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Program satisfaction, school climate perceptions, and psychoeducational experiences in college preparatory programs: A comparison of Caucasian and ethnic minority students

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Program Satisfaction, School Climate Perceptions, and Psychoeducational Experiences in College Preparatory Programs: A comparison of Caucasian and Ethnic Minority Students

by

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ABSTRACT

The current study focused on the extent to which participation in academically rigorous college preparatory programs, International Baccalaureate (IB) and the Advanced Placement (AP) particularly, impacts students from racially diverse backgrounds (Caucasian, African American, Asian American and Hispanic/Latino American). Student outcomes of interest included the program satisfaction, school climate perceptions (relationships with peers and teachers), and psychoeducational adjustment (academic and mental health functioning). The experiences of 381 college preparatory participants were also compared to 143 general education peers and subjected to a series of MANOVAs and ANOVAs. General findings indicated that, regardless of the student's racial identity, students in AP and IB had very positive experiences in terms of high academic achievement, healthy student-teacher and student-peer relationships, and no mental ill health (no stress, anxiety or depression). Limitations, implications and future directions are also discussed.

Keywords: advanced courses, high school, academic achievement, mental health, ethnic and racial group differences.

Chapter I

Introduction

In the United States, there are three main types of high school programs: the general education program, the vocational/ technical program, and college preparatory programs. Over the past several years, college preparatory programs have become increasingly popular, particularly, the International Baccalaureate and the Advanced Placement programs. For instance, between 2003 and 2008, there was a 74% increase in the number of students taking the International Baccalaureate examinations (International Baccalaureate Organization [IBO], 2008a). Likewise, there was a concurrent increase of 111% for the Advanced Placement program between 1997 and 2005 (National Center for Education Statistics [NCES], 2007a).

The International Baccalaureate (IB) program offers an academically rigorous curriculum that is available at the primary and secondary levels of education for students (IBO, 2007a). The IB curriculum currently exists in 2167 schools in 125 countries, with an enrollment of more than 582,000 students. The secondary level program is the Diploma program. The Diploma program is a rigorous two-year curriculum for 16 to 19 year old students that culminates in final examinations (IBO, 2007b).

Since its 1971 introduction into the U.S. educational system, the IB program has gained considerable prestige in the U.S. as one of the best academic programs (Gehring, 2001). Ivy league universities such as Harvard University, Brown University and

Stanford University recognize the IB Diploma as indicative of academic excellence (IBO, 2007c). According to Tookey (2000), the IB program is a good precursor to college since the structure and demand of the program prepares students for the inherent academic challenges that a student will have to successfully maneuver in order to complete a bachelor's degree. Graduates of the IB Diploma program have reported that they gained a strong work ethic, critical thinking skills, as well as organizational, time management and communication skills (Taylor & Porath, 2006).

The Advanced Placement (AP) program is a complementary academically rigorous secondary school level program that is intended to facilitate a seamless transition from high school instruction to college-level instruction (College Board, 2008a). Nugent and Karnes (2002) stated that the AP program originated in the U.S. It is currently offered in all 50 states and the federal district of Washington, D.C. (College Board, 2007). Similar to the IB program, some benefits of participation in the AP program include the attainment of advanced standing in college, such as "sophomore status" in over 100 higher education degree programs (College Board, 2008b). This often translates into making college more cost-effective for the student since the student will be required to take fewer courses at the college level.

Traditional U.S. enrollment in the IB and AP programs consists primarily of students who are Caucasian. For instance, of the IB Diploma program students who took exams in 2007, approximately 60.5% were Caucasian, 10.3% were Hispanic/Latino, 9.8% were African American, and 15.8% were Asian / Pacific Islander while 0.3% were American Indian / Alaska Native (IBO, 2007e). Of the students who took AP exams in 2007, 65% were Caucasian, 14.6% Hispanic/Latino, 7.3% African American, and 12.6%

Asian American, with 0.5% Native American (College Board, 2008c). Comparisons of these IB and AP participation rates to the national participation rates in U.S. public high schools indicate that Asian American students are overrepresented (3.9% of American high school students), while both Hispanic/Latino students (18.1%) and African American students (16.6%) are underrepresented.

Regarding the academic achievement of majority and minority groups in college preparatory programs, recent performance data suggests that Asian American students are excelling, while students from other minority groups score, on average, lower on end of course exams. Specifically, group level mean scores on AP examinations (note: range of scores is from 1 to 5) taken in 2007 indicated that the mean score for Asian American students was 3.11, which was higher than the average score for Caucasian American students (3.00), as well as the scores of other ethnic and racial minority groups (College Board, 2008d). Hispanic/Latino students averaged a score of 2.36 to 2.50, Native American students averaged a 2.45, while African American students averaged a 1.98 (College Board, 2008d).

Statement of the Problem

While the academic benefits of the IB and AP programs have been noted, there is a gap in the literature regarding the nature of the experiences of students in college preparatory programs, in general. For instance, it is unknown if college preparatory students are satisfied with the IB and AP programs. More importantly, the social and emotional experiences of students enrolled in academically rigorous programs such as the IB and AP programs are relatively unexplored. Preliminary research with primarily Caucasian students in an IB program suggested these youth are relatively well-adjusted

compared to their peers in the general education program (Shaunessy, Suldo, Hardesty, & Shaffer, 2006). On the other hand, research also indicates that some students in IB and AP programs struggle to 'keep up' (Taylor & Porath, 2006), many students have found the courses to be stressful, and some have engaged in academic dishonesty (Taylor, Pogrebin, & Dodge, 2002). While the Shaunessy et al. (2006), Taylor and Porath (2006), and Taylor, Pogregin, and Dodge (2002) studies have provided some preliminary information about the experiences of students, their findings cannot be generalized to students from racial and ethnic subgroups.

A current search of the literature shows that the impact of college preparatory programs on the mental health of high-achieving minority students has not been adequately addressed. Of note, the term "minority students" or "minority youth" refers to students who self-identify as a member of one of the many racial and ethnic subgroups within the larger U.S. population, including African American/Black, American Indian/Alaska Native, Asian American, Hispanic/Latino, Native Hawaiian/ Pacific Islander or Multi-racial. Work by Kyburg (2006) regarding the collective experiences of minority students revealed that minority students reported welcoming the challenge that participation in IB and AP programs offered, they found their peers to be both supportive and unsupportive, yet they also reported difficulty in keeping up with their respective course programs. However, Kyburg's examination of minority students' collective experiences provides little insight into each minority group's experiences. For example, in what ways were the experiences of African American students in college preparatory programs similar to or different from that of Asian American students? Considering the paucity of research that has examined the psychoeducational experiences of high-

achieving students across the various racial groupings, there is need for a more systematic study. For instance, some African American students report that they experience loneliness and isolation due to a lack of critical mass in their advanced academic courses (Ford, 2002). Some Asian American students find it challenging to continuously make high grades (Wing, 2007), while the experiences of both high-achieving Latino and Native American students are unknown. With approximately one-third of IB 2007 Diploma and AP 2007 examination students belonging to minority race and ethnic groups, it is important to conduct examinations of these students' psychoeducational experiences (i.e., their mental health, academic performance and social relationships) in college preparatory programs.

Conceptual Framework: Links between Students' Program Satisfaction, School Climate and Mental Health

Roeser et al. (1998) suggest that interdisciplinary research on schooling (educational experiences) and mental health functioning is warranted since both contribute to the daily functioning of the student-child. For instance, school has been found to be a psychological asset for students experiencing poor mental health, e.g., sadness or anxiety (Roeser et al.,1998; 2000). Specificially, holding (a) values that school is important, (b) strong perceptions of academic competence (Roeser et al., 2000), (c) supportive and positive relationships with peers and teachers (Osterman, 2002; Wentzel, 1998), and (d) a sense of belonging at school (Osterman, 2002) are precious resources for the student with mental health needs.

A critical aspect of such a research program that examines schooling and mental health simultaneously should include an examination of the school climate since a student

who experiences school as less supportive may participate less within the classroom and demonstrate less emotionally healthy behaviors, i.e., more withdrawal, anxious or aggressive behaviors (Osterman, 2002). The school climate can thus be conceptualized as an important predictor of mental health, since elements such as the student's sense of belonging to the school and the relationships students have with their teachers, administrators and peers have a strong influence on student engagement, academic progress and mental health (Osterman, 2002). Additionally, research indicates high levels of general school satisfaction (i.e., happiness with one's schooling experiences) are linked to better academic performance and reduced symptoms of mental health problems (Huebner & Gilman, 2006). Notably, satisfaction specifically with one's academic program/curricula has not been widely studied, but findings in the literature on school satisfaction suggest that happiness with one's academic program may be a critical educational experience that influences children's educational and psychological outcomes. Taken together, students' perceptions of program satisfaction and school climate (specifically, student-teacher relationships and classmate support) are likely important predictors of their psychoeducational functioning (i.e., academic performance and mental health, in terms of levels of stress and internalizing disorders including anxiety and depression).

While minority students have collectively noted that they experience supportive peers within their IB and AP classes (Kyburg, 2006), some high-achieving African American students have been observed to feel lonely, isolated and experience peer rejection as they pursue high academic standards (Ford, 2002). Kyburg's work suggesting that minority students generally perceived their teachers as very supportive and helpful

consisted of students attending diverse schools that were engaged in campus-wide efforts to increase minority student participation and retention. As such, the validity of these conclusions is unknown for students at schools that are not overly engaged in minority recruitment. Thus, the current study explored the program satisfaction, classmate and teacher support (used as a measure of school climate), and the psychoeducational outcomes (namely, academic achievement, anxiety, depression and perceived stress) for the various minority student groups that participate in college preparatory programs.

Purpose of the Current Study

The purpose of this study was to explore the program satisfaction, school climate perceptions, and psychoeducational experiences of Caucasian and ethnic minority students who participate in college preparatory programs. Roeser, Eccles and Strobel (1998) have called attention to the need for interdisciplinary research focused on the impact of schooling (educational experiences) on the interaction of students' academic and mental health outcomes. In an attempt to further such interdisciplinary discourse, this current study focused on a specific aspect of schooling, the college preparatory program curricula. Combining participation in IB and AP programs, this study thus examined how college preparatory programs are associated with students' academic and mental health outcomes. Such an investigation may support a positive relationship, or may suggest to educators that particular subgroups of students in academically rigorous programs may need additional supports so that they can be emotionally healthy as well as academically successful.

This study investigated the typical Caucasian and minority IB and AP student's satisfaction with college preparatory programs, and thus determined the extent to which

students feel more or less satisfied with their program. Regarding prior research on program satisfaction, Taylor and Porath (2006) found that Caucasian-Canadian and Asian-Canadian IB students expressed satisfaction with the program since it developed their work ethic, their ability to think critically and ensured adequate preparation for college. Kyburg (2006) observed that racial and ethnic minority IB and AP students also experienced satisfaction with their programs. However, it is not known if this satisfaction varies according to ethnic minority subgroups since Kyburg's study did not differentiate among the students. This current study therefore examined program satisfaction according to students' specific ethnic minority group.

Shaunessy, Suldo, Hardesty and Shaffer (2006) observed that IB students (predominantly Caucasian sample) had superior academic achievement compared to their peers who participated in the general education program. Given that the intent of the IB and AP program is to ensure that all the students are academically well-prepared to be successful in college, this current study also examined how the various minority student groups are performing academically in college preparatory programs. As academic competence is linked to mental health (Roeser, Eccles & Sameroff, 2000), the current study also examined the psychological outcomes (i.e., anxiety, depression, perceived stress) of AP and IB minority students. Research indicates that IB and AP students have described the programs as stressful and have sometimes engaged in academic dishonesty (i.e., copying another student's homework) to cope, and have taken days off from school to "catch up" (Taylor, Pogrebin & Dodge, 2002). Although Shaunessy et al. (2006) found that IB students evidenced levels of internalizing (i.e., anxiety, depression) symptoms

comparable to students in the general education program, high-achieving Asian American students in honors and AP courses have reported text anxiety (Wing, 2007).

Considering the cultural underpinnings of U.S. history (Smedley, 2007), one should not collapse all racial and ethnic minorities into one collective group when examining psychoeducational experiences. It should be further noted that distinct intra-group differences also exist for each racial and ethnic minority group, (for example, Chinese American versus Japanese American within the Asian American group (Takaki, 1993). However, an examination at the level of intra-group differences was beyond the scope of this study. This current study investigated the psychoeducational experiences according to the *main* ethnic group, e.g., Asian American. To this end, the specific research questions were:

1. To what extent are students in college preparatory programs (IB and AP) who are from different ethnic backgrounds (specifically Caucasian, African American, Asian American and Hispanic/ Latino) satisfied with their college preparatory program?
2. Are there differences among Caucasian, African American, Asian American and Hispanic/Latino students who participate in college preparatory programs on the following outcomes of psychoeducational adjustment:
    a. Academic Achievement as measured by grade point average (GPA)
    b. Perceived stress
    c. Internalizing symptoms (anxiety, depression) of mental health problems?

3. Are there differences among Caucasian, African American, Asian American and Hispanic/Latino students who participate in college preparatory programs on the following indicators of school climate:
    a. Classmate support
    b. Student-teacher relationships?
4. Are there differences between Caucasian, African American and Hispanic/Latino students who participate in college preparatory programs compared to those who participate in general education program on the following outcomes of psychoeducational adjustment:
    a. Academic Achievement as measured by grade point average (GPA)
    b. Perceived stress
    c. Internalizing symptoms (anxiety, depression) of mental health problems?
5. Are there differences between Caucasian, African American and Hispanic/Latino students who participate in college preparatory programs compared to those who participate in the general education program on the following indicators of school climate:
    a. Classmate support
    b. Student-teacher relationships?

In order to obtain a large enough sample size to examine each racial and ethnic minority group of interest, the present study analyzed archival data from four different high schools. To extend findings from the Shaunessy et al. (2006) study, the study examined the program satisfaction, psychoeducational functioning, and school climate perceptions of students in college preparatory programs according to four major

groupings: Caucasian, Hispanic, African American and Asian American students. Due to the very low participation rate of Native American students in college preparatory programs, the archival dataset that was analyzed precluded an examination of Native American students' experiences. Different from the Shaunessy et al. (2006) methodology, students were not differentiated into gifted and high-achieving IB subgroups since both subgroups would have had to meet the same minimum criteria (decided by their respective high schools) to participate in the IB program. For analysis of the data, participation in either IB or AP were combined into a single variable called college preparatory program, as the focus of the current study was not on a specific advanced curriculum but rather on college preparatory programs in general.

Implications for School Psychology

Consistent with the Division of School Psychology's emphasis on the "healthy growth and development of children and youth in a wide range of educational contexts" (APA, 2008), there is a need for a more holistic understanding of the experiences of minority students currently enrolled in college preparatory programs. Knowledge about the students' psychological welfare in particular will present a greater understanding of the impact of college preparatory programs beyond its academic benefits. Adults concerned with students' welfare (e.g., guidance counselors, teachers, administrators, parents) should have knowledge of the typical social-emotional experiences associated with participating in a high school college preparatory programs as they continue to recommend these academically advantageous programs to all high-achieving students. It is important to know what to expect regarding the social-emotional functioning of students enrolled in these programs. This study attempted to provide such knowledge

within two specific contexts: the psychoeducational experiences and school climate perceptions of minority students in college preparatory programs.

