at the middle-resource school. The low-resource school is 46% black and 53% Hispanic and has 76% of its students enrolled in the free and reduced lunch program. The middle-resource school has 1% Asian students, 9% black students, and 78% Hispanic with 39% of students participating in free lunch. The high resource school is 5% Asian, 15% black, and 32% Hispanic with only 14% of its students free and

reduced lunch eligible. The percent of students taking the SAT, the average SAT score, and the percent passing the Florida Comprehensive Achievement Test math and reading portions all rise sharply with the resource level of the school. While the proportion of students going on to public colleges (Table 4.2) in the state only rises moderately moving from the low to high resource school (53%, 63%, 66%), the number going on to four-year colleges climbs much more steeply (11%, 24%, 37%). The counseling resources at the three schools are very similar with student-to-counselor ratios ranging from a high of 501 to 1 at the low-resource school and a low at the middle-resource school of 404 to 1. All three schools, although they do not have a college center, do have a designated college advisor provided through a district-wide program. This program allots a full-time college counselor to each school in the district and provides these counselors with training and other resources.

All of the high schools visited in Florida offer the following programs and activities designed to foster college-going: Advanced Placement and Honors Courses, a financial aid night, opportunities to take the state's community college placement test, and an early emphasis on how to qualify for Bright Futures, the state's merit-aid program. All schools in this district have a full-time designated college guidance counselor who helps to educate students about college going and financial aid and assist with these processes. The duties of these counselors include such activities as one-on-one counseling, talking to classes about college going, helping students fill out applications, and providing scholarship information. These counselors receive special training from the district and as much as possible are free from other counseling duties. All schools visited in Florida also have implemented a career portfolio program predominately through English classes which gives students an opportunity to explore their career interests, learn about educational avenues to reach these careers, learn about college and financial aid,

keep track of information and activities useful for applications and resumes, and develop skills in writing. The career portfolio gets updated throughout students' high school careers. Finally, the Florida high schools all participate in a variety of college outreach programs for disadvantaged youth such as Upward Bound, Partners in Progress, or College Reach Out Program.

The Florida low-income serving school has some unique characteristics. In addition to AP and honors classes, the school also offers an Academy for International Business and Finance that is a magnet program for the district. A few students spoke of how this program has motivated them to attend college; one said: "It also made me think about going to college; it also made me want to succeed in college." Dual enrollment opportunities, in addition to students taking courses at nearby colleges, also include psychology and sociology courses taught at the high school that carry college credit. The school is implementing a program to pay for the PSAT for all students and a summer PSAT program is currently provided for students identified as talented. The school has failed to meet AYP for the last couple of years and has received low state report grades. Therefore it has been required by the district to take steps to improve including an extended school day, extended school year, and the loss of all electives for students who have not met Florida's Comprehensive Assessment Test (FCAT) standards. The counselor explained some of the provisions:

So all the schools that have had at least two marks of D or below are in the (the program). Which comes with we are in school an extra hour; most high schools get out at 2:30, if you're in the (the program) it's 3:30. Schools are going to be out June 2; we're in (the program), we get out June 10. Schools will start like August 1 next year; we start July 25. So we have ten extra days of school, an hour each day. They have given us, you know, some extra pay for that. As far as

professional development, we're required to do... Like, (the program) started January, the actual implementation of all this. We had to do 28 additional TEC professional development hours. For next school year it's going to be 60, on your own time, non-school hours. Academic improvement plans, teachers have to write out a plan for each student. I mean, the paperwork is immense, you know, so teachers have options to transfer out.

All students in ninth and tenth grade are in special reading classes designed to improve scores on the FCAT and only if they have passed FCAT can they participate in electives such as SAT preparation and dual enrollment. The school offers extensive tutoring opportunities in after school, Saturday school, summer school, and "thirteenth year" programs which are geared toward passing the FCAT.

The college counselor at this school provides the same services as those provided at the other Florida high schools in our study. In addition she puts on a forum of college-attending alumni for the current seniors. She conducts financial aid workshops for all classes of seniors that actually puts the FAFSA and the Florida student financial aid application in their hands and walks students through filling out all portions except the family income section. She explained this process:

No, it's not optional. It's done through the classroom. I bring them in the library and I keep them here for two hours. So one is I do a presentation, it might be PowerPoint, whatever, and we go through everything. Then they physically get a financial aid, I mean, it's almost like a class project that they have to do and I make them fill it out, so when they leave the only part that is missing is the income information from their parents, or theirs if they worked. So they have a

completed form. And then I try to encourage them to do it on the internet, so once I do my workshop and we do the form, I take them on the internet and they have to apply for a PIN number for them, and I say the same process you have to do with your parent. You know, and I explain the electronic signature. We go through the whole kit and caboodle.

She has gotten approval from her principal to next year start class presentations and individual meetings with 9<sup>th</sup> graders rather than 12<sup>th</sup> so that students will have the right courses needed for college. Some of the services provided by this counselor, however, aren't so much programmatic or systematic as they are her doing whatever it takes to get students aspiring to college to achieve that goal. This ranges from filling out applications with students and taking students on college trips to driving students to their college once enrolled. Students at this school aspiring to college view this counselor as their lifeline. As one 11th grader said:

And then the (college advisor), she helps you out, like, she helps you out with community hours, she helps you out getting your SAT scores, your ACT. She basically helps you like your parent would and gets you everything you need, and they're telling you scholarships, scholarships if you don't have the money.

