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# Identifying the Academic and Emotional Risk and Resource Factors of Underrepresented Students in Accelerated Coursework

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# Identifying the Academic and Emotional Risk and Resource Factors of Underrepresented Students in Accelerated Coursework

by

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ABSTRACT

There are many benefits of student participation in accelerated curricula in high school such as the International Baccalaureate Diploma Program (IBD) or Advanced Placement (AP) coursework. Benefits include skipping introductory coursework in college, being better prepared to deal with the stressors of college, and positive impacts on peer relationships, self-image, and the development of the concept of success (The International Baccalaureate Organization [IBO], 2019). However, the extent to which all students, regardless of demographic background, are able to participate in and benefit from such programs is a little less known. Previous research indicates that the IBD tends to enroll high-achieving students from families who are aware of the program and its benefits, as well as students who typically come from higher income families and parents who pursued higher education (Bailey & Karp, 2003; Chen et al., 2010). Aside from the benefits of these programs, students enrolled in these programs typically report higher levels of perceived stress than general education peers (Shaunessy-Dedrick et al., 2015). Beyond this, Cox (n.d.) found that students from underrepresented subgroups (African American, Hispanic, and low SES) cited social isolation due to their race as an additional stressor and a reason for eventually leaving the IBD program before completion. Historically, there has been little attention given and research conducted regarding how to best support these students in the school setting. As such, this study sought to identify whether historically underrepresented subgroups in accelerated curricula (African American/Black, Hispanic, and low SES) may be identified as at-risk more than historically overrepresented subgroups (White and Asian) in either academic or

emotional domains. This study involved a secondary data analysis of 332 ninth grade students enrolled in an AP or IBD courses in one of three districts in a southeastern state. Students in this sample participated in a Tier 1 universal program designed to target students in accelerated coursework. Students in the program were screened for risk in academic and/or emotional domains. Students who were identified as at-risk were invited to participate in a selective tier 2 intervention in which students completed an assessment of factors of coping and engagement as it relates to success in high school accelerated curricula. These students also selected one of the factors as a target to address in an action plan to improve progress towards goals and achievement in their accelerated courses. Results of the study indicate that Black students are more likely to be identified as at risk in academic domains as well as in academic domains with co-morbid emotional challenges. Students found eligible for free/reduced-price lunch were found to be more likely identified as at-risk regardless of domain. Results also suggest specific resilience factors that may be salient for specific groups of students. Implications of these results as it relates to the school setting are discussed and future directions suggested.

# CHAPTER I: INTRODUCTION

Accelerated coursework in high school usually takes the form of participation in Advanced Placement (AP) courses and, to a less frequent extent, the International Baccalaureate Diploma (IBD) program. While there is limited research regarding the appropriateness of gifted learners in accelerated coursework, many gifted students are being served through such coursework (Hertberg-Davis, Callahan, & Kyburg, 2006) in the high school setting. But not all students enrolled in accelerated coursework are identified as "gifted". Many of these students come from different cultural and linguistic backgrounds and in some way have demonstrated high academic competence in one or more areas such as reading or math through previous course grades, standardized scores, or GPA. Some schools place these students in such accelerated coursework (most commonly AP courses) based on previous standardized testing that indicates high ability. Students who are enrolled in IB coursework typically have applied to the program and have been admitted based on a competitive application. The rigidity to which individual programs stick to the admissions criteria varies by program as the International Baccalaureate Organization (IBO) does not have strict guidelines, but common requirements include a specific GPA and an outstanding application to the program. It is important to note that since the IBO does not currently have an official policy regarding admission requirements, admission criteria are developed by local coordinators resulting in areas where there may be no criteria for admissions (Mayer, 2008).

Students across the country who decide to enroll in AP courses offered by the College Board typically report doing so in order to engage in more challenging curriculum. Students are able to gain college credits by taking an end of course AP exam and earning a score deemed proficient by the institution to which the student is applying. A 2013 study by the College Board found that of 1,380 institutions, 68% provide college credits to students who earn a score of 3 or higher of the end of course AP exam, 30% offer credit to students who earn a score of 4 or higher, and 2% offer credit for students who earn a score of 5. AP coursework is standardized across high schools with the College Board offering curricular materials and professional development to teachers, ensuring the integrity of these courses. AP currently offers 38 courses in seven broad subject areas—the AP Capstone Diploma Program, Arts, English, History and Social Sciences, Math and Computer Science, Sciences, and World Languages and Cultures (College Board, 2019). Many students have attributed AP coursework to distinguishing themselves to prospective colleges and universities (College Board, 2019).

The IBD is designed for students ages 16-19 years and was established in 1968. The IBD curriculum is organized into six subject areas comprising theory of knowledge (TOK), creativity, activity, service (CAS), and the extended essay (EE) that begins in the 11$^{th}$ grade. Research conducted by the International Baccalaureate Organization (IBO) found that IBD students are better able than their non-IBD peers to cope with demanding workloads, manage their time, and meet curricular expectations (Conley, McGaughy, Davis-Molin, Farkas, & Fukuda, 2014). Similar to AP coursework, students enrolled in IBD courses have the opportunity to gain college credits by taking the end of course IBD exam related to the course. Scores on IBD exams range from a low of 1 to a high of 7, with scores between 5 and 7 typically being offered college credit by various colleges and universities. Students in the IBD program also have the option to earn an

additional certification, the IB Diploma, based on an accumulation of scores on IB exams, the EE, and the TOK project.

According to research by Bailey and Karp (2003), the IBD tends to enroll high-achieving students from families who are aware of the program and its benefits. Many of these students also come from higher income families and parents who pursued higher education (Chen, Wu, & Tasoff, 2010). The IBD is a prestigious program that is comprised of mostly White and Asian students as IBD programs are typically housed in advantageous areas (Mayer, 2008). Students who are underrepresented in accelerated coursework include youth who are African American, Hispanic, and/or in families with low socioeconomic status (SES).