Chapter II

Review of the Literature

This review of the literature focuses on a description of the most popular college preparatory programs, the perceived benefits of participating in these programs, as well as the type of students who enroll in these advanced academic programs. A discussion of schooling and mental health is used as a framework for presenting the currently established discourse on the academic and psychological experiences of racial and ethnic minority students.

College preparatory programs are designed to increase the college readiness of high school students. A college-ready student is one who can successfully navigate the expectations that arise in college courses such as (a) fast-paced instruction, (b) student ability to provide and cite evidence to support one's viewpoints in class discussions, and (c) increased student responsibility for reading and reviewing course materials beyond class time (Conley, 2005). In the United States, there are two popular college preparatory programs that are believed to facilitate college-readiness: the International Baccalaureate and the Advanced Placement programs. In 2003, there were 16, 500 public high schools, of which 67% offered Advanced Placement courses and 2% offered the International Baccalaureate curriculum (NCES, 2007b).

The International Baccalaureate Program

The International Baccalaureate (IB) program is considered one of the "best kept secret[s] in education" (Gazda-Grace, 2002, p. 84) since it "promote[s] the education of the whole person, emphasizing intellectual, personal, emotional and social growth through all domains of knowledge" (IBO, 2007d, p. 14). The IB program is currently offered in 125 countries at the primary level (both elementary and middle school) and at the secondary level (high school). There are three levels to the IB program. These three levels can be offered individually or as a continuum. For students aged 3 to 12 years, there is the Primary Years program, which focuses on child development within the classroom and in the world. The Middle Years program transcends traditional subjects to provide academic challenges and foster life skills; students aged 11 to 16 years participate in this program. The most commonly known program is the Diploma program. At the high school level, this rigorous academic program is offered to students aged 16 to 19 years or high school juniors and seniors (IBO, 2007b). Of note, many high schools that offer the Diploma program to students in grades 11 and 12 offer a "pre-IB" curriculum to students in grades 9 and 10, rather than the complete Middle Years program that is most typically provided during middle school. In the state of Florida, this "pre-IB" curriculum is distinct from the Middle Years program and consists of precursor, honors courses that are aligned with the curriculum expected in the Diploma program, such that students are offered "pre-IB" English, Literature, Foreign Language and Biology courses. (For a full example of an "IB" curriculum, see Bartow High School, 2009).

The International Baccalaureate program originated in 1968 in Geneva, Switzerland in response to the need to educate the children of transnational professionals (IBO, 2008b). For diplomats and military personnel who work in many countries, their mobile children were being exposed to a variety of educational philosophies and concurrently expected to meet a variety of academic standards. As such, IB was created to standardize the education of such children as they transferred from one education system to another, across the world (IBO, 2008b).

The IB Diploma program curriculum consists of six disciplines centered around a core educational philosophy called the Theory of Knowledge (TOK; IBO, 2008c). TOK focuses on the "interconnectedness" and the "epistemology" (Gazda-Grace, 2002, p.84) of each of the disciplines: Mathematics & Computer Science, Language A (native language), Language B (second language), Experimental Sciences, Individuals and Societies, and the Arts (IBO, 2008d). Students either earn an "IB certificate" by selecting among courses from each subject area or can earn the "IB diploma" by selecting the required courses within each area. In order to take IB examinations and thereby earn the IB certificate or IB diploma, a student must be enrolled in an IB course.

Assessments are knowledge-based tests, evaluating what the students have learned. Depending on the academic area, these examinations take the form of oral assessments, portfolios and written papers. Completion of the IB diploma further requires a four-thousand word essay on any topic of choice as well as 150 hours of creativity, action and service (CAS) projects, which can include community service work, artistic pursuits, or sport-based projects (Gazda-Grace, 2002; IBO, 2008c). IB students compete against their own academic performances (criterion-referenced testing) and their schools

receive data regarding the students' performances in relation to their peers worldwide. IB teachers are specially trained and are also given feedback via reports that detail how the examination was graded as well as how prepared the students were for the exam. Each subject in the IB program is reviewed every five years and incorporates the suggestions of IB teachers throughout the world. As such, the IB program is considered a world-class program (Gadza-Grace, 2002) with its comprehensive approach to education that demands high academic standards, encourages critical thinking, teacher accountability and fosters a sense of social responsibility. It is therefore not surprising that the IB program has been coined the "Cadillac of College Prep programs" (Gehring, 2001).

While none of the three IB programs was designed specifically to meet the needs of intellectually talented students, the structure of the program and the challenges it offers are quite suitable to the needs of gifted or high-achieving students (Nugent & Karnes, 2002; Poelzer & Feldhusen, 1997). For the intellectually gifted student, the IB Diploma program in particular can engender a school climate that can develop gifted children "motivationally, personally, intellectually and academically" (Tookey, 2000, p. 52).

Within the United States, there are currently 805 schools that offer one, two or all three of the IB Program levels (IBO, 2007f). By program, data shows that 120 schools offer the Primary Years program, 218 schools offer the Middle Years program and 558 schools offer the Diploma program (IBO, 2007f). At most institutions, the IB program is considered a "school-within-a-school" (Hammack, 2004, p. 20) since the program shares physical facilities with the general education program yet classes occur simultaneously with the general education classes, and are often taught by a separate group of teachers who have specialized training in the various IB courses. The IB program is offered in all

50 states and the federal district of Washington, D.C. The largest concentration of IB Diploma programs is available in California, with Florida offering the second most IB Diploma programs (IBO, 2006). Over 800 higher learning institutions worldwide recognize the IB Diploma as indicative of a strong academic caliber (IBO, 2007c). Within the U.S., highly-regarded schools including Princeton, Brown and Stanford Universities in particular endorse this perception (IBO, 2007c).

The Advanced Placement Program

The Advanced Placement (AP) program originated in the U.S. as an educational program where students undertake college-level coursework while they are still in high school (Nugent & Karnes, 2002). The concept of AP emerged in 1951-1952 due to simultaneous efforts by Kenyon College, elite high schools (Andover, Exeter, Lawrenceville) and elite universities (Harvard, Princeton, and Yale) to bridge the pedagogical gap between secondary and tertiary level education and thus adequately prepare academically strong students for a seamless transition (College Board, 2008a). The next four years were devoted to program development, implementation, analysis and growth. By 1956, the College Board assumed ownership of the AP program with responsibilities for its continuity (College Board, 2008a).

The AP program is structured as individual courses grouped within 3 main content areas: History/Social Sciences and Art; Science/Mathematics; and English/World Languages (Nugent & Karnes, 2002). Currently, there are 37 courses and examinations available across 22 subject areas (College Board, 2008e). For each subject area, there is a corresponding AP Development Committee (College Board, 2008f). The six to eight members of each committee are high school teachers and college/university professors

who contribute a wealth of experience in curricula and instructional design, and who have an understanding of the critical skill-set needed for each subject as well as knowledge of how a student can best show proficiency in the particular subject (College Board, 2008e). However, only high school teachers provide direct classroom instruction to the students (Nugent & Karnes, 2002). Each course is assessed through examinations that feature multiple choice questions and lengthier essay questions that further develop analytic and writing skills (Conley, 2005). The College Board provides professional development for AP teachers by offering training sessions for each specific AP course, opportunities to score the annual examinations, as well as opportunities to network with other AP teachers nationwide (Conley, 2005).

Students can take the various AP subject examinations without taking the AP courses. Since course enrollment is not a prerequisite to taking the AP examinations (College Board, 2008g), participation in the AP program is not limited to students attending schools that provide the AP curriculum. Students who attend schools where the AP program is not offered or who are home-schooled may participate in the AP program via independent study or via the internet (College Board, 2008h).

The AP program also offers an Advanced Placement International Diploma (APID). The APID caters to students who are attending high schools outside of the U.S. and for residents of the United States who wish to gain admission to international universities (College Board, 2008i). Attainment of the APID is based on scoring at least a grade of "3" (maximum grade of "5") on five or more AP exams selected among the content areas. At minimum, an APID student should take one to two exams within the History/Social Sciences and Art area, one exam within the Science/Mathematics area,

and two exams within the English/World Languages area (College Board, 2008i). The APID is considered in the university admissions process in more than 40 countries worldwide, ranging from institutions in Canada, Central and South America, the Middle East, Africa and Europe (College Board, 2008b). For instance, at the London School of Economics and Political Science, entry requirements are met only if a U.S. high school transcript includes AP examination grades (College Board, 2008j). Thus, attainment of the APID can allow the AP student access to some of the elite higher education systems in the world.

The AP program is offered in all 50 states and the federal district of Washington, D.C. In Washington D.C. and Florida, 39.7% and 38% of high school students, respectively, take AP examinations; no other states have a higher proportion of students taking these examinations (College Board, 2007).

The Benefits of College Preparatory Programs

For the college-bound student, participation in college preparatory programs yields many benefits. According to Conley (2005), the student develops the critical analytic skills and writing skills that form the core foundation for college-level work. In addition, higher education institutions, both within the U.S. and abroad, also offer students who have excelled on college preparatory exams exemptions from prerequisite course requirements or college credit (Conley, 2005). Within the U.S., there are 1400 colleges and universities that reward certain high school students with "sophomore standing" status (College Board, 2008k), thereby allowing one year's worth of college credit. For instance, Stanford University may grant up to 45 college credits to students with high AP grades, high IB grades or a combination of high AP and IB grades

(Stanford University, 2008). Internationally, over 100 higher education programs (College Board, 2008b) also grant advanced standing. At York University in Toronto, Canada, an AP student may be awarded up to 12 credits or 2 full courses (College Board, 2008l), while an IB student may earn up to 18 credits or 3 full courses at the institution (York University, 2008). Earning course exemptions and college credit provides a concurrent financial benefit since the student will have to take fewer courses towards degree completion. Depending on performance on the college preparatory examinations, students may also be more competitive for state scholarships (Florida Student Scholarships Grant Programs, 2008).

Demographic Characteristics of Students in College Preparatory Programs

Since there is no governing rule from the IB organization or College Board regarding requirements for students who wish to participate in the IB program or AP program, respectively, entry into IB or AP programs is not standardized across high schools. Entry requirements are localized and thus left to the discretion of high school personnel such as the AP Coordinator or AP teacher (College Board 2008g; Miramar High School, 2008), or guidance counselors (Seminole High School, 2008). In Florida, a common entry requirement is the submission of a program application inclusive of teacher recommendations (King High School, 2008); a high overall grade point average and a high average in 9th and 10th grade English, Math, Science and Social Studies courses, as well as, two years of course work in a foreign language (Riverview High School, 2008).

The most recent U.S. census of high school students enrolled in public schools revealed that approximately 58.2% are Caucasian, 3.9% are Asian American, 16.6% are

African American, and 18.1% are Hispanic American (U.S. Census Bureau, 2007). No data were reported for students who identified themselves as Native American. According to the national examination rates for AP and IB participants, traditional enrollment in both these programs consists primarily of Caucasian students. Of the students who took AP exams in 2007, approximately 65% were Caucasian with 12.6% Asian American, 7.3% African American, 14.6% Hispanic / Latino, and 0.5% Native American (College Board, 2008c). Similarly, of the IB Diploma program students who took exams in 2007, 60.5% were Caucasian, 15.8% were Asian American, 9.8% were African American, 10.3% were Hispanic/ Latino, with 0.3% being Native American (IBO, 2007e). As such, at the national level, Asian American students appear to be overrepresented in both the AP and IB programs, whereas their African American peers are underrepresented in both programs. Students of Hispanic/ Latino descent also participate at a lower rate in both the AP and IB programs. Due to a lack of data, it is not possible to speculate on the extent of participation representation of Native American students.

At the state-level, similarly mixed conclusions may be made for minority high school students within Florida. Asian American high school students represent 3.1% of the state student population (College Board, 2008m); however, they are overrepresented in the AP (5.7%) program (College Board, 2008m). African American students account for 19.6% of the high school population (College Board, 2008m), yet their participations rates are lower with 11.4 % in AP (College Board, 2008m). In contrast, since they account for 21.8% of the school population (College Board, 2008m), Hispanic/ Latino students evidence higher participation rates (24%) in AP (College Board, 2008m). An

examination of participation by Native American students shows a presence of 0.3% within the student population, with a commensurate participation rate of 0.4% in AP (College Board, 2008m). Data regarding state-level participation in the IB program is not currently available.

Academic Performance of Minority Students in College Preparatory Programs

An examination of the academic performance of various groups of students in AP classes indicates that Asian American students are performing above the national average and are also outperforming both their minority race peers and students who identify as Caucasian. Students who take AP end-of-course final exams receive a grade from 1 (*no recommendation to receive college credit/ advanced placement* to 5 (*extremely well qualified*). Data provided by the College Board (2008c) indicated that the overall national average for AP examination scores for 2007 was a 2.88, with a 3.00 average score obtained by Caucasian students. In contrast, Asian American students averaged a 3.11. Hispanic/ Latino students evidenced national average scores ranging from 2.36 to 2.50 (Mexican American, Puerto Rican and Other Hispanic), while African American students scored a 1.98 on average. The national average for Native American students was a 2.45. Interestingly, a similar pattern is observed at the Florida state level (College Board, 2008d). The state average for AP examinations taken in 2007 was 2.52. However, Asian American students averaged 2.70, Hispanic/ Latino students averaged 2.27 to 2.60, Native American students averaged 2.28 while African American students averaged 1.85. The mean score for Caucasian students was 2.61 (College Board, 2008d). Comparable data regarding performance on the IB examinations or attainment of the IB diploma by ethnic or minority group is not currently available at the national- or state-level.

Schooling and Mental Health

At a broad conceptual level, the relationship between school experiences and students' mental health has been well-researched. However, when one examines this relationship for advanced specialized programs such as IB and AP programs, as well as in terms of the experiences of racial and ethnic minority students, one has to combine the limited literature from various sources to try to gain this niche perspective.

One of the major principles of the Division of School Psychology is to promote the "healthy growth and development of children and youth in a wide range of educational contexts" (APA, 2008). Inherent in that ideal is the need to understand and predict the contribution the school ecology (i.e., students, curriculum, peers, teachers, organizational structure and climate) makes to the emotional health of children (Herman, Merrell, Reinke & Tucker, 2004). Indeed, Roeser et al. (1998) draw attention to an important question: how does the context of schooling influence a child's academic and mental health outcomes?