They're telling you basically everything you need to do. They give you everything you need so you can basically, even at the last minute they're willing to help you just so you can go to school.

This school's ability to serve as an intermediary for the higher education policy environment is eclipsed by its required efforts to bring the school up to state and federal K-12 benchmarks through improving scores on the state standardized assessment, the FCAT. Several

participants argued that the state requirement to pass the FCAT to earn a diploma keeps students from continuing their education. The college counselor noted:

Like, we have a class of about 330 kids. As of right now... probably 150 of them, maybe half or a little bit more, have not passed this FCAT, so that means they won't get a high school diploma...Most of the problems tend to be, you know, getting a high school diploma is one of the main things that they don't go on.

Others expressed the detrimental effect of eliminating electives, particularly vocational ones, in favor of FCAT preparation. A teacher lamented this:

We used to have tons of vocational programs here... We lost a lot of them as a result of becoming a (program) school, and I think that when you take away those types of opportunities from the kids in a sense you limit them because there is only so much that we as counselors or our career specialist can do with regards to career exploration. There is only so much that teachers can do in the classroom with regards to career exploration. The best way for a student to learn is to actually be in it.

The counselors disseminate information early and often about the state merit-aid program, Bright Futures. When students were asked who knows about this program, one replied, "Everybody—they make that a must." Counselors also introduce students to the state-sponsored career and college web portals Choices and Facts.org. The college advisor at the school also introduces all senior students to the variety of need-based assistance programs provided at both the federal and state level. The school takes all students to the nearby community college on field trips when they are juniors and seniors to have them take the practice and real College Placement Test which is required for students to attend a Florida community college if their SAT

or ACT isn't sufficiently high to exempt them. One of the counselors explained the benefit of this practice:

We try to get most of our students to take it. I schedule a field trip with (the local community college) where we bus them over, starting in their junior year, which they do a practice test—it's called the PASS, it's a practice to the CPT. That way they can see where they stand, and they offer workshops over the summer and things so we try and encourage them, go to these workshops, you know, so that your senior year... So it's available for all of them to take it. And we schedule it by senior classrooms, English, in 11th and 12th. So their 12th grade we do take them over.

### **Florida Discussion**

This Florida school is structuring some of the basic activities necessary to facilitate college going for its students. Early on students explore careers and learn about postsecondary options and scholarship opportunities through the career portfolio model, although there seems to be some unevenness between teachers in how thoroughly the portfolio is maintained. The program affords an opportunity for all students to learn about postsecondary options and to begin the process of preparing to apply for whatever their future holds. At its best, this method gives students confidence in narrowing down careers and understanding postsecondary processes. One student extolled its benefits:

...she helps you do a college portfolio, and she gives you like self-assessments, things that you're interested in, things that you would like to do, actually encourages activities that you're in, and she helps you like when you're down to

like three or four maybe careers that you could get interested in, and it's easier for you to pick something you're interested in.

Another said:

She's given us the college career portfolios, and then what we do is we build on. She gives us a list of words, definitions, spellgrams and all that, then she explains to us each one, what they are, how we're going to use them, financial aid. She's actually going to give us the applications for financial aid so we can fill them out ourselves.

Unlike many schools that offer a careers course in 9<sup>th</sup> grade, the ongoing career portfolio engages students throughout their high school career with postsecondary processes and holds them accountable for building up these skills. Future research is necessary to determine whether a 9<sup>th</sup> grade careers course or the career portfolio is more effective in educating students about their options and having them systematically work toward their goals. Unfortunately, at this school there was not a mechanism that integrated the career portfolio with the advisement that students receive in selecting their courses each year. A teacher criticized the school's method of disseminating course requirements for graduation and college admission in a group format.

At the beginning of the school year they do an orientation where they... do 9th grade, 10th grade, 11th grade, 12th grade orientation where they get the whole \_\_\_\_\_ and they kind of list the requirements to the kids then on an overhead projector. First of all, they're not going to remember all that stuff. And second of all, I mean, it's the beginning of the year, it's boring, there are a whole bunch of kids in there at one time, which is a bad idea because the more kids you have in there the less likelihood there is that they're actually going to pay attention and

listen...So...that's pretty much the school covering itself, saying, okay, this is what you have to do to graduate and this is what you have to do to go to college, and that's it. You don't really hear anything else about it \_\_\_\_\_.

Teachers also complained about student lack of awareness of the requirements to go to college:

You know, well, you can ask that but they won't know the requirements for going to the University of Georgia. They won't know the requirements. You know, 'Oh, I need four years of English? Oh, I do?' Or, 'I need four years of foreign language? Oh, I do?'

Integration is needed so that teachers in all subjects are aware of student postsecondary goals and advise students accordingly.