There are many potential benefits of student participation in either the IBD or an AP course. These benefits include skipping introductory coursework in college, being better prepared to deal with the stressors of college, and positive impacts on peer relationships, self-image, and the development of the concept of success (The International Baccalaureate Organization [IBO], 2019). McKillip and Rawls (2013) found that AP course participation had a positive correlation with SAT exams, meaning that as AP scores increased, so did SAT scores. Similarly, Warne and colleagues (2015) found that students who actually took and passed an AP exam obtained higher ACT scores than those merely enrolled in an AP course. Moreover, students who began AP courses with a lower achievement experienced a greater benefit than students who entered AP coursework with higher academic achievement (McKillip et al., 2013). These finding held true even after controlling for academic, socioeconomic, and demographic variables. These findings suggest that students who may not initially be regarded as high achieving may still benefit in some ways from taking and passing AP classes.

Further, research findings from Bergeron (2015) show that 92% of IBD students graduating from U.S. high schools in 2008 enrolled in U.S. postsecondary institutions between 2008 and 2014, while 78% of these students enrolled immediately. Of these students, the first-year retention rate in college was 98% (Bergeron, 2015). This suggests that not only are students highly likely to enroll in postsecondary institutions, but these students are expected to complete their first year and enter their second year. Morgan, Zakhem, and Cooper (2019) found that college preparatory coursework (i.e., career and technical education, AP, concurrent enrollment, honors, and college and career readiness) increased both short-term and long-term outcomes in college for students who engaged in such coursework. Morgan et al. (2019) also found that college preparatory coursework, such as AP, is effective in diminishing adverse outcomes for students who are historically underrepresented in postsecondary institutions. Aside from this, other research conducted by VanTassel-Baska (2001) has outlined benefits of AP for gifted learners such as improved motivation, access to and earlier completion of advanced opportunities, and even reduced costs in university education due to earned college credits. Overall, both the AP and IBD programs provide benefits, both short-term and long-term, for the students who participate in these accelerated courses. There are also a few additional benefits for students who begin with lower achievement or are historically underrepresented in postsecondary institutions.

Underrepresented students, typically those who identify as African American, Hispanic, or of low SES, noted similar reasons as majority students for wanting to enroll in accelerated coursework, such as that they wanted a challenge and the opportunity to gain an advantage in the college admissions process (Culross & Tarver, 2011). Hertberg-Davis and colleagues (2006) found that many of the students from traditionally underrepresented backgrounds felt that the

rigor of IB was not a good fit for them. However, these same students understood the importance of IB and how it would help within the college admission process. Although there are a multitude of benefits associated with participation in AP and IB coursework, research suggests that approximately only 20% of IBD students actually receive their IBD diploma at the end of high school (International Baccalaureate Organization, 2018) and about 54.4% of students pass their AP Human Geography exam (The College Board, 2018), the most common AP course for ninth grade students. While findings from research indicates that students in college preparatory coursework such as the IB program typically enroll in college, results also show that graduation rates from 4-year institutions, both private and public, are much lower for students who did not receive their IB diplomas (66%) compared to those who received their IB diplomas (84%). Such findings suggest a need to examine disparities of success in accelerated coursework due to some of the unique stressors of underrepresented populations that may cause increased risk. These underrepresented students have suggested that providing more preparation in ninth and tenth grades could assist with achievement in the IBD (Culross et al., 2011).

Accelerated coursework has been shown to elicit stress and anxiety among high school students enrolled in such courses. On average, AP and IBD students report intact mental health and achieve greater academic success relative to their peers in general education (Shaunessy-Dedrick, Suldo, Roth, & Fefer, 2015) while also reporting higher perceived stress than peers in general education (Suldo & Shaunessy-Dedrick, 2013). This finding holds true even after accounting for personality and socioeconomic differences. Beyond the general heightened stress reported by students in accelerated coursework, Cox (n.d.) found that students from underrepresented subgroups (African American, Hispanic, and low SES) cited social isolation due to their race as an additional stressor and a reason for eventually leaving the IBD program

before completion. Historically, there has been little attention given and research conducted regarding how to best support these students in the school setting. With research suggesting that students are more likely to seek support within the schools (Slade, 2002), school administration should be aware of strategies that can help to reduce student stress and increase coping within the context of the school setting for underrepresented students in accelerated coursework.

## Statement of the Problem

Research briefs published by the International Baccalaureate Organization (IBO) demonstrate a need to increase enrollment and retention of underrepresented subgroups in the IBD (IBO, 2015). Enrollment trends suggests that African American, LatinX, and low SES students are underrepresented in programs for the gifted and talented throughout the nation, and White and Asian students are typically overrepresented. However, there are no current studies that address how to best support these underrepresented groups in accelerated coursework to facilitate retention and future enrollments through word-of-mouth and success stories. There is also no currently published research that explores the reasons for underrepresentation of these students in accelerated coursework and supports in place to assist them. Further, there are currently no published evidence-based supports specifically tailored to any high school student pursuing AP and IBD classes regardless of demographic subgroup.

To address the emotional needs of students in accelerated coursework, Drs. Shannon Suldo and Elizabeth Shaunessy-Dedrick along with their Co-Investigators and research team at the University of South Florida (USF) created the *Advancing Coping and Engagement* (ACE) program, which is a multi-tier program for students in accelerated coursework that directly teaches students strategies for coping with academic stressors and engaging with teachers, peers, and families to connect to school and gain support. The program along with its Tier 2 component

is briefly described in the section below, to set the stage for the key terms and research questions specified in this chapter.