School is critical for the "intellectual, emotional and social development" of children (Osterman, 2002, p. 188). Roeser et al. (1998) assert that a reciprocal interaction between academic functioning and emotional functioning (as expressed by a student's mental health) occurs over the course of a child's pursuit of education. While establishing that such interdisciplinary research is in its infancy, Roeser et al. (1998) believe that such an intertwined research focus of academics *with* mental health is critical to understanding, for instance, how to better link available academic and mental health programs, so that all children can be successful. Inherent in this joint focus is also the

need to better comprehend the contribution the school climate makes to a student's mental health functioning.

The school context can have a strong influence on the extent to which a student is engaged in the classroom and thus achieving academically (Osterman, 2002). The school setting also has a salient influence on the mental health of children. These influences occur through the nature of the school climate, i.e., the degree to which children consider themselves a part of the school, through the support they believe the school offers them, as well as the school-specific norms (Gershoff & Aber, 2006).

Research has shown that schools can foster emotional well-being, intrinsic motivation, and prosocial behavior, as well as give rise to mental health challenges such as emotional distress, suicidal behaviors, anxiety, violence, and substance abuse (Osterman, 2002; Resnick et al., 1997). This range of mental health possibilities can be tempered by the student's sense of belonging to the school, the student's feelings of rejection, student-teacher relationships and student-to-student relationships (Osterman, 2002); all of which are aspects of a student's perceived school climate.

Challenging curricula, holding high expectations for students, teacher expectations, teachers' reinforcement of adaptive student behavior, and the classroom climate have all been found to have an impact on student achievement, student behavior, and thus student mental health (Gershoff & Aber, 2006; Mayer, Mullens & Moore, 2000). Teachers and school-based peers influence a student's well-being in unique ways. For instance, according to Osterman (2002), teachers can greatly influence a student's academic engagement while peers can greatly influence the student's emotional well-being. Supportive peers encourage the adoption of more prosocial behaviors while a lack

of peer support has been linked to emotional distress (Wentzel, 1998). As such, the school climate as assessed by a sense of belongingness and the relationships among students and teachers has a definitive impact on a child's emotional functioning/ mental health.

In their study of adolescent health (7th to 12th grades, *N*=11, 572), Resnick et al. (1997) observed that 13% to 18% of the emotional distress (i.e., physical and emotional symptoms) experienced by adolescents was attributable to the school context. Resnick and colleagues (1997) further noted an association between how connected the adolescents felt to their school and their emotional distress and suicidality. Roeser et al. (2000) noted that students who feel "academically competent, value school and receive good marks" (p. 43) experience less emotional distress. However, research also indicates that the student who experiences school as less supportive is likely to have lower academic motivation, participate less in class or other school activities, have a poorer self-concept, be less competent and evidence more withdrawal, anxious or aggressive behaviors (Osterman, 2002).

According to Roeser et al. (2000), being academically competent and having a positive valuation of school may be protective factors for students who are experiencing poor mental health (i.e., high emotional distress as characterized by feelings such as sadness, unhappiness or anger). As Roeser et al. (1998) explained, "interest, academic values, and academic confidence [are] important intrapsychic resources that can protect some adolescents" (p. 157) from the impact that frequent negative emotional experiences (i.e., sadness, anxiety or anger) can have on school functioning. For instance, given a student's academic motivational orientation, it is also possible that not all anxious

adolescents will evidence emotional distress in the form of poor classroom participation (e.g. avoid being called by the teacher, stay out of discussions; Roeser et al., 1998); the presence of which can negatively impact their academic success. Thus, for some students, school may be a psychological asset that tempers their distress so that these students can focus on their education.

Researchers have investigated the link between school satisfaction (i.e., the "overall positivity of school experiences," p. 140) and mental health (Huebner & Gilman, 2006). For instance, Huebner and Gilman (2006) have observed that students with high levels of school satisfaction had higher grade point averages, higher global life satisfaction, and fewer symptoms of mental health problems than their peers with low school satisfaction. As such, students high in school satisfaction demonstrated superior social-emotional functioning. Students who expressed low school satisfaction evidenced clinical levels of mental health symptoms compared to student with either high and average school satisfaction. While there is no research that has specifically examined the link between satisfaction with one's *program* or *curriculum* and mental health, given the established research on the important connection between aspects of the school ecology and mental health, it seems important to examine students' satisfaction with curricula/ academic program.

Psychosocial Functioning of Students in Advanced Curriculum Programs

Optimal psychoeducational functioning or student mental health has been defined as a concurrence between academic success and emotional well-being (Roeser & Eccles, 2000). While there is research on the psychoeducational functioning of students with learning disabilities (Gadeyne, Ghesquiere & Onghena, 2004; Martinez & Semrud-

Clikeman, 2004), with emotional and behavioral disabilities (Kutash, & Duchnowski, 2004), as well as within alternative education settings (Hooper, Murphy, & Devaney, 2000), there is a paucity of literature examining the mental health outcomes of students participating in advanced curriculum programs. When one specifically focuses on the mental health of IB students and AP students, the availability of research is even more limited. As expected, there is also a dearth of knowledge on the impact of participation in the IB and AP programs on the mental health of racial/ ethnic subgroups of students. Of the available literature pertaining to college preparatory programs and student outcomes, researchers have focused on primarily two areas: academic experiences and the social-emotional experiences of IB and AP students.

Taylor and Porath (2006) surveyed 26 Caucasian-Canadian and Asian-Canadian graduates of the IB program to understand the graduates' perspectives of the benefits of IB as well as their own personal experiences. The graduates had attended either an inner-city school or a middle class/suburban school in British Columbia, Canada. At the time of the survey administration, the graduates had completed the IB Diploma 5 to 9 years prior, just (a) earned their undergraduate degrees, (b) enrolled in postgraduate studies or (c) begun working in their careers. The participants were provided with 20 statements grouped into three themes (program suitability, psychological and emotional impact, and preparation for postsecondary study) and asked to rate the statements on a 4-point Likert-type scale. They were also asked to respond to 7 open-ended questions; for example, "what sacrifices, if any, did you have to make in order to attain your IB diploma?"

The graduates reported numerous positive outcomes such as gaining a better perspective of the world, developing a strong work ethic and critical thinking, learning

time management and organizational skills, as well as being well-prepared academically for tertiary level education. However, while the graduates said they valued having been exposed to the IB curriculum, 38% of the participants also reported that the amount of work required had been excessive, unmanageable/or detrimental to their well-being. The workload was considered manageable if one was able to keep up with studying and doing homework. A large proportion (44%) of participants also reported that they feared that they would not have gained acceptance into the tertiary institution that they wanted even after having completed the rigorous program. Regarding limitations, this study sampled only Canadian graduates of the IB Diploma program and thus the ability to generalize such sentiments to students from other countries is limited. However, given that a key feature of the IB program is its worldwide standardization of the curriculum, the research does provide some valuable insight into the experiences of IB students. It is interesting that the participants considered the workload manageable on the condition that one was able to 'keep up.' Such remarks can lead one to wonder, what are the experiences of IB students who may not be able to 'keep up'? If one cannot manage to do so, feelings of anxiety and helplessness may arise.

The pressure to succeed, to 'keep up' in an academically rigorous program has also been observed to result in academic dishonesty. Taylor, Pogrebin, and Dodge (2002) interviewed 32 high school juniors and seniors who participated in AP and IB programs regarding the pressure to succeed academically. The 18 male and 14 female students were recruited from six different high schools located in a metropolitan city in Colorado. Using a semi-structured interview, the researchers found that the students were concerned about the need to "keep your class rank, your social status of being smart" (p. 407). The

students reported desperation for keeping up with the workload that lead to incidents of cheating, including copying another student's homework or, during an exam, choosing to sit next to a student who they felt would do well. The students also reported that falling behind in their schoolwork was stressful and overwhelming and they have at times taken a week off from school as a means of 'catching up.'

While the IB program has been viewed as good for high-achieving students, it is evident that even high-achieving students can engage in academically maladaptive coping patterns. In studies specifically examining coping strategies among IB students, coping patterns that can become maladaptive such as perseveration on the amount of work to be done without taking action, procrastination (Suldo, Shaunessy, Michalowski & Shaffer, 2008) and frequent anger (manifested by such behaviors as yelling at others; Suldo, Shaunessy & Hardesty, 2008) were noted.

A study by Shaunessy, Suldo, Hardesty, and Shaffer (2006) examined the psychosocial functioning of IB students compared to the functioning of students following a general education curriculum. Using Roeser, Eccles and Sameroff's (2000) work on adolescent psychosocial functioning and schooling as a framework, Shaunessy et al. (2006) examined the academic functioning, emotional distress and psychological well-being of IB students compared to their general education peers, as well as student perceptions of the school climate.

Both subgroups were from grades 9 through 12, and attended a single public high school in a rural county in the Southeastern United States. The two programs, IB and general education, were housed within a single school building. The IB subgroup totaled 122 students with 33 classified as IB-Gifted (i.e., meeting the state's identification

criteria for intellectually gifted students) and 89 as IB-High Achieving (i.e., students who were participating in the IB program but had not been identified as intellectually gifted). The general education subgroup included 176 students. All groups were predominantly Caucasian (70-73%). For the IB groups, other racial/ethnic groups included students who were African American (1-3%), students who were Asian American (13-18%), students who were Hispanic/Latino (0-9%), students who were Native American (0%) with 4-6% classified as "other". In the general education group, the racial/ethnic breakdown was as follows: African American (14%), Asian American (1%), Hispanic/Latino (9%), Native American (<1%) and Other (5%). The majority of the participants were female, with 61% in the IB-Gifted group, 62% in the IB-High Achieving group and 73% in the general education group.

Data were collected via adolescent self-report surveys. Specifically, the School Climate Scale (SCS; Haynes, Emmons & Ben-Avie, 2001), Self-Efficacy Questionnaire for Children (SEQ-C; Muris, 2001), Students' Life Satisfaction Scale (SLSS; Huebner, 1991), Multidimensional Students' Life Satisfaction Scale (MSLSS; Huebner, Laughlin, Ash & Gilman, 1998), Youth Self-Report of the Child Behavior Checklist (YSR; Achenbach & Rescorla, 2001) and Negative Peer Affiliations (Heinze, Toro & Urberg, 2004) were administered.

Multivariate (MANOVA) and univariate analyses of variance (ANOVA) revealed that both the IB-High Achieving and IB-Gifted student-types had similar positive perceptions of school climate and these perceptions were also more positive than reported by their peers in general education. Based on school record data, the students in the IB groups were similarly superior on academic functioning (better school attendance, fewer

discipline referrals, better grades and more academic confidence). IB students reported less externalizing psychopathological symptoms (e.g., aggressive/rule-breaking behaviors) compared to their general education peers. Regardless of subgroup however, participants did not differ on internalizing problems and all reported similar levels of overall life satisfaction. In sum, the gifted and high-achieving students in the IB program could not be differentiated on the basis of school functioning, psychological well-being (internalizing and externalizing symptoms) and perceptions of school climate as they evidenced similar positive outcomes. Most notably, the majority of outcomes for IB students were more positive than those reported by the students in the general education program at the same school.

The findings of the Shaunessy et al. (2006) study support that participation in the IB program does not negatively impact gifted and high-achieving students but, conversely, may be well-suited for them. At worst, some aspects of the psycho-social functioning of IB students are similar to the average high school student who is not following a specialized, intensive academic track. While these preliminary findings have positive implications for the IB program, one question generated by the Shaunessy et al. (2006) study is, what are the social-emotional experiences for students *within* the same academic rigorous program, who have different ethnic identities?

It is not known how aptly these findings will generalize to IB students who belong to racial and ethnic minority groups. The Shaunessy et al. (2006) study consisted of predominantly Caucasian students. Having such a high percentage of Caucasian students in the study may have concealed the psychosocial functioning / mental health status of the non-Caucasian students in the sample. With the sample limited to one high school and

given the traditionally low numbers of minority students in IB program, it is possible that the authors did not have sufficient statistical power to compare the students according to their racial and ethnic grouping. Gifted and high-achieving students who are members of racial / ethnic minority groups may report different experiences from their Caucasian peers and may thus have unique social-emotional needs (Ford, 2002) that may warrant further attention.

Experiences of Racial and Ethnic Minority Students

The interaction between academia and U.S. societal stereotypes has formed the research basis for understanding the experiences of non-Caucasian American students who participate in the U.S. system of education (Benton-Lee, 2006; Carter, 2005; Donato, 1997; Hemmings, 1996). While such a research trajectory exists for most of the major racial groupings, an extensive search of scholarly databases has generated very little literature examining the school experiences of *high-achieving* racial and ethnic minority students. When identified by race or ethnic group, the research is relatively non-existent for high-achieving students of Native American, Asian American or Hispanic American descent; most of the available research has focused on African American students.

According to Ford (2002), the performance of African American students within the academic arena may be hindered by the existence of racial stereotypes regarding the intellectual ability of African American people, i.e. that they are not high-achievers. Ford (2002) asserts that some African American students purposefully underachieve or hide their intellectual abilities in order to maintain social acceptance from same-race peers. For some high-achieving African American students, pursuing academic success may

therefore result in the loss of social acceptance, and "subsequent feelings of loneliness, isolation and rejection" (p. 159) since there also tends to be one or very few same-race peers in advanced program classes. Ford further notes that these students may often feel "alone in their pain, confusion and experiences" (p. 160) and may resist from sharing such concerns with school personnel. Fordham and Ogbu (1986) note these social-emotional experiences that impact academic prowess as 'the burden of acting white.' Steinberg, Dornbusch and Brown (1992) have stated that it is "a bind between performing well in school and being popular among their peers" (p. 728).

While "being in honors or advanced placement classes" (Neal-Barnett, 2001, p. 82) has been considered a definitive sign of one "acting white," researchers have also noted that not all African American students have these negative social-emotional experiences. In their qualitative study of African American adolescents at eight different secondary schools in North Carolina, Tyson, Darity, and Castellino (2005) observed that these students desired to do well academically and were not inhibited by fear of being accused of 'acting white.' Tyson et al. (2005) noted that some African American students took advance coursework in order to improve their grade-point averages, to improve access to college, and to be successful once they are college students. More interestingly, the students reported that their friends supported their academic prowess and that they were not pressured "to underachieve, even when they were the 'only one' in a particular advanced course" (Tyson et al., 2005, p. 591).

In the case of Asian American students, there is a polar opposite expectation regarding intellectual ability. Unlike their African American peers, Asian American students are expected to have high intellectual ability and to place a premium on

education (Wing, 2007). These tenets influence the underlying assumption for why Asian American students are considered 'the model minority.' 'The Model Minority Myth' stereotype reflects the U. S. societal belief that all Asian American students are high academic achievers (Wing, 2007), hard workers, value education, and are math and science "whiz kids" (Lee, 1996, p. 52). As Lee (1996) aptly stated, "the model minority stereotype depicts Asian Americans as academic superstars" (p. 52). However, such beliefs also imply that Asian American students do not experience academic or psycho-emotional challenges (Wing, 2007).