All students at the low-resource Florida school have access to a counselor who is completely dedicated to college access. This model of one college counselor whom students identify with and depend upon is in keeping with the literature on early intervention programs which highlight the critical need to have students in contact with a caring adult who supports their education over a sustained period of time (Gandara & Bial, 2001). As they near the end of their high school careers, all students are given hands-on experience with financial aid applications, visit a community college, and sit for the requisite community college placement test. Facilitating these activities is especially appropriate for a population of largely would-be first generation college goers. These efforts were to be enhanced the following year with PSAT waivers that will help begin the flow of information to students from colleges early in high school. Furthermore, the college advisement counselor was to begin counseling ninth graders. This will make the necessary linkage between the career portfolio, college information, and academic preparation for college. These two steps are especially important at low-income

serving schools, as noted earlier, where students are less likely to have parents with first-hand experience with higher education and preparing for it. Having a specific college counselor may be of limited impact if up until senior year, only those students with definite plans to attend college and the initiative to make an appointment get support and guidance. Research has shown that ample college-going resources without the commitment to distributing these resources to all students may be particularly detrimental for students on the margin of two-year attendance (Hill, 2008). The middle- and high-resource schools studied in Florida already begin systematic group outreach to the lower grades and offer one-on-one assistance by the end of the junior year. The low-resource school's plans in this direction are laudable and necessary.

The school's early and consistent emphasis on the state's merit aid program, Bright Futures, suffers from the same liabilities as the focus on the HOPE in Georgia. The Florida high school has the advantage of a counselor totally dedicated to informing students who know they want to go to college about all funding mechanisms. The problem with how this system works currently is that not *all* students get the information about financial aid early enough to support a belief that higher education is affordable even without Bright Futures. This limits the number of students who academically prepare for college (ACSFA, 2008). Again, the more systematic counseling of students from 9<sup>th</sup> grade will help and should include information about need-based aid as well as merit.

This study identified two major issues facing this school. The first is the low parent involvement in these processes. This dynamic was evidenced by our discussions with the students and staff in the school as well as our inability to get a group of parents to attend a focus group for our research. Counselors perceived that parents encourage students to pursue higher education but when asked if parents were involved in this process, the answer was no. A teacher

stated, “We have, no matter what we do, we can’t get the parents, and that is huge.” This dynamic seems to be taken as a given and the college advisor tries to fill in for this lack of parental involvement in a myriad of ways.

The second problem is the curricular and co-curricular restraints this school is under due to its embattled AYP status and characterization as an F school by the state. Results in terms of test scores of the interventions to improve achievement were not yet available but many students and teachers commented on the low morale due to extended day and school year as well as removal of all electives for underclassmen. Many felt that these interventions push marginal students further away from interest in education. A student expressed this:

...before we took the F-CAT everything we did in class revolved around the FCAT. They put pressure on us and all that. And then they started putting an extra hour, so they put more FCAT stuff on and they started to stress out the kids. And really, I think that makes the kids fail more, because they’ve got so much pressure on them. They’ve got to pass regular school, and then they’ve got to pass the FCAT just to pass. And they put pressure on them and make them fail even though they had the potential to pass and go on to college. The FCAT just holds them back.

The interventions are made at the district level and are out of the hands of the school until progress is made on the FCAT.

This school has no choice but to serve as the intermediary between its educationally challenged population and the state and federal K-12 regulatory environment. While the school provides students with the information needed to understand and negotiate the state higher education and financial aid environment, the connection of early exposure to higher education

information to academic and college counseling throughout the high school career for *all* students is lacking. The impending shift in focus of the college advisor to underclassmen should enhance the orientation of students to the availability of both state and federal need-based aid in addition to the Bright Futures scholarship. Again, however, parents are not included in these processes.

### **Synthesis and Policy Recommendations**

Applying Bronfenbrenner's ecological systems theory to college access has shaped this study in its research questions, the method of analysis, and how we ultimately assess whether these low-income serving schools are successfully fostering college going for their population. The model requires that we look not just at titles of people and programs, but what processes occur in these schools to facilitate the development of college-going behaviors. Furthermore, it demands that we assess whether these processes are appropriate for the population involved, the students, the families, and the relationship between the two. The school must structure the student-school microsystem in relation to the student-family microsystem that already exists. Finally, the school, as the intermediary between the higher education and policy environment, and the student and her family, must educate students about this context and help them negotiate it with an eye to their unique circumstances.

The application of Bronfenbrenner's theory to the college-going processes at these low-income serving schools highlights several dynamics. First, parental involvement is an acknowledged challenge for these schools and each is at a different point in addressing this problem as it relates to college going. The California low-income school is succeeding by making the career and college center available from early in the morning until late in the evening, making college nights community events, taking some parents on college trips, and

offering one-on-one parental assistance with financial aid. This school seeks not to replace parents but to make them part of the process. A teacher at the school explained the college counselor's efforts:

She has I think really promoted parents becoming involved, becoming advocates, even when it makes us a little uncomfortable. Challenging us if the student is not in the right classes, yet needs them to get into the university. She'll take out the transcript of the kids and say this kid is not in the right classes. And so the parents have become quite involved.