**The ACE Program**

The *Advancing Coping and Engagement* (ACE) program consists of 12 50-minute modules within a universal curriculum (Tier 1 support) currently in development for ninth-grade students in accelerated coursework (Shaunessy-Dedrick et al., 2018). Developers of the program conducted focus groups and numerous studies to support the content of the program and thus the methods used by the program as well (Shaunessy-Dedrick et al., 2018). The ACE Program followed research that showed connections between student coping and engagement with mental health and academic outcomes (Suldo & Shaunessy, 2010; Suldo, Shaunessy-Dedrick, Ferron, & Dedrick, et al., 2018).

**MAP Meetings**

The classwide curriculum is followed by a selective (Tier 2) support—MAP (*Motivation, Assessment, and Planning Intervention*)— for students who have been identified by a mid-year screening as being at risk for later academic or emotional difficulties (O'Brennan et al., 2020). MAP meetings incorporate principles of motivational interviewing (MI), to help students who may benefit from a brief individualized support to address suspected academic or emotional difficulties. Students identified for the MAP intervention complete a survey to assess their current level of coping and engagement as well as perceived parenting practices and then meet one-on-one with a MAP coach, an interventionist proficient in MI and the MAP meeting protocols. During the first meeting, students collaborate with their coach to develop an action plan aimed at improving the students' functioning, often in an area they deem "low" based on the norm-referenced results of the survey, which are presented in a graph format during the MAP

meeting. Students also discuss with the coach perceived character strengths and values that tie into the areas on the graph (i.e., ineffective coping styles, effective coping styles, school engagement, and perceived parenting practices) generated by survey results. Each of these areas have smaller categories or strategies such as "time and task management" that students use to select a target to improve or decrease in their action plan. After the first meeting, the students select whether or not they would like to have a second meeting with their coach one month after their initial meeting. Two weeks after the first meeting, students receive a "Reminder Letter" from their coach about their action plan which also poses questions to think about in relation to the students' plan. Throughout all interactions, coaches utilize a MI approach to ensure that meetings are client-led and that students increase their intrinsic motivation to work on a specific area.

The Tier 1 ACE curriculum is intended for implementation by classroom teachers in collaboration with school mental health professionals (i.e., school counselor, school social worker, or the school psychologist). The latter group is the intended users of the selective Tier 2 component. Of note, MAP encourages the identification of ninth-grade students who show signs of emotional and academic risk by during a mid-year screening. This screening can facilitate early intervention for students who may later drop out of accelerated coursework due to emotional and academic difficulties. Paired with the universal curriculum (ACE), MAP is anticipated to increase the retention of such students by building effective coping strategies and introducing students to action planning through motivational interviewing techniques.

## Purpose of the Study

The purpose of this study was to analyze existing data to explore disproportionality in likelihood of evidencing early signs of academic or emotional risk, with a focus on African

American, Hispanic, and low SES subgroups enrolled in a ninth grade IBD or AP course. This secondary data analysis explored if there are unique challenges faced by these underrepresented subgroups in the IBD or AP coursework that may show a need for later intervention. Among students with early signs of academic or emotional risk, this study determined what factors associated with AP/IBD student success (e.g., coping, engagement, parenting practices) may be especially salient for a specific subgroup. This allows educators to target the unique needs of these underrepresented subgroups in accelerated coursework and may suggest to educators which risk and protective factors to consider and address when serving these students.

This study is important for a number of reasons. First, research has shown that students in IBD and AP classes reported higher levels of perceived stress than their general education classmates (Suldo & Shaunessy-Dedrick, 2013). There is very limited research on whether historically underrepresented students in accelerated coursework experience different or more perceived stress than typically overrepresented students. Further, if there are certain demographic groups that are identified as being at-risk for academic or emotional problems more than other demographic groups, this could demonstrate an area for future research as it relates to the IBD/AP curriculum and may suggest need for further exploration for adequate supports for these students. This study addresses whether there are specific factors that can be addressed to increase the likelihood of success for historically underrepresented students in accelerated coursework. This study yields suggestions for improving the emotional support for underrepresented and low-income students as it relates to AP/IBD coursework.

## Research Questions

This thesis aimed to answer the following research questions:

1. To what extent, if any, are students in specific demographic subgroups categorized on the basis of race/ethnicity or SES differ in the incidence of risk?
    - Of the students identified as at-risk for later emotional or academic difficulties, what percentage of students were identified as having an emotional risk, academic risk, or a combination of these by demographic group?
2. Once students participate in the MAP intervention, do certain subgroups (i.e., African American, Hispanic, low SES) differ in terms of:
    - The factors associated with AP/IBD student success (e.g., ineffective coping, effective coping, engagement, parenting) that may be especially elevated in either direction?
    - Targets selected in the MAP action plan (i.e., time and task management, turning to family, positive thinking, etc.)?

## Hypotheses

Regarding research question one, the researcher hypothesized that a higher proportion of youth in the underrepresented subgroups will be identified as at-risk for academic or emotional problems, in comparison to the proportion of youth who are Asian, White, and considered to be a member of a family of average/high SES based on previous research (Cox, n.d.). In a study of Black graduate students, Johnson-Bailey, Valentine, Cervero, and Bowles (2009) found that alienation was a theme in the students' experiences and had an impact on their sense of connection to their school. As such, this researcher also hypothesized that African American students will evidence higher rates of emotional risk than students of overrepresented subgroups

due to evidence of these students feeling isolated from peers and less parental support (Cox, 2016; Johnson-Bailey et al., 2009). Ford (2014) further cites microaggressions, deficit thinking, and social inequality as mechanisms by which these students feel isolated in such courses. Microaggressions from peers and faculty such as "you're articulate for a Black girl" lead to deficit thinking. In this study, deficit thinking is conceptualized as the notion that if a student cannot achieve something, it is an internal student issue and not due to the system or structures in place (Ford, 2014). Whether intentional or unintentional, with a curriculum that caters to the historically overrepresented subgroups, minoritized students in AP/IBD note feeling isolated due to increased workload and the need to work hard to achieve (Cox, 2016).