Wing (2007) conducted a mixed-methods study of the 'Model Minority Myth' among a diverse group of Asian American students at a public high school in California. Based on her qualitative study of six students, Wing (2007) observed that the students with high grade-point averages overall and high averages in honors and advanced placement courses studied late into the night to maintain their grades and to "keep pace with their school work" (p. 464). One student reported that she felt "severe test anxiety" in her math honors course (p. 464). Due to daily family babysitting responsibilities, another AP Calculus and AP Physics student noted that it was not unusual for her to work on assignments beyond midnight. Another high-achieving student, who emigrated to the U.S in the third grade and had been accepted to the college of her choice, spoke English fluently but was experiencing difficulty passing a graduation requirement, specifically an English writing proficiency test. Although Wing's (2007) study featured only a small sample of students and thus is not generalizable to all Asian American students, these reported experiences indicate that success for the Asian American student entails

sacrifice and challenges. This preliminary study further hints that there may be a need for support services for these students.

In the case of Hispanic/Latino and Native American youth, no written discourse could be found regarding the school or psychological experiences of high-achieving members of these racial groups. As such, the current study will be the first attempt to examine the socio-emotional experiences of Hispanic/ Latino youth in advanced academic curricula.

Minority students in college preparatory programs. In a preliminary study of minority students in advanced curriculum tracks, Kyburg (2006) examined the experiences of some racially, linguistically, culturally and economically diverse gifted students taking AP and IB classes. The author was primarily interested in these talented students' general experiences of the advanced academic milieu, and more specifically, their comfort, satisfaction and achievement success. To this end, the author applied qualitative research methodology to a data subset of the National Center for Research on the Gifted and Talented study (see Callahan, 2003).

Interviews were conducted with 49 students, 32 AP and/or IB teachers, one building principal, one district-level gifted coordinator, one IB coordinator, one school counselor, and one gifted resource teacher. The participants were from two urban, high minority, northeastern U.S. high schools engaged in efforts to increase the number of minority students who took advanced coursework. School A was predominantly Hispanic (48%), with students who were African American accounting for 24%, students who were Caucasian accounting for 17%, students who were Asian American accounting for 11% and students who were Native American accounting for <1%. Forty three percent of

the student population received free and reduced lunch. At School B, African American students accounted for 38% of the site-sample; the rest of the sample had students who were Caucasian (23%), Asian American (21%), Hispanic (18%) and Native American (<1%). Twenty-one percent of the population received free and reduced lunch. A contact person at each high school was asked to recruit a representative sample of students, teachers and classrooms. The degree to which the school contacts adhered to such directions is unknown. During the interviews, 27 of the 49 students self-identified their ethnicity or were identified by the researchers. However, the ethnicities of these 27 were not reported. Likewise, no specific information regarding all 49 students in terms of their linguistic, cultural and economic diversity was provided.

Prior to or after teacher interviews, classrooms were also observed for ninety minutes to gain an understanding of "instructional approaches…, teacher-student interactions, instructional resources used, and [the] degree of challenge/ rigor evidenced" (p. 51). These topics also informed the semi-structured interview protocols. Teacher interviews were conducted on an individual basis or in focus groups. Similar to the teachers, students were interviewed in groups of three to four persons. Other data sources included field notes and documents such as the "teachers' planning documents, instructional materials, student artifacts, program literature and communication materials" (p. 51). The data was analyzed using the Coffey and Atkinson (1996) coding system where codes were initially generated from literature on minority adolescents as well as on gifted and talented youth, and then derived directly from the collected data.

Thematic analyses of the various data sources revealed three main contexts for the students' experiences, comfort, satisfaction and achievement success in the IB and AP

programs: individual, instructional and social contexts. Within the individual context, some students noted that participating in the advanced program had a positive impact on their self-esteem. They also welcomed the intellectual challenges offered in the advanced program since such challenges would adequately prepare them to be strong college applicants to top-tier schools and be successful in college. Interestingly, some students noted that they did not want teachers to treat them differently or make special curriculum modifications due to their minority status. They wanted to be perceived as equally able as their non-minority peers. With regards to instruction, some students were highly motivated, eager to learn and enjoyed the opportunities to engage in classroom debates and conduct individual research projects. However, some students also noted that IB and AP programs were challenging due to the continuous work and the relatively fast pace of instruction, which often translated into difficulty keeping up.

Within the social context, some students appeared to hold their teachers in high esteem. Some teachers were reported as being readily available, verbally encouraging, emotionally supportive and generally interested in their success. Students cited examples of teachers holding AP lunch labs and study halls, providing extra assistance before and after school hours, as well as a week-long summer 'boot camp' to teach skills that would allow them to thrive in the advanced programs. Peers were observed to be both supportive (AB and IB peers) and non-supportive (non-AP and non-IB peers). AP and IB peers were observed as "people you can count on" (p. 98) for assistance while non-AP and non-IB peers often taunted them for participating in these programs ("you're too smart for us to hang out with," p. 100). In particular, the students reported that having fellow minority peers in their advanced courses provided further support, in that they

shared coursework management strategies with one another and provided moral support in cases of teacher negativity. Parents were noted as either directly involved in helping the students with their educational plans or uninvolved.

The findings of the Kyburg (2006) study suggests that for academically talented minority students, participation in the advanced programs provides many benefits in terms of an intellectual match, supportive peers and teachers. However, the degree to which these results can be generalized to other schools is limited since these students attended very diverse schools that were aggressively encouraging their participation in the AP and IB programs through such means as summer preparation 'boot camps.' As such, the noted student experiences could be overly influenced by the positive school climate. The experiences of minority students in schools that are not aggressively encouraging their participation in advanced courses or in schools that are less diverse are unknown.

Given the diversity that characterized these two high schools, as well as the intended research focus on understanding *minority* student experiences, Kyburg (2006) undermined the richness of her findings by not providing a detailed description of the demographic characteristics of the student sample. As a result, it is not known if students belonging to one particular diversity group report more or less comfort, satisfaction and/ or achievement success with the AP and IB program compared to other groups. Likewise, given the historical development of U.S. society (Smedley, 2007), the collective grouping of the students under the 'minority' label essentially negates the varying influence that ethnicity, language, culture and economics has on one's school experiences (Howard, 2002; Kober, 2001; Ndura, Robinson & Ochs, 2003; Sadowski,

2001; Solórzano & Ornelas, 2004). In the current study, these methodological shortcomings will be addressed by having the students self-identify their minority status, by providing a description of the sample's demographic characteristics, and by conducting analyses per minority group. Of note, although unique intra-group differences exist for each racial group in U.S. society (e.g. within the Hispanic American group, Mexican Americans compared to Puerto Ricans; Takaki, 1993), such a focus will not be undertaken in this study.

Considering the literature on the "acting white" and "model minority" concepts, it is evident that one cannot and should not assume that African American or Asian American students who partake in advanced academic programs are doing well emotionally. Likewise, with no studies examining the psycho-emotional functioning of Latino and Native American students taking advanced curricula programs, no conclusions can be made about these students. It is possible that high-achieving minority students may or may not experience maladaptive social-emotional experiences that may influence their academic progress. Thus, with the Division of School Psychology's emphasis on "healthy growth and development…in a wide range of educational contexts' (APA, 2008), it is important to find out just what their experiences are.

Conclusions from Literature Review

"The single most important factor in determining college success is the academic challenge of the courses students take in high school" (Conley, 2005, p. 38). Given this impact on the educational future of the adolescent, the influence of schooling experiences on the emotional well-being of children (Osterman, 2002; Resnick et al., 1997), as well as the Division of School Psychology's focus on "promoting the healthy growth and

development of children and youth in a wide range of educational contexts" (APA, 2008), it is surprising that there is a paucity of research examining the psychoeducational impact of intense high-school programs on adolescents.

Conley (2005) asserts that, regardless of intellectual ability, experience with general education courses prior to AP courses does not adequately prepare students for the challenging pace or task demands that are an inherent aspect of AP coursework. While a student can gain much academically (IBO, 2007a), it has been noted that some students viewed the workload as excessive, reported the 'need to keep up' with homework/ studying and fears of not getting into the college of their choice (Taylor & Porath, 2006). Such concerns can lead a student to experience symptoms of anxiety or depression. As such, it is important to gain a better understanding of the extent to which participation in academically rigorous programs impact students' mental health.

For students from racial and ethnic minority backgrounds, particularly those students who are African American or Hispanic, the academic intensity and quality of the high school program significantly predicts college completion (Adelman, 1999; 2006). With increasing representation by minorities in the IB and AP programs (IBO, 2006; IBO 2007e; College Board, 2008c), it is thus important to examine the psychoeducational experiences of this subset of high school adolescents. Research shows that minority students have expressed concerns about being high-achievers in school (Ford, 2002; Steinberg, Dornbusch & Brown, 1992; Wing, 2007). Since they have not been traditionally represented in challenging academic programs, it is thus important to examine the psychoeducational experiences and school climate perceptions of these students since such knowledge can only serve to inform school personnel as how to best

serve their increasingly diverse student populations. As such, the current study will attempt to fill this gap in the knowledge.

Chapter III

Method

This purpose of this study was to explore the program satisfaction, psychoeducational experiences and school climate perceptions of Caucasian and ethnic-minority students who participate in college preparatory programs. This study involved a secondary analysis of data gathered during Fall 2006 and Spring 2007. This chapter includes descriptions of the archival dataset in terms of sample, measures, and procedures used to gather data. This is followed by a description of statistical procedures used in this study to analyze the archival dataset to answer the research questions in the current study.

Description of Archival Dataset

The convenience sample was selected by recruiting students from 4 different high schools from the Northeast, Central, Southwest and Southeastern regions of Florida. The overall sample consisted of 537 students in grades 9 through 12 enrolled in either the International Baccalaureate program, the Advanced Placement program, or the general education program in the four schools. The IB program consisted of students participating in a "pre-IB" curriculum during grades 9 and 10, and the IB Diploma program in grades 11 and 12. Students in the AP program attended a single school; at this magnet school, students took at least six AP classes. Of note, it is unknown if any of the students in the general education program also took one or more AP courses during high school. Only students who self-identified as being Caucasian/White, African

American/Black, Asian American or Hispanic/Latino were included in the current study. A demographic breakdown of the sample is given in Table 1.

Table 1

Demographic Characteristics of Sample

Variable	College prep. (AP, IB)		General Education		Total Sample	
	n	%	n	%	n	%
Gender						
Male	129	34	58	37	187	35
Female	251	66	98	63	349	65
Grade						
9	110	29	23	15	133	25
10	114	30	47	30	161	30
11	92	24	54	35	146	27
12	65	17	32	20	97	18
Ethnicity						
Caucasian	253	66	91	58	344	64
African American	54	14	32	21	86	16
Asian-American	40	11	3	2	43	8
Hispanic/Latino	34	9	30	19	64	12
Socioeconomic status						
Low	37	10	60	39	97	19
Average/High	343	90	95	61	438	81

N = 537

Measures

The following measures were used to collect data in the original study.

Demographic form. A demographic form (see Appendix A) was administered to the students that solicited basic information such as birth date, current grade level, gender, race/ethnicity and type of program in which enrolled (IB, AP or traditional), the

highest education level of mother and father and time taken to travel to school. For the variable race/ethnicity, eight distinct categories were offered and the participant was asked to choose the most applicable: White, African American/Black, American Indian/Alaska Native, Asian, Hispanic/Latino, Native Hawaiian/ Pacific Islander, Multi-racial or Other. In addition to the above, included on this form was one item designed to further information on students' level of satisfaction with their program. Students were asked to indicate their agreement/disagreement with the statement "I am satisfied with my school program (e.g., IB, AP, traditional etc) using a 5-point Likert-type scale ranging from 1=strongly disagree to 5= strongly agree.

Academic achievement. Academic achievement was measured by grade point average (GPA). Data pertaining to the participants' grades were collected from the students' cumulative school records with the assistance of a school employee from each high school. Due to the assignment of additional credit for advanced courses (IB, AP), grade point average was weighted by the schools and thus was measured on a 5-point scale (where an A = 5.0 to 4.0; B=3.0; C=2.0; D=1.0). Grade point average was used as a measure of academic achievement where a high GPA indicates a high level of achievement and a low GPA indicates a low level of achievement.

Perceived Stress Scale (PSS). The PSS (Cohen, Kamarack & Mermelstein, 1983) is designed to assess the degree to which one appraises current situations in life as stressful. This 14-item scale (see Appendix B) can be used to gauge the degree to which one feels that his/ her life is "unpredictable, uncontrollable, and overloading" (Cohen et al., 1983, pp. 387) within the past month. For each item, respondents are asked to indicate how often during the past month they felt or thought a certain way as described in the

item. They were asked to respond to each item using a 5-point Likert-type scale that range from 1 (*Never*) to 5 (*Very Often*). Responses on the PSS are summed manually to yield a total score after the positively-worded items have been reverse scored. The half of the PSS items that refer to coping were not included in the original dataset. Instead, only the 6 items that directly asked about current levels of experienced stress/distress were administered. Prior research has identified this 6-item subscale as measuring general perceived distress in adolescents (Martin, Kazarian, & Breiter, 1995).

Regarding reliability and validity of the PSS, reliability studies using college students (N = 446) and community populations (N = 64), Cohen et al. (1983) reported high internal consistencies of the PSS scale with coefficient alphas of the 14-item scale ranging from 0.84 to 0.86. Test-retest reliability estimates within a 2-day period was 0.85, and for a 2-week mark period was 0.55. Predictive validity of the PSS with depressive symptomology or rates of depression measures was found to range from r = .65 to .76 (Cohen et al., 1983).

The Youth Self Report (YSR) Form of the Child Behavior Checklist. Originally developed in 1991 by Thomas Achenbach and Leslie Rescorla (2001), the YSR is a 114-item measure that can be used with children and adolescents aged 11 through 18 years. The instrument contains a total of 21 subscales designed to screen for competencies, adaptive functioning and problems in children. The Withdrawn/Depressed subscale (8 items) was used to assess depressive symptoms, an indicator of psychopathology used in this study. The Withdrawn/ Depressed scale does not technically diagnose depression nor assess the complete range of symptoms encompassed by DSM classifications of Dysthymia Disorder and Major Depressive Disorder. Instead, the Withdrawn/Depressed

subscale is an empirically-derived index in which all items load satisfactorily on a latent variable tapping symptoms of depression and/or social withdrawal. Using a 3-point response scale, ranging from 0 (*Not True)* to 1 (*Somewhat or Sometimes True*) to 2 (*Very True/Often True*), participants indicate whether they have experienced any changes in their mood. For instance, of items taken from the scale, participants indicate whether, "there is very little that I enjoy," "I would rather be alone than with others," and "I am unhappy, sad or depressed." The scale score can be computed manually or by computer by summation of the scores. Results are reported as being in the clinical range (*T*-score more than 69), borderline range (*T*-score between 65 to 69) or normal range (*T*-score less than 65) for depressive symptoms.