This is a core tenet of Bronfenbrenner's model of how social services should function. The Georgia school has a small cadre of more affluent and/or college-educated and involved parents, not surprisingly, the ones who showed up for our focus groups. The school was trying to implement reforms such as a 9<sup>th</sup> grade academy and High Schools that Work, both of which have components to support the goal of broader parental involvement. The Florida school seems to have adopted the strategy of trying to supplement what students aren't getting at home with the herculean efforts of a very dedicated college counselor. While this may be effective in some aspects, lack of parental involvement in college-going processes likely still operates as a deterrent to first-generation students fulfilling their aspirations.

A second challenge for these schools is providing not just career exploration early in the high school career, but linking this to college information that will guide curricular choices and academic preparation. Career exploration must also be tied to financial aid information about the state's predominate aid mechanism as well as all need-based aid at both the state and federal level. Structuring of early and consistent mechanisms to integrate these concepts is necessary for students who may not be likely to aspire to or prepare for college if they do not perceive that

they can afford it and do not have family members in the careers they aspire to or who have gone to college. Where students are unlikely to have knowledge through family and friends about the nature of the higher education environment, how to prepare for it in high school, and other relevant policies, schools should provide this connection for all students. Recognition should be made of the level of college-going information in the families served by the school and information dissemination processes organized accordingly.

McDonough found that school counselors tend to present limited views of opportunity based on the population served by the school (2004). This reinforces rather than broadens the student's view of what is possible based on their family background and thus reproduces stratification of postsecondary opportunity. Schools should systematically structure the college-going processes that orient students to the whole array of educational options and the policy environment, including financial aid, designed to facilitate college going. No school seems to be doing a perfect job at this but there is promise at the Florida school. It conducts a yearly career portfolio that includes college and financial aid information and is moving to shift more of its college counseling activities to underclassmen. The application of these activities to course advisement, however, is unstructured and needs attention. At the California school, students in the AVID program are given ample support and guidance. Students and/or their parents who come to the college/career center and seek counseling also get a wealth of information and assistance. What is lacking is structured information and guidance for all students. The Georgia school's efforts are spotty, uncoordinated, and provide little sustained support to students. A recommendation utilizing the positive aspects employed at these schools suggests the need for career exploration integrated with postsecondary and financial aid information for all students

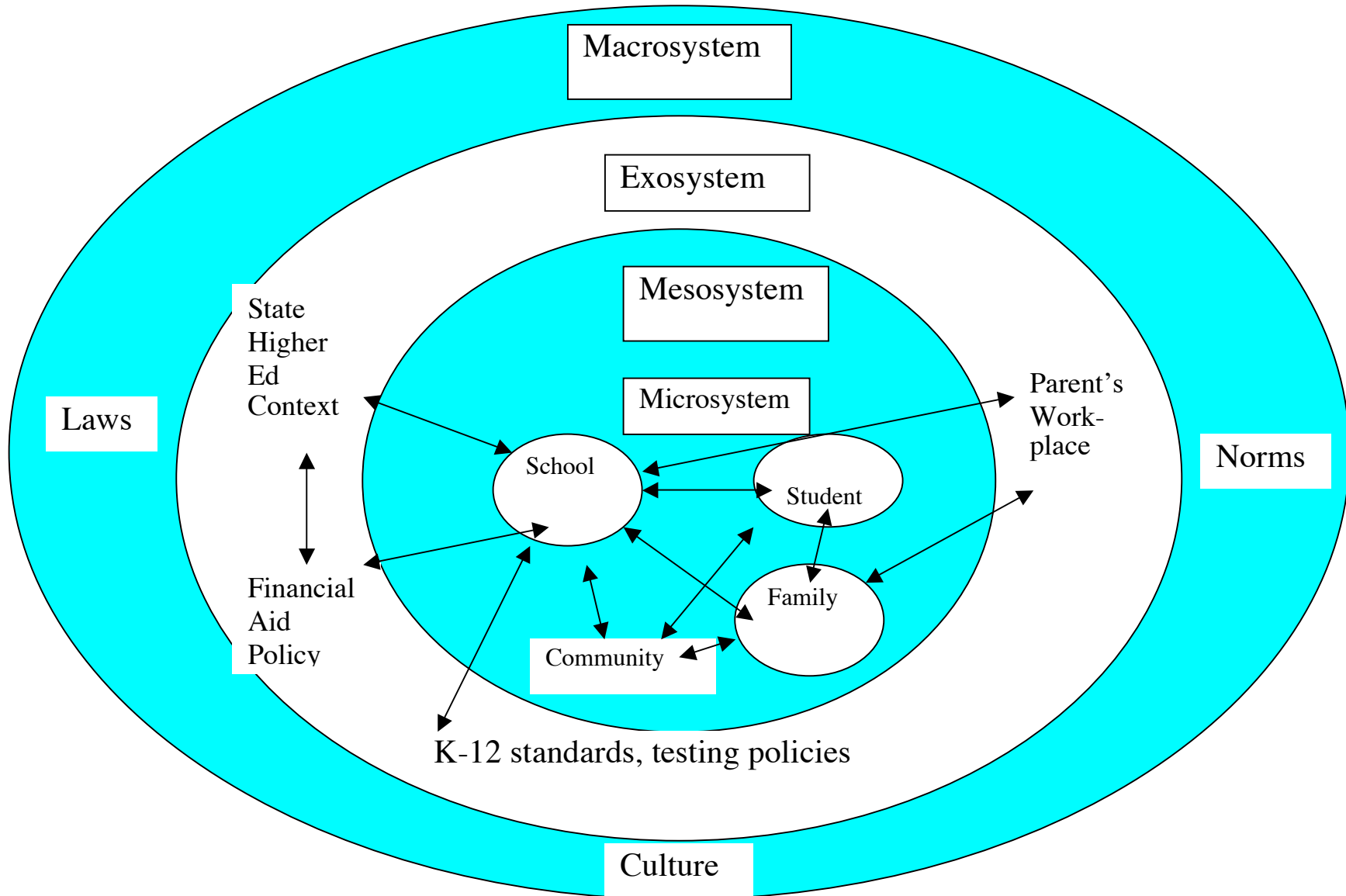
that starts early, occurs throughout the high school career, and takes proactive steps to include parents in this exploration.