With regards to research question 2, the researcher hypothesized that students in underrepresented subgroups will demonstrate higher levels of ineffective coping as well as lower levels of perceived parental support. The researcher also hypothesized that these students will evidence lower levels of school connectedness. It was hypothesized that students in overrepresented subgroups (White and Asian) will show evidence of higher levels of effective coping styles than their underrepresented peers and that there will be a significant difference in levels of coping and perceived stress in that African American, low SES, and Hispanic/Latino students will demonstrate elevated levels related to parenting. Due to the perceived importance of time and task management, I hypothesized that there will be no difference in targets selected to address based on demographic variables.

## Definition of Key Terms

### Accelerated Coursework

Accelerated coursework was defined as an Advanced Placement (AP) course or the International Baccalaureate Diploma Program (IBD), two common curricular options for gifted

students. Accelerated coursework is also extended to include students who are considered "pre-IBD" (i.e., grades 9-10) and are not yet taking formal IBD coursework (i.e., grades 11-12). The IBD Inquiry Skills course and AP Human Geography course, both most commonly offered to 9th grade students, were the settings for the study in that the ACE program was delivered through these courses.

**Mid-Year Universal Screening**

Students who were in classrooms that are implementing the ACE curriculum, and had permission to participate in a screening, completed a brief 16-item self-report survey with items about school connectedness and perceived stress. Final grades from the fall semester (per school records) were also reviewed. The mid-year screening determined whether a student was at-risk on academic and emotional variables. Students who were below acceptable thresholds for academic and emotional well-being were invited to access the selective Tier 2 intervention (MAP meetings).

**At-Risk**

Students were identified as at-risk if they demonstrated an emotional or academic risk during a mid-year screening, as described by Suldo and colleagues (2019).

**Academic Risk**

Students who showed signs of academic risk obtained a GPA of less than 3.0 during their fall semester or received a grade of C or lower in AP Human Geography or IB Biology (a common course for freshmen in the Pre-IB program). These thresholds were established in the development of a screening procedure to identify AP/IB students in need of Tier 2 supports due to academic achievement below expectations (Suldo et al., 2019).

**Emotional Risk**

Students who evidenced signs of emotional risk received a mean score of less than 3.4 on the School Satisfaction Scale of the Multidimensional Students Life Satisfaction Scale (MSLSS, Huebner, 1994), or received a mean score of more than 3.6 on the Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983). These thresholds were established in the development of a screening procedure to identify AP/IB students in need of Tier 2 supports due to elevated stress or low affective engagement (Suldo et al., 2019).

**Underrepresented Subgroups**

Subgroups in this study that were considered "underrepresented in AP/IB" were students who identify as African American or Hispanic and students who fall in the category of low SES. Research conducted on the population of students enrolled in accelerated coursework noted that White and Asian students are typically overrepresented in these programs whereas African American, Hispanic, and low SES students are typically underrepresented.

**Low Socioeconomic Status (SES)**

Socioeconomic status is estimated based on family income (economic resources) which is often tied to educational attainment. In this study, low SES was conceptualized as having one or no parents who obtained a BA/BS degree or higher (depending if one or both parent education were reported), and/or a student who receives free/reduced-price school meals (FRL; per school records) due to below-threshold family income. For example, a student can report that mom has earned a BA while dad did not complete high school, and the student received free or reduced-price school meals. This student was considered low SES due to FRL eligibility.

### Student Action Plan

An action plan is a document developed by both the MAP Coach and the student who was identified as at-risk for academic or emotional problems. During MAP Meeting 1, students collaborated with their MAP coach to identify factors on the student pre-MAP assessment graph to target for improvement. The action plan specified the replacement behavior/goal, and how to increase, decrease, or maintain performance in certain areas such as time and task management, positive thinking, or extracurricular involvement.

### Student Pre-MAP Assessment Graph

At the beginning of the MAP intervention, students completed a 16-page assessment regarding current stress levels, coping strategies, and engagement at school and in accelerated coursework, as well as perceptions of parenting practices. The scores on the assessment were calculated in relation to a normative sample of 2,379 AP/IB students from Florida. Then, an Excel file produces a graph that presents factors in four broad areas that have been linked to success in accelerated coursework: effective coping styles, ineffective coping styles, school engagement, and perceived parenting practices.

## Summary

There are many benefits to students for enrolling in and completing accelerated coursework in high school. Many high schools do not have specific gifted and talented programs, and as such, these students typically enroll in accelerated coursework such as the IBD and AP. Benefits of such coursework include increased college enrollment as well as increased retention beyond the first year in college. Research also suggests that students in accelerated coursework are often better prepared to deal with the stressors of college (Cox, n.d.). Students who complete the IBD program and who obtain passing scores on AP exams are sometimes able to exchange

AP and IB credits for college credits. However, the curricula for both the IBD and AP classes are rigorous and students in these programs report higher perceived stress than their general education peers, and often engage in negative coping styles such as sleeping less. Among the growing population of students in accelerated courses, some groups are historically underrepresented (e.g., low SES, African American, and Hispanic students) and report high levels of self-imposed stress and feelings of misplacement in their pre-IB and AP classes (Cox, n.d.). Despite this finding, there is limited research available that explores the unique perceived emotional and academic factors of these subgroups in accelerated coursework or supports in the school setting to facilitate retention of these students.

Overall, research suggests a need to examine racial and/or demographic disparities of success in accelerated coursework. Using the research that led to the ACE program as a guiding framework, this researcher identified factors associated with success in AP/IBD that may be salient for historically underrepresented students (i.e., African American, Hispanic, low SES). By looking into specific factors of coping, engagement, and parenting practices, stakeholders may be able to suggest specific interventions targeting these factors based on demographic subgroup or provide more specific support in the school setting. Further, previous research suggests that there may be unique stressors to this population. The researcher hypothesized that there will be between group differences in factors deemed low or high on the pre-MAP Assessment Graph, as well as within group similarities on overall scores on the graph. This study aimed to identify factors that are salient between groups and within groups as well as explore disproportionality in the likelihood of evidencing early signs of academic or emotional risk.