Regarding reliability of the YSR, in a sample of 1938 children, the YSR evidenced moderate test-retest reliability (r =.67) and high internal consistency (α=.71). Regarding validity, the Withdrawn/Depressed subscale yielded a correlation of .49 with a DSM-IV checklist of Depression, and a .36 correlation with a clinical diagnosis of depression (Achenbach & Rescorla, 2001). Due to copyright restrictions, a copy of the YSR is not included in the appendices.

The Multidimensional Anxiety Scale for Children (MASC). The MASC (March, 1997) was used to assess anxiety, another indicator of internalizing symptoms used in this study. The MASC is a 39-item scale that can be used with children and adolescents aged 8 through 19 years to assess a cross-section of anxiety symptoms in children. For instance, a participant is asked, "How often is the statement true for you?...I feel tense or uptight." Responses are measured on a 4-point response scale including 0 (*Never True About Me*), 1 (*Rarely True About Me*), 2 (*Sometime True About Me*), and 3 (*Often True*

About Me). The MASC can be scored manually or by computer by summation of the scores to create each subscale and an overall MASC Total Anxiety scale from the 39 items. *T*-scores are also generated. A *T*-score between 56 and 70 indicates that the respondent's anxiety is above average and he/she suffers from the particular set of symptoms for which the scale screened (e.g., Social Anxiety). A *T*-score below 55 is considered not clinically significant and thus does not warrant further attention. For the purposes of this study, the Total MASC Anxiety Scale was used. This scale covers a broad spectrum of anxious symptoms.

Regarding reliability and validity of the MASC Total Anxiety Scale, in a sample of 24 male and female children, the MASC Total Anxiety Scale evidenced high test-retest reliability ($r = 0.93$) and high internal consistency ($\alpha = .88$ to .89; March, 1997). Discriminant validity between a sample of clinically anxious children/adolescents and a non-anxious group evidenced a 90% sensitivity (March, 1997). Due to copyright restrictions, a copy of this scale is not included in the appendices.

Child and Adolescent Social Support Scale (CASSS). The CASSS (Malecki, Demaray & Elliot, 2000) is one of two measures in the current study that was used to assess indicators of school climate, specifically classmate support. The CASSS is a 60-item, five subscale, multi-dimensional measure of social-support for children and adolescents. For the purposes of this study, the CASSS-Classmate subscale (see Appendix C) was utilized as a measure of a classroom-based peer support dimension of school climate. The Classmate subscale consists of 12 items and assesses the student's perception of four types of support from classroom peers: emotional, appraisal, informational and instrumental support. Two Likert-type scales are used to assess

frequency and importance of perceived social support. However, in the archival dataset, only the frequency of perceived support scale was used. Students reported how often they received the support described, using a 6-point response scale from 1 (*Never*) to 6 (*Always*) that assesses frequency. For example, participants were asked to indicate how often they perceived support from their classmates, e.g., "my classmates….ask me to join activities." The subscale score ranges from 12 (minimum value) to 72 (maximum value). The higher the subscale score, the higher is the perceived level of classmate support.

Regarding reliability of the CASSS-Classmate subscale, Malecki and Demaray (2002) reported the CASSS-Classmate subscale to have a high test-retest reliability (r =.80) and high internal consistency (α =.94) based on a sample of 757 adolescents. Empirical support for the construct validity of this subscale is provided via a high correlation (r = .66) between the Classmate subscale of the CASSS and the corresponding subscale of Harter's Social Support Scale for Children (Malecki & Demaray, 2002).

School Climate Survey (SCS). The SCS (Haynes et al., 2001) is a 42-item survey designed to measure the nature of the relationships among staff and students within a school building and how students perceive their school environment. In this archival dataset, the High-School student version of the SCS was administered. Only the Student-Teacher Relations subscale (9 items) will be used in the analyses for the current study since a focus of this study is the student's perception of the nature of the relationship between the student and his/her teachers in terms of trust, caring and respect. Sample items on this subscale are "most teachers at my school care about the students who go here," and "at my school, the teachers do not respect the students." Responses are measured on a 5-point Likert-type scale, including 1 (*Strongly Disagree*), 2 (*Disagree*), 3

(*Not Sure*), 4 (*Agree*), and 5 (*Strongly Agree*). The SCS is scored manually to yield a domain score for the subscale of interest after the negatively-worded items have been reverse scored.

Regarding reliability of the School Climate Survey's Student-Teacher subscale, Haynes et al. (2001) reported an internal consistency of 0.89 for the Student-Teacher domain. Empirical support for the construct validity of the SCS is lacking. To date, the scale developers only report a summary statement to the effect that factor analysis supports a five-factor structure, and one of the five subscales is Student-Teacher Relations (Haynes et al., 2001). Due to copyright restrictions, a copy of this subscale is not included in the appendices.

Data Collection Procedure

At each of the 4 high schools, lists were developed by grade level, containing the names of all the students who received written parental consent (see Appendix D for parent consent form) to participate in the study. These participants were then assembled in the main hall at each school. The purpose of the study was re-stated and students provided written assent (Appendix E) to participate. Then, the battery of measures including the demographic form described above in this chapter was administered. To include students who were absent on the day of primary data collection, a follow-up collection day was designated at each school. Data collectors included two professors (Principal Investigators) from the University of South Florida and graduate-level student research assistants from the School Psychology Program, including the author of the current study. Data pertaining to the students' grades were collected in June 2007 at the

end of the school year from the students' cumulative school records with the assistance of a school employee from each high school.

Confidentiality was maintained in this study by assigning each participant a numerical code which was also placed on his/her questionnaire packet. A spreadsheet of the names and number assigned was created and kept separate from the completed questionnaires. All completed questionnaires were kept in file boxes and stored in a Principal Investigator's research laboratory at the University. A school employee of each high school provided the students' grades directly to a Principal Investigator via electronic mail. A spreadsheet containing the assigned student number, the students' responses to the questionnaires and their grades was created. This information regarding each student and grades was kept in a password-encrypted electronic file. The author of this present study analyzed a de-identified dataset that contained all available information from self-reports and school records for each student participant.

Ethical Considerations

Permission to conduct the study was sought from the University's Institutional Review Board. Once permission was granted, the IB administrator/IB principals and the AP administrators at each high school were invited to have students in their IB and AP programs participate in the study. Once district and school-level permission was granted, a letter providing information on the purpose of the study and requesting parental consent was given to IB and AP class teachers for distribution to all IB and AP students. Participation was also sought from students in general education at the two schools that had such programs. Only those students whose parents provided consent for their child to

participate in the study were asked to assent by signing a participant letter that described the purpose of the study.

Current Study: Statistical Analysis Procedures

The statistical analyses procedures used in the secondary analysis to address the research questions posed in the current study are described below. The SAS System (version 9.2) was used to conduct the data analyses.

Data Treatment

Frequencies were computed to check for missing data across the variables. Participants with missing values on any of the variables were not included in any further data analysis. For the IB, AP and general education programs, all students who self-identified as Caucasian across the 4 high schools were classified into the sub-group, "Caucasian" for this study. Likewise, all students who self-identified for the racial minority groups ("African American/Black," "Hispanic/Latino," "Asian American") across the 4 high schools were classified accordingly.

Descriptive statistics. Means, standard deviations, skewness, kurtosis and additional data (e.g., variances) were obtained for the college preparatory and general education subsamples. These descriptive statistics were also obtained for each of the variables of interest: academic achievement (GPA), program satisfaction, psychopathology (perceived stress, Affective Problems Scale of the YSR, the Total Anxiety scale of the MASC) and school climate (the Classmate Support subscale of the CASSS, the Student-Teacher relationship subscale of the SCS).

Group differences. Per research question, assumptions of the statistical test were examined prior to determining group differences. For the univariate analyses of variance

(ANOVA), tests of normality (skewness, kurtosis and Shapiro-Wilk test) and homogeneity of variance (using Levene's test) assumptions were examined. For the multivariate analysis of variance (MANOVA), the normality (multivariate skewness and multivariate kurtosis) and homogeneity of variance (using Box's M test) assumptions were examined. Given the results, ANOVA and MANOVAs were then conducted. Multivariate effect sizes were also computed.

Research Question 1: To determine if the students belonging to the various ethnic/racial groups evidenced statistically different levels of satisfaction with the college preparatory program, data were subjected to a one-way analysis of variance (ANOVA). Prior to conducting the univariate analyses, the assumptions underlying the ANOVA were examined. Skewness and kurtosis were examined, and the Shapiro-Wilk test was used to determine if there was normality of data. The Levene test was used to determine if the homogeneity of variance assumption was met. An alpha level of 0.05 was used to determine statistical significance. If the ANOVA evidenced a statistical difference, a Tukey honestly significant difference (HSD) post-hoc test and Bonferroni adjustments were conducted to determine which of the group means differed by a statistically significant amount.

Research Question 2: To determine if there were racial-ethnic differences in psychoeducational adjustment among student subgroups who participated in the college preparatory program, the means and standard deviations for each subgroup were calculated for each outcome indicator of psychoeducational adjustment. To determine if the mean differences between subgroups were statistically significant, data were subjected to a multivariate analysis of variance (MANOVA) with a Welch's *t* adjustment

to account for unequal group cell sizes. Prior to running the multivariate analyses, the assumptions underlying the MANOVA were examined. Skewness and kurtosis were examined to assess normality of the data. The Box's M test was used to determine if data met the homogeneity of covariance assumption. The Mahalanobis distance value was used to examine the possible influence of individual observations on the statistical result. An alpha level of 0.05 was used to determine statistical significance for each of these assumptions. A MANOVA with a Welch's t adjustment was then conducted to determine if students in the four racial-ethnic sub-groups (Caucasian, Asian American, African American and Hispanic/Latino) displayed between-group differences on the psychoeducational adjustment (i.e., academic achievement, perceived stress, anxiety, depression) within the college preparatory program. If the MANOVA evidenced statistical differences, follow-up (ANOVAs), using Tukey honestly significant difference (HSD) test and Bonferroni adjustments, were conducted to determine which of the groups' means differed by a statistically significant amount.

Research Question 3: To determine if there were racial-ethnic differences in school climate perceptions among student subgroups who participated in the college preparatory program, the means and standard deviations for each subgroup were calculated for each outcome indicator of school climate perceptions. To determine if the mean differences between subgroups were statistically significant, data were subjected to a multivariate analysis of variance (MANOVA) with a Welch's *t* adjustment to account for unequal group cell numbers. Prior to running the multivariate analyses, the assumptions underlying the MANOVA were examined. Skewness and kurtosis were used to assess normality of the data. The Box's M test was used to determine if the

homogeneity of covariance assumption was met. The Mahalanobis distance value was used to examine the possible influence of individual observations on the statistical result. An alpha level of 0.05 was used to determine statistical significance for each of these assumptions. A MANOVA with a Welch test adjustment was then conducted to determine if students in the four racial-ethnic sub-groups (Caucasian, Asian American, African American and Hispanic/Latino) displayed between-group differences on school climate perceptions (i.e., classmate support, student-teacher relationships) within the college preparatory program. If the MANOVA evidenced statistical differences, follow-up (ANOVAs), using Tukey honestly significant difference (HSD) test and Bonferroni adjustments, were conducted to determine which of the groups' means differed by a statistically significant amount.

Research Question 4: To determine if there were racial-ethnic differences in psychoeducational adjustment among student subgroups across the educational programs (i.e., the college preparatory program compared to the general education program), the means and standard deviations for each subgroup were calculated for each outcome indicator of psychoeducational adjustment. The assumptions underlying the MANOVA were then examined. Skewness and kurtosis were used to assess normality of the data. The Box's M test was used to determine if the homogeneity of covariance assumption was met. The Mahalanobis distance value was used to examine the possible influence of individual observations on the statistical result. An alpha level of 0.05 was used to determine statistical significance for each of these assumptions. A Factorial MANOVA, with a Welch's *t* adjustment to account for unequal group cell numbers, was then conducted to determine if students in the three racial-ethnic sub-groups (Caucasian,

African American and Hispanic/Latino) displayed between-group differences on the psychoeducational adjustment (i.e., academic achievement, perceived stress, anxiety, depression) across the educational programs. If the Factorial MANOVA evidenced statistical differences, follow-up (ANOVAs) using Tukey honestly significant difference (HSD) test and Bonferroni adjustments were conducted to determine which of the groups' means differed by a statistically significant amount.

Research Question 5: To determine if there were racial-ethnic differences in school climate perceptions among student subgroups across the educational programs (i.e., the college preparatory program compared to the general education program), the means and standard deviations for each subgroup were calculated for each outcome indicator of school climate perception. The assumptions underlying the MANOVA were then examined. Skewness and kurtosis were used to assess normality of the data. The Box's M test was used to determine if the was homogeneity of covariance assumption was met. The Mahalanobis distance value was used to examine the possible influence of individual observations on the statistical result. An alpha level of 0.05 was used to determine statistical significance for each of these assumptions. A Factorial MANOVA, with a Welch's *t* adjustment to account for unequal group cell numbers, was then conducted to determine if students in the three racial-ethnic sub-groups (Caucasian, African American and Hispanic/Latino) displayed between-group differences on the school climate perception (i.e., classmate support, student-teacher relationships) across the educational programs. If the Factorial MANOVA evidenced statistical differences, follow-up (ANOVAs), using Tukey honestly significant difference (HSD) test and

Bonferroni adjustments, were conducted to determine which of the groups' means differed by a statistically significant amount.

Chapter IV

Results

The present study was designed to determine the program satisfaction, psychoeducational adjustments and school climate perceptions of Caucasian and ethnic minority students who participate in college preparatory programs. The purpose of this chapter is to describe the results of the statistical analyses conducted for this study. Findings are presented by research question.

Data Screening

The entire sample consisted of 381 students in the college preparatory program and 156 in the general education program. Missing values resulted in different program numbers per question. Actual sample numbers will be reported per research question.

Internal Consistency of Instruments

Data on the internal consistency reliability of the measures used in this study are provided following an examination of the values for Cronbach's alphas that were yielded for each multi-item indicator. For the psychological indicators, the internal consistency reliability estimates as measured by coefficient alpha (α) are as follows: perceived stress $\alpha = 0.88$, anxiety $\alpha = 0.71$, and depression $\alpha = 0.75$. For the school climate indicators: classmate support $\alpha = 0.92$ and student-teacher relationships $\alpha = 0.89$. All values exceed the 0.70 lower bound that Nunnally (1978) recommended as adequate internal consistency required for research purposes. Estimates of internal consistency reliability

could not be calculated for program satisfaction and GPA because these two indicators consist of one item only.

Analyses Conducted to Answer Specific Research Questions

Research Question 1: To what extent are students in college preparatory programs (IB and AP) who are from different ethnic backgrounds (specifically Caucasian, African American, Asian American and Hispanic/ Latino) satisfied with their college preparatory program? Means and standard deviations of program satisfaction ratings reported by the 381 participants across both IB and AP programs are presented in Table 2.