Finally, Bronfenbrenner's model alerts us to the tensions these schools face in serving as the intermediary between students/families and the policy environment of the exosystem. For two of these schools, the school's role in meeting K-12 accountability requirements with their population takes over the school's culture and supercedes the role of promoting college access and paying attention to the higher education environment. Passing the test trumps college-going activities. Schools have no choice in whether they respond to NCLB and so finite resources are expended in that direction. Future research should explore ways in which embattled low-income serving schools can simultaneously meet accountability needs and orient all students to their postsecondary options. A model supported by this research as well as that of others is the AVID program implemented in California schools. This program integrates college and aid orientation with academic enhancement for mid-level students. There is a writing focus at the California school we studied but activities could be adapted to other academic areas such as reading, the focus of the Florida school's extended learning opportunities. College orientation and academic enhancement can be mutually reinforcing. From a policy perspective, the sacrifices schools must make in postsecondary encouragement to dedicate resources to test preparation should be noted. Resources should be allotted to schools to assist in their test preparation efforts so that resources are not drained from other school goals (Perna et al., 2008). Finally, reformulations of NCLB should consider accountability criteria that assess (and thereby encourage) the extent to which schools inform their students about and prepare their students for postsecondary education.

## **Implications**

This examination of the college-going processes at low-income serving schools through the lens of ecological systems theory has implications both for academics as well as educational policy makers and practitioners. Research into college access is furthered by seeing the forces that influence college going, such as family background, school context, and policy interventions not as fixed, separate impacts but as part of a dynamic system. Schools play a vital role in this system deciphering the higher education and policy environment for its unique population and assisting the types of families they serve in taking advantage of college encouragement policies. Research that does not take into account the unique demands of low-income serving schools in assessing the outcomes of access policies is missing a vital factor influencing the reach and ultimate success of these programs.

Policymakers in developing access programs must not assume that because state programs exist that students know about them or are given the tools to access them. Either special attention must be devoted to mechanisms that take programs directly to students and their families or find ways to compensate for the challenges that low-income serving schools face in providing students access to programs. Without this provision, programs will continue to benefit least those who attend the most challenged schools. This gives the impression that the programs themselves are ineffectual and perpetuates the existing inequity in college-going outcomes by school. School practitioners, when planning college access programming, must recognize the gatekeeper function they serve to higher education information and services, especially for families with little prior higher education experience. College programming should: start early; proactively and systematically reach all students and their families; and be tailored to the needs of the families served.



**Figure 4.1.** Conceptual Model of Bronfenbrenner's Ecological Systems Theory Applied to College-Going

**Table 4.1.** Characteristics of Participating Schools, 2003-04

School	Title I Status	Number Students	% Asian	% Black	% Hispanic	% White	% Free or Reduced Lunch	% seniors taking the SAT	Average SAT score	% passing state High School math exam	% passing state High School reading exam
CA Low	Yes	3,803	6	2	78	13	37%	22%	873	67%	62%
CA Middle	Yes	2,583	6	1	33	56	20%	33%	1039	87%	83%
CA High	No	2,273	8	2	29	60	11%	56%	1135	89%	90%
FL Low	Yes	2,002	0	46	53	2	76%	25%	795	46%	25%
FL Middle	No	3,633	1	9	78	12	39%	57%	993	74%	51%
FL High	No	3,425	5	15	32	47	14%	74%	1062	87%	69%
GA Low	No	971	1	28	1	71	36%	56%	932	88%	89%
GA Middle	No	421	1	16	3	80	28%	60%	1077	94%	93%
GA High	No	1,851	3	6	3	89	11%	80%	1077	98%	97%

Sources: Common Core of Data, Census 2000; State Department of Education Website

**Table 4.2.** Postsecondary Plans and Enrollment at 15 Study Schools

Study School	% 12 <sup>th</sup> graders going to: (documented decisions)		% graduates going to: (actual enrollment)	
	Four-year	Two-year	Four-year	Two-year
California Low	9%	26%	10%	29%
California Middle	10%	35%	10%	38%
California High	20%	48%	21%	50%
Florida Low	8%	31%	11%	42%
Florida Medium	25%	40%	24%	39%
Florida High	34%	27%	37%	29%
Georgia Low	21%	3%	26%	3%
Georgia Medium	42%	1%	46%	1%
Georgia High	58%	3%	62%	3%