# CHAPTER II: REVIEW OF THE LITERATURE

The research questions presented stemmed from the limited literature available regarding the specific academic and emotional risk factors of historically underrepresented students in accelerated coursework. There is generally limited research regarding how to support any student in accelerated coursework regardless of demographic characteristics. This review of the literature began with a discussion about each of the factors related to AP/IBD student success as identified by Suldo et al. (2018). These factors include student engagement and academic motivation, family factors, and stress and coping in accelerated coursework. Next, this review discusses the historical underrepresentation of certain subgroups in accelerated coursework. Because there are so few studies with the narrow population of interest, research regarding gifted students, general education students, and historically overrepresented subgroups in various curricular programs is also presented. Research was also pulled from other countries due to the limited research available in the United States.

## Student Engagement and Academic Motivation

Adolescents' ultimate completion of and success in high school is predicted by their engagement in their daily learning tasks. A four-part typology including behavioral, cognitive, affective, and academic engagement, is a necessary lens in order to determine an assessment to intervention link for success in the school setting (Furlong & Christenson, 2018). Behavioral engagement involves attending classes, extracurricular participation, and even following school rules. Academic engagement is defined by the amount of homework completed, the amount of

time completing work, and the number of credits a student has earned. Cognitive engagement describes the extent to which a student perceives school relevant to his/her future goals. Furlong and Christenson (2018) further define affective engagement as a students' sense of belonging and relationships with peers, teachers, and parents. Both academic and behavioral engagement are overt and observable, however, both cognitive and affective engagement are more internal and subjective. As such, all four domains of engagement are relevant to success in general education and gifted student education.

In a longitudinal study of 2,678 early secondary students, Bond et al. (2007) used data from the Gatehouse Project to examine the extent to which social and school connectedness in secondary schools related to later mental health and substance use as well as educational achievement. The Gatehouse Project was a randomized controlled trial of a multi-level school-based intervention aimed at increasing students' emotional well-being through school connectedness. Students in the Gatehouse Project were enrolled in a government-funded independent Catholic school in Victoria, Australia and placed into an intervention or control group. Participant ages were 13-14 years old at the first data collection in year 8, and age 16 when surveyed again in year 10. Approximately 47% of the participants were male. No other demographic data were reported in this study. Consistent with the above definitions, social and school connectedness seem to have a bit of overlap and are related to the concept of affective engagement. Using bivariate analyses, researchers found that when compared to control students, students in Year 8 who reported low school connectedness, as measured by the Interview Schedule for Social Interaction, were more likely to report depressive symptoms and engage in substance abuse in Year 10. Poor social connectedness was also associated with increased depressive symptoms. Both good social and school connectedness in Year 8 were associated in

the best outcomes (i.e., anxiety/depressive symptoms and substance abuse). However, poor school connectedness and high social engagement were also associated with increased odds of substance use behavior. This finding illustrates the importance of both school and social engagement as aspects of affective engagement in order to promote better mental health and substance use outcomes. This study was unable to adjust for prior achievement due to not collecting achievement data in Year 8. Further, there were not enough participants in the groups of low school/social connectedness and high school/social connectedness to determine whether estimates of mental health outcomes were representative of these groups or due to chance. Overall, the study demonstrates the preliminary importance of school connectedness in later mental health and substance abuse outcomes. More research is needed to determine whether perceived school connectedness has differential effects on students of different demographic characteristics.

Reschly, Huebner, Appleton, and Antaramian (2018) investigated the contribution of positive emotions on cognitive and psychological school engagement. School engagement was defined as a combination of cognitive, behavioral, psychological, and academic aspects. A total of 293 $7^{th}$-$9^{th}$ grade middle and high school students in a rural area in the southeastern United States participated in this study. In the sample, approximately 58% of participants were enrolled in middle school. Demographic data were collected via self-report surveys with majority of the sample identifying as Caucasian or African American (47.8% and 41.2%, respectively). Using the Student Engagement Instrument (SEI; Appleton et el., 2006), researchers found that frequent positive emotions were associated with higher school engagement whereas more negative emotions predicted lower engagement. This study also found that experiencing positive emotions is related to better problem solving and social support seeking coping behaviors. The researchers

concluded that it is possible that the relationship between student engagement and positive emotions is mediated by adaptive coping strategies. Unfortunately, this study is limited in that the sample of students is not generalizable to all students in the United States. Although this study mentioned four domains of student engagement, only the cognitive and psychological domains were assessed. Further information is needed to determine the impact of race/SES on student engagement.

In a study of 123 $10^{th}$-$12^{th}$ grade students (95% White and predominantly female), Accordino, Accordino, and Slaney (2000) investigated the relationships between perfectionism, achievement, achievement motivation, and mental health. Participants in this study included students from both general and special education settings. Using personal standards and discrepancy between standards and performance as variables of perfectionism, Accordino et al. (2000) found a positive association between a student having high personal standards and GPA. Personal standards in this study is identified as a person's expectations or goals for oneself. When a student perceived a discrepancy between standards and performance, there was a significant negative relationship with GPA. As students' personal standards and self-esteem increased, depression decreased. This study suggests that improving student academic motivation can be done through methods of increasing students' personal standards. This study also highlights that when a student achieves below what he/she expected to achieve, it is likely that further underachievement may occur. More research is needed on these constructs with a more ethnically diverse sample, ideally from different academic programs.