Table 2

Means, Standard Deviations, Skewness and Kurtosis of Program Satisfaction by Racial-Ethnic Subgroup

	Program Satisfaction Score				
Group	*n*	*M*	*SD*	Skew	Kurtosis
Caucasian	253	3.94	0.77	-0.94	1.66
Asian American	40	3.78	0.89	-0.90	1.41
African American	54	3.69	0.95	-0.42	-0.64
Hispanic/ Latino	34	3.97	0.52	-0.05	1.10

N = 381

A cursory examination of Table 2 suggests that the Hispanic/Latino and Caucasian students had a somewhat higher level of program satisfaction as compared to their other peers who were also in college preparatory programs. Considering the 5-point scale that participants used to rate their level of satisfaction with their academic program, the mean

score for both the Hispanic/Latino Caucasian students corresponded to the response option of "agree" with the statement that "I am satisfied with my school program." The mean rating from participants in the other two minority race subgroups appears somewhat lower.

To determine if these students belonging to the various ethnic/racial groups evidenced statistically different levels of satisfaction with the college preparatory program, data were subjected to a one-way analysis of variance (ANOVA). Prior to running the univariate analyses, the assumptions underlying the ANOVA were examined. Results of the Shapiro-Wilk test revealed a violation of the normality assumption for each group. The Levene test indicated that score distributions were heterogeneous across groups, $F(3, 377) = 6.51$, $p<.01$. Thus, the homogeneity of variance assumption was violated. Since a large sample increases the likelihood that the ANOVA will be robust to violations of its assumptions, the researcher proceeded with further analyses. The results of this ANOVA are reported in Table 3. An alpha level of .05 was used to determine statistical significance.

Table 3

Analysis of Variance of Program Satisfaction Scores by Racial-Ethnic Subgroup

Source	df	SS	MS	F
Race	3	3.67	1.22	1.94
Error	377	237.70	0.63	
Total	380	241.37		

Results of the ANOVA indicate that there was no statistically significant differences among the ethnic groups on the Program Satisfaction indicator, F (3, 377) = 1.94, p = 0.12. Students belonging to the different ethnic groups who participated in college preparatory program reported similar levels of satisfaction with their programs; all mean scores were in the neutral to positive range of satisfaction for each subgroup of students.

Research Question 2: Are there differences among Caucasian, African American, Asian American and Hispanic/Latino students who participate in college preparatory programs on the following outcomes of psychoeducational adjustment:

a. Academic Achievement as measured by grade point average (GPA)
b. Perceived stress
c. Internalizing symptoms (anxiety, depression) of mental health problems?

Means and standard deviations for each racial/ethnic subgroup were computed for each outcome indicator of psychoeducational adjustment (n= 366; see Table 4). As is shown, although Asian American subgroup had a smaller sample size (n =39), the variances of that group were somewhat higher than the variance of the larger Caucasian group (n = 243). Box's M test was used to test the homogeneity of covariance assumption. To determine if the mean differences between subgroups were statistically significant, data were subjected to a multivariate analysis of variance (MANOVA) with a Welch's t adjustment to account for unequal group cell sizes. Prior to running the multivariate analyses, the assumptions underlying the MANOVA were examined. Data indicated that the multivariate skewness was not in the expected range for a sample drawn from a multivariate distribution [$b_{1,p}$ = 1.20, χ^2 (20, N =366) = 74.00, $p < .001$], while the

Table 4

Means and Standard Deviations of Psychoeducational Adjustment Outcomes by Racial-Ethnic Subgroup

	Caucasian (*n*=243)		Asian American (*n*= 39)		African American (*n*=50)		Hispanic/ Latino (n=34)	
Adjustment Outcome	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Grade Point Average	3.90[a]	0.50	4.10[a]	0.43	3.62[b]	0.56	3.93[ab]	0.42
Perceived Stress	3.09	0.91	3.20	1.06	3.11	0.99	3.00	0.78
Anxiety	40.23	15.78	43.51	16.73	37.88	14.69	39.09	14.05
Depression	3.46	2.76	3.90	2.58	3.16	2.71	3.85	3.16

Note: Statistically significant differences between group means are indicated by different letters. Means having the same superscript are not significantly different. Means without a superscript are not significantly different from any group means. Tukey HSD comparisons for significance was set at p =0.0125.

multivariate kurtosis was in the expected range expected [$b_{2,p}$ = 23.22, z_{upper} = -1.08, z_{lower} = -1.53]. Although skewness suggests deviation from multivariate normality, the MANOVA is relatively robust to such violations. The Box's M test was not significant [χ^2 (20, N = 366) = 29.40, p =0.496]; therefore, evidence suggests that there are no statistically significant differences in the covariance matrices. The homogeneity of covariance assumption was met. Screening for the multivariate outliers suggested possible influence by one observation. A reanalysis without the outlier led to the same substantive conclusions, i.e. Mahalanobis distance of 15.56 [F (4, 361) = 4.03, p = 0.003]. Based on the above analyses, it was deemed appropriate to conduct further analyses using the MANOVA.

Results of the MANOVA indicated that there was a significant overall difference between ethnic groups on psychoeducational adjustment (Λ=0.93, F (12, 950) = 2.31, p =.007). Multivariate effect size for racial/ethnic membership on these psychoeducational adjustment outcomes was small (η^2= .07). To assess for specific differences among the groups on specific outcomes, univariate analysis of variance (ANOVA) and Tukey HSD follow-up tests were conducted for each psychoeducational adjustment variable. Univariate Welch's t adjusted ANOVAs indicated differences among the ethnic groups only on the academic achievement variable, i.e. grade point average, F (3, 83.7) = 6.86, p <.001. Tukey HSD test comparisons (α < .0125) showed that Asian American college preparatory program students demonstrated a statistically higher academic achievement level (M = 4.10) than their African American college preparatory program peers (M = 3.62). Likewise, Caucasian college preparatory students had a statistically significant higher academic achievement level (M = 3.90) than their African American peers (M =

3.62). No statistically significant differences on academic achievement were observed among Asian American, Caucasian American or Hispanic/Latino college preparatory students.

Research Question 3: Are there differences among Caucasian, African American, Asian American and Hispanic/Latino students who participate in college preparatory programs on the following indicators of school climate:

a. Classmate support
b. Student-teacher relationships?

Means and standard deviations for each outcome indicator of school climate for each subgroup were calculated. Descriptive statistics by subgroup are presented in Table 5. Deletion of cases with missing data for the school climate indicators resulted in data from a total of 268 participants being used in the final analyses. As is shown, although Hispanic/Latino subgroup had a smaller sample size (n =20), the Student-Teacher Relationships variance of that group was somewhat higher than the variance of the larger Caucasian group (n = 165). Box's M test was used to test the homogeneity of covariance assumption.

To determine if the mean differences between subgroups were statistically significant, data were subjected to a multivariate analysis of variance (MANOVA) with a Welch's *t* adjustment to account for unequal group sizes. Prior to running the multivariate analyses, the assumptions underlying the MANOVA were examined. Data indicated that the multivariate skewness was not in the expected range for a sample drawn from a

Table 5

Means and Standard Deviations of School Climate Indicators by Racial-Ethnic Subgroup

School Climate Indicator	Caucasian (*n*=165)		Asian American (*n*= 30)		African American (*n*=53)		Hispanic/ Latino (*n*=20)	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Classmate Support	4.08	0.83	4.41	0.82	4.21	0.77	4.18	0.67
Student-Teacher Relationships	3.71	0.61	3.79	0.62	3.55	0.63	3.61	0.80

Note: Statistically significant differences between group means are indicated by different letters. Means having the same superscript are not significantly different. Means without a superscript are not significantly different from any group means. Tukey HSD comparisons for significance was set at p =0.0125.

multivariate distribution [$b_{1,p} = 0.47$, χ^2 (4, N =268) = 21.25, $p < .001$], while the multivariate kurtosis was in the expected range [$b_{2,p} = 8.79$, $z_{upper} = 1.62$, $z_{lower} = 1.43$]. Although skewness suggests deviation from multivariate normality, the MANOVA is relatively robust to such violations. The Box's M test was not significant [χ^2 (9, N = 268) = 5.11, p =.823]; therefore, evidence suggests that there are no statistically significant differences in the covariance matrices. The homogeneity of covariance assumption was met. Screening for the multivariate outliers suggested possible influence by one observation. A reanalysis without the outlier led to the same substantive conclusions, i.e. Mahalanobis distance of 14.57 [F (2, 265) = 7.68, $p < 0.001$]. Based on the above analyses, it was deemed appropriate to conduct further analyses using the MANOVA.

The significant correlation between dependent variables included in the MANOVA was 0.32. Results of the MANOVA indicated that there were no statistically significant differences between the racial-ethnic groups on the school climate variables, specifically classmate support and student-teacher relationships, Λ=0.97, F (6,526) = 1.52, p = .17. Students belonging to the different ethnic groups who participated in college preparatory program perceived similarly high levels of classmate support and similarly positive relationships between themselves and their teachers (Table 5). For classmate support, all mean scores corresponded to the response option "4" which is indicative of perceiving classmate support "most of the time." Likewise, the mean scores of teacher-student relationships also corresponded to a rating value for just below the rating for a minimally positive endorsement of a caring, respectful and trustful relationship between students and teachers.

Research Question 4: Are there differences between Caucasian, African American and Hispanic/Latino students who participate in college preparatory programs compared to those who participate in general education program on the following outcomes of psychoeducational adjustment:

a. Academic Achievement as measured by grade point average (GPA)

b. Perceived stress

c. Internalizing symptoms (anxiety, depression) of mental health problems?

Means and standard deviations for each subgroup were calculated for each outcome indicator of psychoeducational adjustment. Descriptive statistics by subgroup are presented in Table 6. Data from a total of 471 participants were analyzed, inclusive of Caucasian, African American and Hispanic/ Latino students who were enrolled in either the college preparatory or general education programs, and who also responded to each indicator of interest. Data from Asian American participants in both programs were omitted from the dataset used in this set of analyses due to low numbers in one of the program subgroups. As is shown, although Hispanic/Latino subgroup had a smaller sample size, the variances of that group were somewhat higher than the variance of the larger Caucasian group. Box's M test was used to test the homogeneity of covariance assumption.

Data were subjected to a factorial multivariate analysis of variance (Factorial MANOVA) with a Welch's *t* adjustment to account for unequal group sizes. Prior to running the multivariate analyses, the assumptions underlying the Factorial MANOVA were examined. Data indicated that the multivariate skewness was not in the expected

Table 6

Means and Standard Deviations of Psychoeducational Adjustment by Racial-Ethnic Subgroup and Education Program

		Psychoeducational Adjustment Measures							
		GPA		Perceived Stress		Anxiety		Depression	
Education Program	*n*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
College Preparatory[a]									
Caucasian	244	3.89[abc]	0.52	3.09	0.91	40.25	15.75	3.45	2.76
African American	50	3.62[abd]	0.56	3.11	0.99	37.88	14.69	3.16	2.71
Hispanic/Latino	34	3.93	0.42	3.00	0.78	39.09	14.05	3.85	3.16
General Education[b]									
Caucasian	88	3.03	0.73	3.03	0.97	36.16	17.35	2.76	2.53
African American	27	2.60	0.75	2.74	0.92	38.96	13.21	3.81	2.65
Hispanic/ Latino	28	2.95	0.76	2.74	0.91	38.46	15.50	3.46	2.91

Note: Statistically significant differences between group means are indicated by different letters. Means having the same superscript are not significantly different. Means without a superscript are not significantly different from any group means. Tukey HSD comparisons for significance was set at p =0.0167.

range for a sample drawn from a multivariate distribution [$b_{1,p}$ = 1.78, χ^2 (20, N = 471) = 141.18, p <.001, while the multivariate kurtosis was in the expected range expected [$b_{2,p}$ = 24.32, z_{upper} = 0.50, z_{lower} = 0.10]. Although skewness suggests deviation from multivariate normality, the MANOVA is relatively robust to such violations. The Box's M test was not significant [χ^2 (20, N = 471) = 27.92, p =.11]; therefore, evidence suggests that there are no statistically significant differences in the covariance matrices. The homogeneity of covariance assumption was met. Screening for the multivariate outliers suggested possible influence by one observation. A reanalysis without the outlier led to the same substantive conclusions, i.e., Mahalanobis distance of 15.75 [F (4, 466) = 4.05, p = 0.003]. Based on the above analyses, it was deemed appropriate to conduct further analyses using MANOVA.

Results of the Factorial MANOVA analyses of psychoeducational adjustment indicated that there were significant main effects for Race (Λ=0.94, F (8,924) = 3.78, p < .001) and Education Program Type (Λ=0.72, F (4,462) = 44.89, p <.001) but no significant Race X Education Program Type interaction effect (Λ=0.97, F (8,924) = 1.54, p =.14). Multivariate effect size for racial/ethnic membership (η^2= .06) and for education program type (η^2= .28) on these psychoeducational adjustment outcomes were small. Follow-up testing of the significant main effects using ANOVA indicated these main effects were apparent only for grade point average, F (5, 465) = 51.77, p <.001. Tukey HSD (p = 0.017) revealed that students in the college preparatory program demonstrated higher academic achievement (M = 3.85) than students in the general education program (M = 2.93), and regardless of program, Caucasian American students demonstrated a

higher academic achievement level (M = 3.66) than their African American peers (M =3.26).

Table 7

Univariate Analysis of Variance of Academic Achievement by Racial-Ethnic Subgroup and Education Program

Source	df	SS	MS	F
Race (A)	3	6.99	3.49	9.82*
Education Program (B)	1	59.63	59.63	167.70**
A x B	2	0.41	0.21	0.58
S/ AB (Error)	465	165.33	0.36	
Total	470	232.36		

***p<.001*

Research Question 5: Are there differences between Caucasian, African American and Hispanic/Latino students who participate in college preparatory programs compared to those who participate in the general education program on the following indicators of school climate:

a. Classmate support
b. Student-teacher relationships?

Means and standard deviations of school climate indicators- classmate support and student-teacher relationships for each subgroup were calculated. Descriptive statistics by subgroup are presented in Table 8. Data from a total of 314 participants were analyzed, inclusive of Caucasian, African American and Hispanic/ Latino students who were

Table 8

Means and Standard Deviations of School Climate Indicators by Racial-Ethnic Subgroup and Education Program

		School Climate Indicators			
		Classmate Support		Student-Teacher Relationship	
Education Program	*n*	*M*	*SD*	*M*	*SD*
College Preparatory[a]					
Caucasian	165	4.08	0.83	3.71[abc]	0.61
African American	53	4.21	0.77	3.55[abd]	0.63
Hispanic/Latino	20	4.18	0.67	3.61	0.80
General Education[b]					
Caucasian	34	3.71	0.66	3.63[abc]	0.55
African American	20	4.32	0.94	3.00[abd]	1.12
Hispanic/ Latino	22	4.06	1.04	3.43	0.57

Note: Statistically significant differences between group means are indicated by different letters. Means having the same superscript are not significantly different. Means without a superscript are not significantly different from any group means. Tukey HSD comparisons for significance was set at p =0.0167.

enrolled in either the college preparatory or general education programs, and also responded to each indicator of interest. Data from Asian American participants in both programs were omitted from the analyses due to low numbers in their respective subgroup samples. As is shown, although Hispanic/Latino subgroup had a smaller sample size, the variances of that group were somewhat higher than the variance of the larger Caucasian group. Box's M test was used to test the homogeneity of covariance assumption.