Sources: California Department of Education, Florida Education and Training Placement Information Program, University System of Georgia High School Feedback Reports, State Department of Education Websites

**Table 4.3.** School Counseling Resources at the 15 Study Schools

School	Number of Counselors	Number of students per counselor	Designated College or Career Coordinator	Designated College or Career Center
California low-resource	9	475	Yes	Yes
California middle-resource	7	369	Yes	Yes
California high-resource	5	455	Yes	No
Florida low-resource	4	501	Yes	No
Florida middle-resource	9	404	Yes	No
Florida high-resource	7	489	Yes	No
Georgia low-resource	2	486	No	No
Georgia middle-resource	1	421	No	No
Georgia high-resource	4	463	Yes	Yes

Note: Number of counselors includes all staff with general or college-specific counseling or advising duties, including counselors, guidance technicians, and college and career counselors.

Source: Interviews with counseling staff at the high schools.

## **Chapter 5**

### **Epilogue**

I set out in this study to understand the way that local school context impacts college-going for low-income students. I did this by looking at the way that schools mediate between student background characteristics known to influence educational attainment on the one hand, and state policies designed to encourage access on the other. I have employed different types of data and methods with the hopes of capturing an important influence whose effects are difficult to parse out. Each of these papers has made a contribution on its own, but together they create a compelling picture about the importance of the school a student attends, in terms of who else attends that school, in the college-going behaviors of America's low-income youth.

In chapter two, I used NELS 88 data to model the contribution of school context over and above family background characteristics in explaining the outcomes of educational expectations, academic preparation, and college enrollment. Preliminary descriptives showed large disparities on all of these outcomes by both race and socioeconomic status of the students. The multi-level model incorporated race and SES of students in addition to a variety of literature supported human, cultural, and social capital variables at the student level. It also modeled measures of school racial and SES composition and school-level aggregates of the capital variables employed at the student level. These analyses showed the consistent and strong influence of student SES and prior academic achievement on all outcomes. Furthermore, measures of cultural and social capital (especially measures of the resources available to students through peers with high educational expectations and through parental involvement and interaction) proved to be important predictors of all college-going behaviors modeled. These findings show us the

salience even today of the early status attainment models which showed the influence of student SES, academic ability, encouragement from peers and parents, and educational aspirations on the outcomes of educational attainment as well as occupation and earnings (Sewell & Hauser, 1975, 1976).

My research also found, controlling for all of these other student-level variables as well as school context, that race still matters. Net of other influences, blacks had higher expectations, were less likely to be at the lowest curricular level, and were more likely to go to four-year institutions. Asian Americans were more likely to take college entrance exams. And Hispanics were more likely to be at lower curricular levels. However, that there were no effects for race on many outcomes despite descriptive findings to the contrary suggests that there are important differences by race in the other variables included in the model: SES, prior educational achievement, parental engagement, peer networks, as well as the types of schools attended.

The multi-level analyses also showed that after controlling for all of these student-level variables, there was still significant school-level variance in outcomes to be accounted for. Interestingly, despite my and others' descriptive statistics which show large differences in outcome by school racial composition, there were no effects by proportion of students that were black and only limited effects of proportion Hispanic or Asian American. This suggests that when the characteristics of the students in schools are controlled for, racial composition doesn't matter as much. However, it has been shown that high minority schools tend to be those schools most challenged in terms of the student-level variables modeled here (Orfield & Lee, 2005).

The multi-level models also showed that the average level of different forms of capital at the school level impacted the outcomes of the students within them. While the average human and cultural capital measures were of limited effect, the school-level social capital variables were

strong. The average levels of social capital available through parents interestingly had impacts on the pre-enrollment outcomes of student expectations, course taking, and SAT/ACT taking but had no effect on actual enrollment. This supports the findings of Perna and Titus (2005) that these school variables do not effect enrollment but shows that they do affect other steps along the way to enrollment. More research is needed to understand this inconsistency. Nevertheless, the strong influence of parent involvement variables at the student level and their modest influence at the school level provides support for college programming which seeks to educate and include parents.

The strongest school-level variables, however, were those capturing the average number of friends reported at a school to have no, two-year, or four-year college plans. What students believed their peers were planning on doing after high school shaped academic preparation as well as actual enrollment. Furthermore, over and above one's own friends, the average number of friends at a school with postsecondary plans also influenced outcomes. This suggests that the individual peer networks that encourage (or discourage) college going have a spillover effect to the entire student body creating a school-level norm for what one does after high school. My findings support the research and recommendations of others to intentionally incorporate the creation of peer groups in college-going programming (ACSFA, 2008; Tierney et al., 2005).

The chapter two findings support policy and practice recommendations concerning peers and parents to encourage college going. They further existing research by showing, using one data set, the relationship between individual and school variables on the four consecutive outcomes of expectations, academic course-taking, entrance exam taking, and actual enrollment. They also provide support for aspects of Perna's multi-level model of college going which sees student decisions not just as the result of a student's family background characteristics, but also

as shaped by the local school context. The school is shown to matter in terms of who else attends the school as well as average levels of various forms of capital at the school. And yet there was still school-level variance left unaccounted for after including these school-level predictors. This suggests that there are still important differences between schools that shape college going and need to be explored. Future analyses should explore these same relationships in the more recent Educational Longitudinal Study of 2000.