Taking a qualitative approach, Garn and Jolly (2014) investigated the motivational experiences of 15 high ability youth in a summer camp for gifted students in grades 3-8. The sample included primarily males (80%) and White/Caucasian students (66.7%). All students

were previously identified as gifted by their school district. Using a self-determination lens and an interpretive phenomenological analysis, researchers identified two themes from the semi-structured interviews: *The Fun Factor of Learning* and *Rewards and Pressures of Good Grades*. Within the *Fun Factor of Learning* theme, Garn and Jolly (2014) found that when provided with structured choices and content that matches students' personal interests outside of the school setting, intrinsic motivation is likely to be increased. This also includes success, enjoyment, positive emotions, social connections, self-esteem. Within *Rewards and Pressures of Good* Grades, it was interpreted that intrinsic motivation was improved with extrinsic rewards and parental grade expectations that were perceived to be realistic by the student. While this study shows promise in identifying the role that providing choices and content linked to interests as well as extrinsic rewards and realistic expectations have on intrinsic motivation, this study only interviewed 15 students from a single summer camp which limits generalizability of conclusions. Further, the study was conducted in a summer camp and cannot be complimented with observations in the school setting, limiting its application to specific school practices or supports. More research is warranted within the school context with quantitative data.

Landis and Reschly's (2013) review of the literature examining reasons for dropout through the lens of student engagement found that affective, cognitive, academic, and behavioral components of student engagement are all major themes in the experiences of gifted students who ultimately drop out of high school altogether. Literature indicates that gifted underachievers, defined as those who have the skills but do not perform to their full potential, seem to drop out mostly because they are not cognitively engaged in their academics—finding no relevance in their courses. The existence and importance of relationships was less straightforward, with some students citing caring relationships and others not having such. Other reasons reported by Landis

and Reschly (2013) include not fitting in at school or spending time with peers who also drop out. This review of existing research represents one of the first attempts to synthesize what is known about drop out among gifted students, but is limited in that it was not a systematic review. However, more qualitative data needs to be collected to identify the extent to which any domain of student engagement is linked to gifted students dropping accelerated coursework or leaving high school prematurely.

Of the gifted students who drop out, research students' family background may play a role. Renzulli and Park (2000) conducted two separate studies to identify characteristics of gifted dropouts and their reasoning for dropping out of high school. For study 1, researchers aimed to identify reasons why gifted students drop out and if their plan to return to school was different from that of students who are not identified as gifted before dropping out. Participants in this study included dropout students who were not engaged in an academic program that would lead to a high school diploma. In study 1, researchers identified that gifted male dropouts endorsed school-related (i.e., failing classes, uninterested, or not able to keep up with demands) and job-related (i.e., getting a job that interferes with schoolwork) reasons as the most common reasons for dropping out. Gifted females endorsed personal (i.e., pregnant) and school problems (i.e., failing classes, unable to keep up with schoolwork, or uninterested) as reasons for dropping out. In study 2, participants included 8$^{th}$ grade gifted dropouts and gifted nondropouts. From this population, researchers found that approximately 48.2% of gifted dropouts were in the *lowest* SES quartile. This was opposite of students not identified as gifted, where approximately 33.8% of dropouts were from the *highest* SES quartile. Results of chi-square analyses found that there was a significant difference found in the number of Hispanic and Native Americans, with students from these groups dropping out more than expected, and White and Asian students

dropping out less than expected. Overall, five predictors of dropping out emerged: mothers' highest level of education, fathers' highest level of education, childrearing, educational aspirations, and gender. These results indicate the need to examine closer the factors that may lead to lower SES students dropping out, especially from gifted education. While promising in identifying factors that contribute to gifted students dropping out of high school altogether as well as reasons for dropping out, this study included two separate samples, both of which were collected in 1988 and 1992. More research is needed with a more recent sample of participants. Further, being that these were separate samples, conclusions cannot be made across the two studies. Additionally, the demographic characteristics of the students in study 1 were not reported, and thus, more information is needed to identify reasons that may be linked to specific demographic characteristics to better understand the experiences of these students.

While it is evidenced that student engagement may have an impact on academic motivation, more information is needed to determine the extent to which interventions improve these domains and in what way. Steenbergen-Hu, Olszewski-Kubilius, and Calvert (2020) conducted a meta-analysis of interventions for the gifted underachiever. There were seven criteria that must be met for a study to be included. Included studies were published between January 2000 and February 2019. Studies also had to include a counseling or instructional intervention for gifted underachievers specifically, report the definition of gifted and underachievement, and interventions implemented in a school-based setting. From 19 recent empirical studies, Steenbergen-Hu and colleagues found that gifted underachievers receiving interventions significantly outperformed comparison peers in areas of self-efficacy, goal valuation, self-regulation/motivation, and psychosocial functioning. Qualitative studies examined demonstrate that gifted underachievers benefitted from these interventions as evidenced by

improved self-regulation, motivation for learning, and improved interest in school. While no evidence of significant academic improvements was found, this study adds to the importance of interventions that may increase the psychosocial functioning of gifted underachievers for the purposes of increasing motivation to learn, self-efficacy, or interest in school. Unfortunately, more empirical studies need to be conducted that address this phenomenon. Further, including a diverse sample with a comparison group would be necessary to examine possible mediators to the effectiveness of these interventions.

Suldo, Shaunessy-Dedrick, Ferron, and Dedrick (2018) investigated the factors associated with academic and mental health outcomes among AP/IBD students in a cross-sectional study of 2,379 AP/IB students in grades 9 – 12 across 20 programs in a southeastern state. The sample of participants was diverse with respect to gender (37.8% male), SES (27.7% free or reduced lunch, 63% of mothers and 56% of fathers having a college degree or higher), and race (49.4% Caucasian, 13.5% Asian, 12.3% Hispanic, 11.8% African American, and 13.0% multiracial). The predictors examined in relation to student success (academic and mental health domains) included indicators of engagement and motivation, as well as family and coping variables which will be discussed in subsequent sections of this chapter. Mental health outcomes in this study included psychopathology, school burnout, and life satisfaction. Academic outcomes included GPA and AP/IB exam scores. Results indicate that higher levels of life satisfaction and lower levels of both burnout and psychopathology were significantly associated with higher levels of both cognitive and affective engagement and student motivation. Further, bivariate analyses indicated academic outcomes were significantly associated with higher levels of motivation and cognitive engagement. Multivariate analyses identified that factors related to better mental health, including both affective and cognitive engagement and achievement motivation, was

associated with better academic outcomes as evidenced in a higher AP/IB exam scores and course grades. These results indicate that student engagement is related to success in AP/IB programs. Cognitive and affective engagement seem to increase metal health outcomes while motivation and cognitive engagement seem linked to better academic outcomes. Differences in mean levels of engagement and motivation, or in the strength of associations between engagement and motivation and student academic and emotional outcomes were not reported in this publication. Also, no data were collected from general education students for comparison. More research is also needed to determine how organizational factors, such as school composition and SES, impact AP/IB student success.