Data were subjected to a factorial multivariate analysis of variance (Factorial MANOVA) with a Welch's *t* adjustment to account for unequal group sizes. Prior to running the multivariate analyses, the assumptions underlying the Factorial MANOVA were examined. Data indicated that the multivariate skewness was not in the expected range for a sample drawn from a multivariate distribution [$b_{1,p} = 0.46$, χ^2 (4, $N = 314$) = 24.57, $p < .001$], while the multivariate kurtosis was in the expected range [$b_{2,p} = 8.61$, $z_{upper} = 1.36$, $z_{lower} = 1.19$]. The Box's M test was significant [χ^2 (6, $N = 314$) = 13.37, p =.038]; therefore, evidence suggests that there are statistically significant differences in the covariance matrices. There is heterogeneity of covariance. Screening for the multivariate outliers suggested possible influence by one observation. A reanalysis without the outlier led to the same substantive conclusions, i.e., Mahalanobis distance of 11.93 [F (2, 311) = 6.18, $p = 0.002$]. Although the skewness and Box's M test was significant and suggests non-normality, the proposed analyses were run since the large sample size provides robustness against violations of assumptions.

The significant correlation between dependent variables included in the MANOVA was 0.29. Results of the Factorial MANOVA analyses of school climate

indicators indicated that there were significant main effects for Race (Λ=0.90, F (4, 614) = 7.87, p <.001) and Education Program Type (Λ=0.98, F (2, 307) = 3.61, p =.0281) and a significant Race X Education Program Type interaction effect (Λ=0.96, F(4, 614)= 3.09, p=.016). Multivariate effect sizes for racial/ethnic membership (η^2= .10) and of education program type (η^2= .02) on these school climate indicators were small. Follow-up of significant effects was done using two-way ANOVAs with education program type and race as independent variables and classmate support and student-teacher relationships as dependent measures in each analysis. The Tukey HSD was used as the post-hoc test at each level of the dependent variable. Results indicated that significant main effects (Table 9) were found only for the student-teacher relationship variable, F (5, 308) = 4.55, p <.001. Of note, the univariate analysis conducted for the student-teacher relationship variable did not support a significant Race X Education Program Type interaction, as the p-value yielded in the analysis was .0823. Tukey HSD (α = 0.0167) revealed that students in the college preparatory program perceived higher levels of a positive student-teacher relationship (M = 3.66) than students in the general education program (M = 3.41), and Caucasian American students perceived higher levels of a positive student-teacher relationship (M = 3.69) than their African American peers (M =3.40). For the classmate support variable, no significant main effects and no significant interaction effect (Table 10) were found, F (5, 308) = 2.05, p =.07. Tukey HSD (α = 0.0167) revealed that students from all racial/ethnic backgrounds and educational program types perceived similar levels of moderately positive support from classmates.

Table 9

Analysis of Variance of Student-Teacher Relationship by Racial-Ethnic Subgroup and Education Program

Source	df	SS	MS	F
Race (A)	2	6.06	3.03	6.96*
Education Program (B)	1	3.14	3.14	7.22*
A x B	2	2.19	1.09	2.52
S/ AB (Error)	308	134.09	0.44	
Total	313	145.48		

**p <.05*

Table 10

Analysis of Variance of Classmate Support by Racial-Ethnic Subgroup and Education Program

Source	df	SS	MS	F
Race (A)	2	5.43	2.71	4.06
Education Program (B)	1	0.73	0.73	1.10
A x B	2	2.33	1.16	1.74
S/ AB (Error)	308	205.92	0.67	
Total	313	214.41		

**p <.05*

Chapter V

Discussion

Due to the growing student participation rates (College Board, 2008c; IBO, 2006; IBO 2007e), increased attention has been focused on the nature of the school experiences of students in college preparatory programs. Past studies indicate a range of student experiences from stress due to the coursework (Taylor, Pogrebin, & Dodge, 2002), to struggling to manage the intense academic pace (Taylor & Porath, 2006), to students presenting as well-adjusted compared to peers in the less-intensive general education program (Shaunessy et al., 2006). The current research is an attempt to further understand the extent to which participation in academically rigorous programs, such as IB and AP, particularly impacts students from racially diverse backgrounds. This study specifically examined the program satisfaction, school climate perceptions (relationships with peers and teachers), and psychoeducational adjustment (academic and mental health functioning) of Caucasian and minority-race college preparatory students.

Huebner and Gilman (2006) have posited that school satisfaction is closely linked to social-emotional functioning. Findings in the current study indicate that similar levels of curriculum program satisfaction (i.e., one specific aspect of school satisfaction) exist among racially-diverse college preparatory students. Moreover, the average scores reported by various ethnic/racial groups indicate some ambivalence regarding program satisfaction. Specifically, since average scores corresponded to just at or below the rating for a minimally positive endorsement of one's school satisfaction, additional research is

needed (perhaps via qualitative methods or a survey with multiple items loading on this indicator) to gain a richer understanding of what aspects of the college preparatory program are particularly satisfying (e.g. varied courses, the academic challenge or knowledgeable teaching staff) as well as those aspects that are perceived less positively. Regardless, the current study suggests that the typical student in a college preparatory curriculum is satisfied with his/her academic program.

In this exploratory study, college preparatory students evidenced significantly higher levels of academic achievement compared to students in the general education program. This is not surprising given the fact that initial entry into college preparatory programs required high academic caliber (e.g., Riverview High School, 2008), and a weighting procedure is used to yield higher grade point averages for college preparatory coursework that is completed successfully. Within the college preparatory program, both Asian American and Caucasian students academically outperformed their African American peers. Moreover, ethnic group membership and academic achievement was found to be a significant indicator of achievement independent of education program. Specifically, Caucasian and Asian American students were generally found to have superior academic performance compared to African American students. However, the academic performance of Hispanic/Latino students was not observed to be any different from their racially-diverse peers, whether the peers were from within the same education program or from a different education program. The lack of statistical significance for Hispanic/Latino students may be due to comparatively low sample numbers, as trends evident in sample means suggest that Hispanic/Latino students were achieving at a level more similar to Caucasian students than African American students. The higher

academic achievement obtained by Asian Americans and Caucasian students relative to their African American peers is consistent with prior research. National and state-level data available for these students indicates that Asian American and Caucasian students have been consistently outperforming their African American peers (College Board, 2008c). Present support for this performance disparity among a sample of high school students in Florida provides support for calls for focused research on the relative academic underperformance of African American students (Fisher, 2000; Ford, 1996; Perry, Hilliard, & Steele, 2004).

With regard to mental health, no differentiation on levels of stress, depressive symptomology, or anxiety as a function of racial background or the intensity of the education program was observed. The findings thus indicate that compared to their Caucasian college preparatory peers, students from minority-race backgrounds evidence similar levels of stress and psychopathology. Furthermore, college preparatory minority-race students do not experience significantly higher or lower levels of stress or psychopathology than their same-race general education peers, even though they are in a more academically intensive program; a finding that perhaps provides a positive response to Roeser et al. (1998)'s question about how the context of schooling influence's a child's academic and mental health outcomes. However, these results differ from Suldo, Shaunessy and Hardesty (2008)'s finding that IB students perceived more stress than general education students. The current contrast may be due to this study's analysis of IB and AP as a singular college preparatory entity versus Suldo and colleagues' analysis of IB-only students. Or, it could reflect Roeser et al., (2000)'s assertion that academic competence does indeed buffer emotional distress.

Research has shown that relationships with teachers and peers (Osterman, 2002; Wentzel, 1998) are important for a student's well-being. Current findings indicate that regardless of their racial background, students *within* the college preparatory program perceived similarly high levels of support from both their teacher and their classmates. A cross-educational program examination revealed that college preparatory students collectively perceived significantly more positive and healthier relationships with their teachers than their general education counterparts perceived. Such perceptions may exist due to inherent features of the IB and AP programs such as highly-skilled, well-trained teachers, teacher expectations for high student academic standards, as well as the emphasis on encouraging critical thinking skills by students; all of which foster healthy interactions among the students and teachers. These elements may thus have led the college preparatory students to believe teachers value them and promote their academic engagement (Gershoff & Aber, 2006; Mayer, Mullens & Moore, 2000; Osterman, 2002). Interestingly, when race was considered independent of the education program, Caucasian American students perceived a significantly higher level of caring, respect and trust from their teachers than their African American peers indicated. An examination of group means revealed a trend for this difference to be less apparent among the students in college preparatory programs. It is unknown if the type of questions asked on the Student-Teacher subscale of the School Climate Survey are culturally relevant, in that the questions may or may not fully capture how African American students would define a positive teacher-student relationship. With the trend of ethnic group differences in perceived student-teacher relations being less apparent within the college preparatory program, this finding may reflect advantages in teacher quality and training in

academically advanced programs versus general public education programs. In sum, the current study suggests that the disparity between Caucasian American and African American students' perceptions of student-teacher relations may be less pronounced among student in college preparatory programs, such that African American students in general education are at greater risk for perceiving less positive student-teacher relationships relative to their Caucasian peers; however, additional studies with larger samples of students are needed to confirm if this trend is reliable (i.e., statistically significant).

In the current study, classmate support was not found to be distinct among any specific racial group or in the cross-education program comparison. Instead, students from all racial/ethnic backgrounds and educational programs perceived a moderately positive level of support from their classmates. This finding is consistent with work by Kyburg (2006) who observed that racially, linguistically, culturally and economically diverse students collectively reported supportive peers in their AP and IB classes. Given the particularly extensive research on the school experiences of African American students (Benton-Lee, 2006; Carter, 2005, Hemmings, 1996), this current finding of the supportiveness of peers thus adds fodder to the continuing discourse regarding the true nature of peer relations (i.e., support versus no support) for African American students who pursue advanced academic coursework (see also Ford, 2002; Tyson et al., 2005).

Conclusion

In response to Roeser et al., (1998)'s call for interdisciplinary research on academic and emotional functioning, this exploratory study suggests that most college preparatory program students from racially-diverse backgrounds are satisfied with their program, are doing well academically (i.e., grade point averages corresponding to a "B" or better) and are not experiencing elevated levels of psychopathology due to participation in this academically intensive program. Educators, school support staff and parents interested in promotion of these advanced high school curricula may thus tentatively conclude that, beyond the academic benefits that have been established in past research, college preparatory programs also do not engender mental ill health in terms of symptoms of stress, anxiety, and/or depression. In addition to its association with good psychoeducational adjustment, participation in college preparatory programs is also positively linked to healthy student-teacher and intact student-peer relationships. Given the academic intensity of college preparatory programs, such interpersonal relations are key since teachers keenly influence a student's academic progress (Osterman, 2002), while peers relations are closely linked to emotional well-being (Wentzel, 1998). As such, it appears that college preparatory programs, such as IB and AP, are indeed associated with optimal psychoeducational functioning (Roeser & Eccles, 2000).

Future Directions

The findings of the current study suggest that, regardless of their racial-ethnic background, participation in college preparatory programs is advantageous for all students. In the particular case of African American students, such positive psychological and school climate outcomes bode well for their growing participation in college

preparatory programs since research has indicated that an academically intensive high school experience is paramount to their success in college (Adelman, 1999; 2006; Conley, 2005). However, any definitive conclusions should be tempered by the following considerations. Participation in IB and AP programs was collapsed together and studied as one entity. Although there are many program similarities such as academic rigor and financial benefits (Stanford University, 2008), IB and AP are indeed two distinct advanced high school programs with different governance. As such, future research on college preparatory programs should consider examining these programs separately, since nuances in program structure could yield a significant influence on the students' experiences.

Analyses were performed on an archival data set that included very unequal numbers of students from different racial/ethnic subgroups. However, the participation rates by racial groups in the current study were comparable to participation rates at the state and national levels (College Board, 2008k; IBO, 2007h, U.S. Census Bureau, 2006). Since past research had been conducted primarily with Caucasian students, their inclusion in the current study as a comparison group provided an opportunity to further knowledge of student experiences in college preparatory programs (Shaunessy, et al., 2006; Taylor & Porath, 2006). Future research examining student experiences per distinct college preparatory program should also include the various racially-diverse students' representative percentages comparable to national participation rates in the IB and AP programs.

The various race group means for program satisfaction were in a range just below positive agreement (Likert scale score average of '3.8'). Given the established link

between school satisfaction and mental health/ wellness (Huebner & Gilman, 2006) and between positive valuation of school and mental health (Roeser et al., 2001), it may be worthwhile to further explore a broader definition of program satisfaction than the single item question employed in this archival data study. For instance, it may be useful to adapt the School subscale of the Multidimensional Students' Life Satisfaction Scale (MSLSS; Huebner, et al., 1998) to focus specifically on satisfaction with one's curriculum program, prior to any examinations of its link to socio-emotional functioning.

The absence of significantly high levels of stress, anxiety and depressive symptomology among college preparatory students regardless of race is an intriguing finding given some past research that suggested challenges such as isolation and loneliness among high-achieving African American students (Ford, 2002), and test anxiety among Asian American students (Wing, 2007). A more thorough understanding of the presence/absence of mental health problems among racial-diverse college preparatory students may be achieved through qualitative procedures (e.g., focus groups; Tyson et al., 2005; Wing, 2007). For instance, given the insightful findings from prior research on students' coping strategies (Suldo et al., 2008), future work could be focused on the coping strategies of the various diverse students in each distinct college preparatory program. For instance, what specifically are these students doing that is preventing the development of mental ill health, and do these activities differ by the distinct program or racial grouping? Such information would provide educators and concerned parents with a wide repertoire of individualized strategies that they can recommend to support the academic prowess of their students.

Limitations

The findings of this study are limited by the use of secondary data. In the initial collection of the data, the current research questions were not of prime interest. As such, college preparatory and general education students from racial and ethnic minority backgrounds were not aggressively recruited to ensure a more equal balance of participants. Likewise, the specific response rates of each high school site are unknown. The Principal Investigators and their research team were directly involved in the data collection at one high school site. At the other three sites, participant recruitment and data collection were undertaken by the school-based IB coordinators. As such, the reason for the poor response rate is believed to be related to a lack of direct involvement by the Principal Investigators. Likewise, the majority of the sample consists of female participants (approx. two-thirds) and those who can be categorized into an average to high socioeconomic status. Thus, the influence of gender and socioeconomic status on the variables of interest is relatively unknown.

It is not known how many AP courses students in the general education program may have taken or how many general education students took some AP courses. As such, the extent to which participation in a limited number of AP courses may have impacted the academic achievement (i.e., grade point average), the perceptions of program satisfaction, perceived stress, and school climate (i.e., classmate support and teacher-student relationships) of students in the general education program is unknown.