In chapter three I sought to understand how local school context shapes college going from a different direction. Whereas chapter two looked at the interaction of student background and school context, chapter three addressed how schools shape access within different state education policy contexts. The three states, California, Florida, and Georgia were shown to differ substantially in their approaches to encouraging college going for their populations. Specifically, the states differed in the mix of program components, target populations, and implementation agencies employed. These different orientations were then shown to influence the extent to which the high school was involved in students accessing the different state programs. California's focus on academic preparation and knowledge, especially for low-income and underrepresented students through early intervention programs, was related to the greater involvement of high schools in students accessing programs. The greater focus on providing financial resources for college in Florida and Georgia, and in particular financial resources for students with particular career goals in Georgia, was related to the lower involvement of schools in students accessing programs. California had more programs that were actually implemented by K-12 schools. Nevertheless, all three states had a large number of programs that while ostensibly implemented by state agencies or higher education institutions, still were only accessed by students through their high school. This illustrated the integral role

that local schools play in students gaining the benefits of the programs designed at the state level to improve access.

The second half of chapter three looked at the college-going outcomes in these same three states of school-level Advanced Placement test taking and pass rates, SAT taking and scores, and two-year, four-year, and overall continuation to college. The high schools were divided up into quartiles in each state based on the proportion of the students that were non-white, and the proportion that participated in the federal free lunch program. These analyses showed that there were large gaps in all three states by the proportion of poor students at a school for all outcomes except for two-year continuation. Furthermore, these gaps were actually getting larger over the time period studied, from 1999 to 2004. The outcomes of the schools divided up by proportion of minority students were less disparate, not always in favor of the schools with the fewest minority students, and only increasing in a few instances.

These findings, like those in chapter two, show the importance of school context in shaping college-going outcomes, especially in terms of what population attends the high school. Whereas the NELS analysis provided a snapshot at one point in time of how school and background shape opportunity, the analyses of high school outcomes in these three states shows the more recent relationship between schools and college going and, more importantly, shows this relationship over a period of time. It reveals that not only are there grave disparities in outcomes by the predominate SES served by a school but that the inequalities are actually getting worse over time.

My analyses in both of these chapters lend support for other theories of educational stratification. The principal of maximally maintained inequality (MMI) was first espoused by Raftery and Hout (1993) and was used as the framework for a multi-nation study of educational

stratification by Shavit, Arum and Gamoran (2007). MMI is the principal that inequality between any two social strata in the odds of attaining a given level of education persists until the advantaged class reaches the point of saturation. It is argued that the advantaged group is typically better equipped to take advantage of any new and attractive educational opportunities and that class inequalities will remain or even increase as opportunities are expanded. Lucas nuances this understanding with his argument that through tracking, once saturation at a particular level is reached, inequality in the odds of attaining the level of education are replaced with inequality in the odds of placement in the more selective track (Lucas, 2001 in Shavit, Arum, & Gamoran, 2007). Lucas primarily deals with tracking as disparate course tracks in high school but this concept can be applied to different “tracks” of higher education, namely two-year institutions vs. four-year institutions. Roksa, Grodsky, Arum, and Gamoran in their chapter in Arum et al., (2007), predict that because no group has reached higher education saturation in the U.S., there will be no reduction in inequality among those from different background despite policies implemented to improve access. Their analyses upheld this prediction. They also predict and the analyses bear out that minorities will gain ground due to political mobilization, laws, campus initiatives, and improved high school graduation rates and economic status of minority groups.

My analyses in chapter three also provide support for these principals. We do not see an improvement in postsecondary access equity by schools serving different income populations. In fact, this disparity is growing. Both in California and Florida where numbers of students going on to higher education are relatively stable, and in Georgia where the number of students going on to college is increasing, the gaps by schools serving different income populations are growing. Furthermore, we see increasing stratification into the different “tracks” of higher

education. Students at higher-income serving schools are gaining ground at four-year institutions while those at low-income serving schools are increasingly diverted into two-year institutions of lesser prestige and likelihood of B.A. attainment. We also see support for the principals of MMI in the outcomes by racial composition of the school. The gaps by race are smaller and in most instances not growing.

Finally, in chapter three we see that these states have substantial policy efforts to improve college going and that these policy efforts differ in their approach to achieving this end. In keeping with tenets of MMI, we see very little changes in inequities by income in response to these policies. There seems to be a reduction in inequity in proportion of students taking AP tests in California in response to their intense focus on academic preparation for underrepresented students. There also is an overall increase in college going in Georgia that may be due to its substantial investment in financial aid for students. Nevertheless, despite these trends, the overall inequity between students at schools serving different income populations going on to higher education, especially four-year institutions, is growing. Finally, the inequity in outcomes not at the individual, but at the school level, gives us insight into a mechanism by which the maximally maintained inequality is brought about.