These studies suggested that academic achievement of students in general, and in gifted education in particular, may related to student engagement and academic motivation. As student positive emotions increase, we can expect student engagement to increase as well. Research clearly identifies a link between academic motivation, student engagement, and achievement in the AP/IB and possibly the gifted settings. However, there is little research that has been done in specific AP/IBD programs that assess the extent to which academic motivation differs across racial subgroups of students. Studies have shown that both engagement and achievement motivation were associated with better academic outcomes. Yet, research demonstrates that gifted students who eventually drop out do so most commonly due to being uninterested in school or being unable to keep up with work. More research is needed to identify the specific reasons for dropping out of such programs, especially as it relates to academic motivation and factors that affect academic motivation. Further, it should be explored whether factors of SES or race/ethnicity have an effect on AP/IB student engagement and motivation.

## Family Factors

Further research has identified a few family factors that relate to student success in both gifted education and AP/IB courses. According to Renzulli and Park (2000), students who drop out of gifted programs typically are students who had low levels of education. These students often also perceive little to no support from family members when it comes to schoolwork. Research suggests that, in general, authoritative parenting has an effect on academic achievement. More specifically, higher perceived authoritative parenting practices are associated with higher academic achievement. Authoritative parenting practices are characterized by warm and supporting environments that are also demanding. The extent to which authoritative parenting has an effect on academic achievement will be explored. These factors were explored as it relates to race/ethnicity and SES. Further, this section highlighted how parenting, parental stress, or family conflict may have an impact on mental health outcomes.

Moving from an academic outcome (retention in high school or a curricular program) to a mental health outcome (life satisfaction), Chappel, Suldo, and Ogg (2014) explored the relationship between family stressors and overall life satisfaction. The sample was not specific to gifted students, and included 183 6$^{th}$-8$^{th}$ grade students from two middle schools in a southeastern state. While the sample consisted of majority females (64%), self-report race/ethnic identity was more diverse (36% Caucasian, 26% African American, 28% Hispanic, 3% Asian and 6% other). As an indicator of SES, 58% of participants were eligible for free or reduced-price lunch. Findings indicated that perceptions of interparental conflict and experiencing a major life event were negatively correlated with lower life satisfaction. Of these, interparental conflict was a stronger predictor. Findings also suggested that low SES, perceptions of interparental conflict, family structure, and experiencing major life events accounted for about

37% of the variance in perceived life satisfaction. More research needs to be conducted with high school students in particular, and within the gifted population.

Existing research with high school students has indicated that authoritative parenting practices and parental involvement in schooling explain variability in students' mental health and academic outcomes. Blondal and Adalbjarnardottir (2014) investigated the impact of parenting practices on students' completion of high school as evidenced through student engagement. The sample of participants came from a larger longitudinal study of 1,010 ninth grade students in Iceland. A total of 835 students (54% female) were included in this study, 70.4% of which lived with both biological parents, 14.3% lived with a single parent, 13.6% lived with blended families, and 1.7% lived in a different type of household. Findings suggest that students who perceived their parents as more authoritative were more likely to have completed high school at age 22. This included high levels of acceptance and autonomy granting. Further, these students were also less likely to be disengaged from school. While results seem promising, it is important to note that levels of engagement and parenting practices were self-reported by participants and their families. As such, a causal relationship cannot be implied. While it seems likely that authoritative parenting practices are related to student engagement and school completion, more objective data needs to be collected to determine this relationship. Further, this study was conducted with a sample of students from Iceland. More research needs to be conducted with youth in the United States.

In an effort to use data that are representative of the United States, Majumder (2016) investigated the relationship between parenting practices and educational outcomes. Drawing upon a sample of 4599 males and 4385 females who participated in the National Longitudinal Survey of Youth 1997 (NLSY97), the researcher used a nationally representative sample that

was reported to be diverse in regard to racial background. Findings indicated that authoritative parenting was considered to be associated with the best educational outcomes. Specifically, children with authoritative parents were more likely to obtain a high school diploma (16.3%), an associate degree (13.6%), or a bachelor's degree (18.5%) than students who perceived any other parenting style. These students were also less likely to drop out of school (5.5%) than students with uninvolved parents. More research is needed to specifically explore the link between authoritative parenting and gifted students. Further research is also needed to explore what aspects of authoritative parenting add to improved mental health and specific educational factors that are relevant to the success of students in AP/IB coursework.

Furthering this research, Wang and Sheikh-Khalil (2014) examined the effects of different types of parental involvement in 10th grade on student achievement. Variables in this study included home-based involvement, school-based involvement, and academic socialization. Home-based involvement examined the extent to which parents structure time at home for studying as well as provide opportunities for enrichment outside of the school setting. School-based involvement evaluates the extent to which parents attend and volunteer at school events. Academic socialization refers to the extent to which parents discuss future plans as well as educational goals and values. With a sample of 1,056 adolescents (51% male; approximately 53% European American, 40% African American, 7% biracial or other ethnic minorities), results demonstrate that home-based involvement and academic socialization were positively associated with academic achievement. Further, school-based involvement was negatively associated with depression. These results demonstrate the importance of parents fostering learning values and future goals within the home setting on student achievement. Effects of parental involvement also differed for SES. It is important to note that this study relied on self-report of frequency of

behaviors. The emphasis on the White and African American races limits generalizability to other racial/ethnic groups. Further, academic achievement was conceptualized as GPA. More sources of information may change the results of the study. More research is needed with more demographic groups and measures that are not just frequency estimates.