Another limitation is the use of the YSR-Withdrawn/ Depressed subscale as the measure of depressive symptomology. This subscale does not diagnose depression nor fully capture the symptomology range considered in the DSM classifications of

Dysthymia or Major Depressive Disorders. As such, the assessment of participants' symptoms of depression as a mental health problem is limited. Likewise, the assessment of stress, anxiety and depression reflects the one specific moment of time in the data collection process. As such, the degree to which the findings of this study may be influenced by a state versus trait occurrence of stress, anxiety and depression among the respondents is unknown.

Delimitations

The findings of this study may be generalized to Caucasian students and students from racial and ethnic minority groups who have participated in the International Baccalaureate Diploma program, Advanced Placement program and the general education track within the state of Florida. The findings cannot be generalized to students who are participating in other college preparatory programs (i.e. Dual Credit, and Multidisciplinary) or who reside in other states.

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Appendices

Appendix A: Demographics Form

Code # _____ Fall 2006
School _____

Birthdate _____(month)- _____(day)- _____(year)

PLEASE READ EACH QUESTION AND CIRCLE **ONE** ANSWER PER QUESTION:

1. I am in grade: 9 10 11 12

2. My gender is: Male Female

3. Do you receive free or reduced lunch? Yes No

4. Which school program are you in? IB AP Traditional

5. My race/ethnic identity is:
   a. American Indian or Alaska Native
   b. Asian
   c. Black or African American
   d. Hispanic or Latino
   e. Native Hawaiian or Other Pacific Islander
   f. White
   g. Multi-racial (please specify):_____
   h. Other (please specify):_____

6. My father's highest education level is:
   a. 8th grade or less
   b. Some high school, did not complete
   c. High school diploma/GED
   d. Some college, did not complete
   e. College/university degree
   f. Master's degree
   g. Doctoral level degree (Ph.D, M.D.) or other degree beyond Master's level

7. My mother's highest education level is:
   a. 8th grade or less
   b. Some high school, did not complete
   c. High school diploma/GED
   d. Some college, did not complete
   e. College/university degree
   f. Master's degree
   g. Doctoral level degree (Ph.D, M.D.) or other degree beyond Master's level

8. About how long does it take you to travel from your house to school each morning? _____hrs _____mins

9. How much did each person influence your choice of high school program (AP, IB, traditional, etc.)?	**Not at All**	**Not Much**	**Some**	**A Lot**	**Entirely**
Self (own desires/goals)	1	2	3	4	5
Parent/guardian(s)	1	2	3	4	5
Brother/sister(s)	1	2	3	4	5
Teacher(s)	1	2	3	4	5
School Counselor/Advisor(s)	1	2	3	4	5
Friend(s)	1	2	3	4	5
Other: _____	1	2	3	4	5

	Strongly Disagree	**Disagree**	**Not Sure**	**Agree**	**Strongly Agree**
10. I am satisfied with my school program (e.g., IB, AP, traditional, etc.)	1	2	3	4	5

Appendix B: Perceived Stress Scale

The next questions ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate *how often* you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly.

In the last month, how often have you…	Never	Almost never	Sometimes	Fairly often	Very often
1. …been upset because of something that happened unexpectedly?	**1**	**2**	**3**	**4**	**5**
2. …felt that you were unable to control the important things in your life?	**1**	**2**	**3**	**4**	**5**
3. …felt nervous and "stressed"?	**1**	**2**	**3**	**4**	**5**
4. …found that you could not cope with all the things that you had to do?	**1**	**2**	**3**	**4**	**5**
5. …been angered because of things that happened that were outside of your control?	**1**	**2**	**3**	**4**	**5**
6. …felt difficulties were piling up so high that you could not overcome them?	**1**	**2**	**3**	**4**	**5**

Appendix C: Child and Adolescent Social Support Scale

Next, please respond to sentences about some form of support or help that you might get from classmates. Read each sentence carefully and respond to them honestly. **Rate how often you receive the support described**. Do not skip any sentences. Thank you!

	My Classmates:	**Never**	**Almost Never**	**Some of the Time**	**Most of the Time**	**Almost Always**	**Always**
1	… treat me nicely.	1	2	3	4	5	6
2.	… like most of my ideas and opinions.	1	2	3	4	5	6
3.	… pay attention to me.	1	2	3	4	5	6
4.	… give me ideas when I don't know what to do.	1	2	3	4	5	6
5.	… give me information so I can learn new things.	1	2	3	4	5	6
6.	… give me good advice.	1	2	3	4	5	6
7.	… tell me I did a good job when I've done something well.	1	2	3	4	5	6
8.	… nicely tell me when I make mistakes.	1	2	3	4	5	6
9.	… notice when I have worked hard.	1	2	3	4	5	6
10.	… ask me to join activities.	1	2	3	4	5	6
11.	… spend time doing things with me.	1	2	3	4	5	6
12.	… help me with projects in class.	1	2	3	4	5	6

Appendix D: Informed Consent to Parents

Dear Parent or Legal Guardian:

This letter provides information about a research study that will be conducted at your child's school by professors and graduate students from the University of South Florida. Our goal in conducting the study is to determine the effect of students' participation in various high school classes, such as Advanced Placement, the International Baccalaureate Program, and general courses, on their social and emotional wellness**.**

- ✓ Who We Are: We are Elizabeth Shaunessy, Ph.D., and Shannon Suldo, Ph.D., professors in the College of Education at the University of South Florida (USF). We are planning the study in cooperation with school administrators to ensure the study provides information that will be helpful to the school.

- ✓ Why We are Requesting Your Child's Participation: This study is being conducted as part of a project entitled, "Well-Being of Secondary Students in Florida." Your child is being asked to participate because he or she is a student at a high school that contains an advanced curriculum (for example, an International Baccalaureate Program).

- ✓ Why Your Child Should Participate: We need to learn more about what leads to happiness and health during the teenage years! The information that we collect from students may help increase our overall knowledge of risk and protective factors that lead to social and emotional wellness during high school. In addition, information from the study will be shared with the teachers and administrators at your high school in order to increase their knowledge of what students consider to be the strengths and weaknesses of their schooling and other life experiences. Information from this study will provide a foundation from which to improve the schooling experiences and well-being of high school students. Please note neither you nor your child will be paid for your child's participation in the study. However, all students who participate will be entered into a drawing for one of several gift certificates in the amount of $50 that will be redeemable at a local mall.

- ✓ What Participation Requires: If your child is given permission to participate in the study, he or she will be asked to complete several paper-and-pencil questionnaires. These surveys will ask about your child's thoughts, behaviors, and attitudes towards school, teachers, classmates, family, and life in general. We will personally administer the questionnaires on school grounds during regular school hours, to large groups of students who have parent permission to participate. Participation will occur during one class period, on one occasion during the fall for students in 10^{th}, 11^{th}, and 12^{th} grade. For these students, participation will take approximately one hour. Students who will be in 9^{th} grade during the 2006 – 2007 school year will be asked to complete these questionnaires shortly before entering high school and again during the fall. For these students, participation will take a total of approximately two hours. Another part of participation involves a review of your child's school records. Specifically, under the supervision of school administrators, we will access information about your child's grade point average, history of discipline referrals, and participation in special classes such as Advanced Placement, the International Baccalaureate Program, or special education (for example, Gifted education).

- ✓ Please Note: Your decision to allow your child to participate in this research study must be completely voluntary. You are free to allow your child to participate in this research study or to withdraw him or her at any time. If you choose not to participate, or if you withdraw at any point during the study, this will in no way affect your relationship with your high school, school district, USF, or any other party.

- ✓ Confidentiality of Your Child's Responses: There is minimal risk to your child for participating in this research. We will be present during administration of the questionnaires in order to provide assistance to your child if he or she has any questions or concerns. Additionally, school guidance counselors will be available to students in the unlikely event that your child becomes emotionally distressed while completing the measures. Your child's privacy and research records will be kept confidential to the extent of the law. Authorized research personnel, employees of the Department of Health and Human Services, and the USF Institutional Review Board may inspect the records from this research project, but your child's individual responses will not be shared with school system personnel or anyone other than us and our research assistants. Your child's completed questionnaires will be assigned a code number to protect the confidentiality of his or her responses. Only we will have access to the locked file cabinet stored at USF that will contain: 1) all records linking code numbers to participants' names, and 2) all information gathered from school records. Please note that although your child's specific responses on the questionnaires will not be shared with school staff, if your child indicates that he or she intends to harm him or herself or is a threat to others, we will contact district mental health counselors to ensure your child's safety as well as the safety of others.

- ✓ What We'll Do With Your Child's Responses: We plan to use the information from this study to inform educators and psychologists about the effects of various high school academic programs on students' well-being, as well as to construct a plan for improving the schooling experiences that impact social and emotional wellness during adolescence. The results of this study may be published. However, the data obtained from your child will be combined with data from other people in the publication. The published results will not include your child's name or any other information that would in any way personally identify your child.

- ✓ Questions? If you have any questions about this research study, please contact us at (813) 974-2223 (Dr. Suldo) or (813) 974-7007 (Dr. Shaunessy). If you have questions about your child's rights as a person who is taking part in a research study, you may contact a member of the Division of Research Integrity and Compliance of the University of South Florida at 813-974-9343.

- ✓ Want Your Child to Participate? To permit your child to participate in this study, complete the attached consent form and have your child turn it in to his or her first period teacher.

Sincerely,

Elizabeth Shaunessy, Ph.D.	Shannon Suldo, Ph.D.
Assistant Professor of Special Education	Assistant Professor of School Psychology
Department of Special Education	Department of Psychological and Social Foundations

Consent for Child to Take Part in this Research Study

I freely give my permission to let my child take part in this study. I understand that this is research. I have received a copy of this letter and consent form for my records.

_____	_____	_____
Printed name of child	Grade level of child	High school

_____	_____	_____
Signature of parent of child taking part in the study	Printed name of parent	Date

Statement of Person Obtaining Informed Consent

I certify that participants have been provided with an informed consent form that has been approved by the University of South Florida's Institutional Review Board and that explains the nature, demands, risks, and benefits involved in participating in this study. I further certify that a phone number has been provided in the event of additional questions.

_____	_____	_____
Signature of person obtaining consent	Printed name of person obtaining consent	Date

Appendix E: Student Assent

Dear Student:

Today you will be asked to take part in a research study by filling out several surveys. We are doing the study to find out how taking different high school classes, such as Advanced Placement, the International Baccalaureate Program, and general courses, is related to students' social and emotional wellness**.**

- ✓ Who We Are: We are Elizabeth Shaunessy, Ph.D., and Shannon Suldo, Ph.D., professors in the College of Education at the University of South Florida. We are working with your principals to make sure this study provides information that will be helpful to your school.

- ✓ Why We're Asking You to Take Part in the Study: This study is part of a project titled "Well-Being of Secondary Students in Florida." You are being asked to take part in it because you are, or will be, a student at a high school that contains an advanced curriculum (for example, the International Baccalaureate Program).

- ✓ Why You Should Take Part in the Study: We need to learn more about what leads to happiness and health during the teenage years! The information that we gather may help us better understand which attitudes within teens as well as which experiences at school lead to emotional wellness during high school. Also, information from this study will be shared with school staff to help them understand what students consider to be the strengths and weaknesses of their experiences at school and in life. Please note you will not be paid for taking part in the study. However, all students who participate will be entered into a drawing for one of several $50 gift certificates that can be used at a local mall.

- ✓ Filling Out the Surveys: These surveys will ask about your thoughts, behaviors, and attitudes towards school, teachers, classmates, family, and life in general. We expect it will take between 30 and 60 minutes to fill out all the surveys. Participation will occur during one class period, on one occasion during the fall for students in 10^{th}, 11^{th}, and 12^{th} grade. Students who will be in 9^{th} grade during the 2006 – 2007 school year will be asked to complete these surveys shortly before entering high school and again during the fall. In total, participation will take up to one hour for students in grades 10, 11, and 12, and up to two hours for students in 9^{th} grade.

- ✓ What Else Will Happen if You Are in the Study: If you choose to take part in the study, we will look at some of your school records. Under the supervision of school administrators, we will access information about your grade point average, discipline record, and whether or not you take special classes such as Advanced Placement, the International Baccalaureate Program, or special education (for example, Gifted).

- ✓ Confidentiality (Privacy) of Your Responses: We do not expect that there will be more than minimal risk to you for taking part in this research. We will be here to help the entire time you are filling out the surveys in case you have any questions or concerns. Your school guidance counselors are also on hand in case you become upset. Your privacy and research records will be kept confidential (private, secret) to the extent of the law. People approved to

do research at USF, people who work for the Department of Health and Human Services, and the USF Institutional Review Board may look at the records from this research project, but your individual responses will not be shared with people in the school system or anyone other than us and our research assistants. Your completed surveys will be given a code number to protect the privacy of your responses. Only we will have access to the locked file cabinet stored at USF that will contain: 1) all records linking code numbers to names, and 2) all information gathered from school records. Please note that although your specific responses will not be shared with school staff, if you indicate you plan to harm yourself or that you are a threat to others, we will contact district mental health counselors to ensure your safety as well as the safety of others.

- ✓ Please Note: Your involvement in this study is completely voluntary. By signing this form, you are agreeing to take part in this research. If you choose not to participate, or if you wish to stop taking part in the study at any time, you will not be punished in any way. If you choose not to participate, it will not affect your relationship with your high school, USF, or anyone else.

- ✓ What We'll Do With Your Responses: We plan to use the information from this study to let others know the effects of different high school classes on students' social and emotional wellness, and to make a plan for improving schooling experiences during the high school years. The results of this study may be published. However, your responses will be combined with responses from other people in the publication. The published results will not include your name or any other information that would in any way identify you.

- ✓ Questions? If you have any questions about this research study, please raise your hand now or at any point during the study. Also, you may contact us later at (813) 974-2223 (Dr. Suldo) or (813) 974-7007 (Dr. Shaunessy). If you have questions about your rights as a person who is taking part in a research study, you may contact a member of the Division of Research Integrity and Compliance of the University of South Florida at 813-974-5638 or the Florida Department of Health, Review Council for Human Subjects at 1-850-245-4585 or toll free at 1-866-433-2775.

Thank you for taking the time to take part in this study.

Sincerely,

Elizabeth Shaunessy, Ph.D.
Assistant Professor of Special Education
Department of Special Education

Shannon Suldo, Ph.D.
Assistant Professor of School Psychology
Dept. of Psychological and Social Foundations

Assent to Take Part in this Research Study

I freely give my permission to take part in this study. I understand that this is research. I have received a copy of this letter and assent form for my records.

_____	_____	_____
Signature of child taking part in the study	Printed name of child	Date

Statement of Person Obtaining Informed Assent

I certify that participants have been provided with an informed assent form that has been approved by the University of South Florida's Institutional Review Board and that explains the nature, demands, risks, and benefits involved in participating in this study. I further certify that a phone number has been provided in the event of additional questions.

_____	_____	_____
Signature of person obtaining assent	Printed name of person obtaining assent	Date