In chapter four, I tried to understand this mechanism. I looked at three schools in each state (California, Florida, and Georgia): one serving a low-SES population, one serving a medium-SES population, and one serving a high-SES population. Utilizing an adaptation of Bronfenbrenner's ecological systems theory as a more dynamic version of Perna's multi-level college-going model, I investigated: what the college going processes were, how appropriate the processes were for the students and families served, and how well the school served as a facilitator of students gaining access to state college encouragement programs. These analyses

highlighted challenges and shortcomings in the schools that serve low-income students. First, parental involvement, shown in my analyses in chapter two as well as that of others (Rowan-Kenyon, et al., 2008; Perna & Titus, 2005) to be vital in the development of college-going behaviors, was a challenge. While one school had made small efforts to encourage parental involvement and another sought to replace the benefits of parents through a college counselor, a third school completely structured its college-going activities with an eye to how best to appeal to parents and serve the types of families that attend the school.

A shortcoming that all low-income serving schools faced was creating an integrated, system of career exploration, college and financial aid information, and academic preparation counseling. While sporadic efforts existed at some schools, nowhere did activities begin early and continue throughout high school to provide the necessary support for all students. This is particularly important at schools where students are less likely to have the resources at home (financial, college knowledge, and otherwise) to facilitate college going. All of the high schools made efforts to utilize state programs designed to facilitate college going and to inform their students about the predominate financial aid mechanism in the state. However, two of the low-income serving schools were struggling to meet Annual Yearly Progress standards for No Child Left Behind. Measures both mandatory and voluntary to improve student scores on standardized tests formed the core of the focus at these schools and eclipsed other goals like improving college access and taking advantage of state college encouragement policies and programs. This ranged from actual limits on what courses were available to students until they had passed state tests to teacher and counselor reluctance to use class time for college focused activities. While the California low-income school had met AYP and did not face these challenges, its AVID program, which integrates college access activities into academic

enrichment, provides a model for how to not compromise college encouragement in the name of academic preparation.

In summary, chapter four illustrated how low-income serving schools have unique needs in terms of how much the students' families are able to support their educational aspirations with financial assistance, time to give to school activities, and knowledge about college-going processes and financial aid. Schools varied in how well they created structures to include parents in college-going processes and provide the information and support that students need throughout their high school careers. Finally, while schools tried to connect their students with the state policies designed to increase college going, they were hamstrung in their efforts to do so by the necessity of meeting accountability requirements. Putting these findings together, low-income serving schools attempted to facilitate students benefiting from state college access programs but were limited from doing so by: 1) more pressing NCLB demands and 2) lack of early, systematic college programming for all students. The fact that these schools serve the students with the most limited parental engagement and familial resources makes it all the more important that every state effort to encourage college going is employed and all the more damaging when these efforts don't reach students.

Thus each of these chapters contributes to what we know about how local school context in terms of school composition shapes the college-going behaviors of low-income students. Chapter two showed the powerful effects of student background on college going, but also the influence of the level of human, cultural, and social capital available in one's school. Chapter three showed that despite varied approaches to encouraging college going in three states, inequities in academic preparation and college access are becoming increasingly stratified along class lines, more specifically by the predominate SES at one's high school. Both of these

chapters point to the importance of school context in shaping college-going outcomes. Chapter four examines how this happens by showing the challenges that low-income serving schools face and how these schools, while maximizing their finite resources to encourage college-going, nevertheless fall short of comprehensive, systematic postsecondary exploration and support for all students. This hampers full utilization of state college access programs and policies, especially where accountability pressures take precedence.

This study is limited in its use in chapter two of a dated dataset to analyze the interaction of family background and school context as well as aggregated measures of school capital. Future research should use more recent data, a data set with larger numbers of students per school to increase statistical power for multi-level modeling, and school-level measures of human, cultural, and social capital that are not aggregates. Furthermore, attempts should be made to identify the school-level determinants of the remaining school-level variance in expectations, preparation, and enrollment. The qualitative analyses in school processes in chapter four point to some important school characteristics. The chapter three analyses are limited in the lack of reliable and consistent funding information for the state policies and programs. Furthermore, the use of only three unique states limits the application of these findings to other settings. Subsequent research in this area would be advanced by inclusion of measures of the funding and scope of the programs analyzed as well as incorporation of other study states. The qualitative analyses in chapter four are similarly limited in exploring only three schools in each of three states. This obviously limits extrapolation. The analyses of college-going processes at these schools also are not connected to any outcomes, only what is known from prior research and the participants' perspectives on program usefulness. Future work should hold up variations in

school college-going processes to actual data on the postsecondary attainment of students at those schools.

In spite of these limitations, this study moves the field forward by supporting the school context portion of Perna's multi-layer model of college going (2006). It shows that school context matters and nuances this understanding by illustrating how it interacts with family background on the one hand, and serves as an intermediary between students and state policy on the other. The study shows the continuing strong influence of socioeconomic status on college going and stratification in higher education but also sheds some light on how class privilege in educational attainment is enacted through the socioeconomic segregation of high schools. Finally, it offers some explanation of why SES inequities in college going are resistant to state college access efforts through its analysis of the college-going processes at low-income serving schools. Despite well-intentioned efforts there, the college-going processes at these schools are not early, systematic, or universal enough to inform and support all students in their postsecondary exploration.

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