In Suldo and colleagues' (2018) study of the factors associated with success among AP/IBD students, family factors examined included stress at home (parent-child conflict), parental involvement in school, and authoritative parenting. Findings included that lower levels of parent-child conflict, as well as higher levels of parental support for learning (home support), authoritative parenting practices, and parental valuing of achievement, were all positively correlated with life satisfaction, GPA, and AP/IB exam scores, and negatively correlated with psychopathology and school burnout. This suggests the importance of perceived parental warmth and autonomy granting in academic achievement and mental health outcomes among students in AP/IBD coursework. As aforementioned, this study did not look at predictors such as family variables by demographic subgroups, and did not include a comparison sample of students in general education. More research is needed to determine whether demographic characteristics change the effect of parental involvement on AP/IBD student success.

Very limited research exists on unique family factors associated with AP/IBD student academic success. Further, there has been no research on how this factor may vary across racial/ethnic subgroups. Overall, it appears that more perceived authoritative parenting practices are associated with higher levels of academic achievement. Interparental conflict as well as parent-child conflict seems to negatively impact student academic success. Results of previous research indicate that students perceiving home support for learning as well as sensing an environment in which achievement is valued is tied to better academic and life outcomes. These

factors contribute also to global life satisfaction. The extent to which various demographic subgroups perceive varying levels of parental support and its impact on academic and emotional outcomes has not been studied.

## Stress and Coping in Accelerated Coursework

Although there are many known benefits of the IBD and AP programs, these benefits are not without limitations. Research has demonstrated that students in IBD and AP coursework in high school report higher perceived stress than their general education peers (Suldo, Shaunessy, & Hardesty, 2008). This stress can be attributed to increased workload and increased teacher expectations, as discussed in this section.

In a study of 333 high school adolescents, de Anda, Baroni, Boskin, Buchwald, Morgan, Ow, Gold, and Weis (2000) examined perceived stress within 10th and 11th grade students in a western state. The sample of students included primarily females (55.3%), and more Latino than African-American and White participants (65.2%, 22.5%, and 12.3%, respectively). Utilizing two self-report measures (the Adolescent Stress, Stressor, and Coping Measure and the State Trait Anxiety Inventory, Form Y), this study found that respondents indicated elevated stress with no gender or ethnic differences found. However, White students reported more stress than African-American respondents. In regard to stressors, these high school students expressed personal concerns related to one's future as the most experienced stressor. Latino students also reported more substance use coping than White and African American students. While the study did not find significant differences in experiencing stressors and utilizing coping strategies, the sample was not generalizable to other populations due to the low numbers of Asian or multiracial students. These latter two racial groups were not able to be used in this study. Although the sample matched the demographic makeup of the district studied, more diverse samples are

needed to identify more possible correlations between race/ethnicity and perceived stress. Further, this study was not specific to gifted students or students enrolled in accelerated coursework. More research is needed specific to this subgroup and also with a comparison group in order to understand whether the stress is elevated in relation to general education peers as well as across demographic subgroups.

In a study of IB and general education students, Shaunessy, Suldo, Hardesty, and Shaffer (2006) examined differences in school functioning and psychological well-being among these populations. With a sample of 122 IB students (33 gifted, 89 high-achieving) and 179 general education peers, Shaunessy and colleagues identified between-group differences in a variety of mental health and school domains. More specifically, although not statistically significant, high-achieving IB students reported a higher internalizing psychopathology mean average than both gifted IB and general education peers. Further, psychopathology and problematic peer relations were significantly affected by group membership (IB gifted, IB high-achieving, and general education). While life satisfaction seems to be within typical ranges for this group, there are concerns with psychological functioning due to academic demands. More research is needed that has a sample of gifted general education peers for comparison.

Foust, Hertberg-Davis, and Callahan (2009) used a qualitative approach to identify the perceived social/emotional advantages and disadvantages of participation in accelerated coursework. The sample of students included 85 students from four selected schools within a larger study of nineteen schools. Demographics of these students were not reported; however, it was noted that the demographic makeup matched the demographics of the larger study. Interviews were semi-structured in group format and were coupled with observations to supplement the interviews. Students in the IB program were more likely to complain about the

rigidity of the program and emphasize negative stereotypes (Foust et al., (2009). In order to enjoy both academic success and social interactions, AP and IB students reported that they had to sacrifice something, which was almost always sleep. While the sample of students included only students in the IB program, no comparisons can be made among general education peers. Further, this study only hints at some of the disadvantages of participation in the IB program from the mouths of a few students. More research is needed with a larger scale of students that matches the demographic makeup of all students in the IBD in the United States.

Within a study of 30 students enrolled in either AP or the IBD, Shaunessy-Dedrick, Suldo, Roth, and Fefer (2014) examined students' perceptions of stressors and factors that contribute to success and risk. Within the sample of 30 students (19 AP, 11 IBD), 50% of the sample were considered to be struggling students while the other 50% were successful students. The demographic makeup of the participants matched the Florida Department of Education 2010-2011 school year demographic makeup. Through interviews, students reported juggling academic demands with social obligations as difficult. Students reported feeling that they had insufficient time, and as such, some of these students reported having to sacrifice something as a result of the lack of time. Participants also reported that concerns about academic success also increased perceived stress. Among coping strategies, participants reported time and task management as very important. Taking breaks and seeking support were also discussed. While this study identifies relevant coping strategies along with a few contributing stressors, this study included a small sample. Further, no quantitative data were collected to compare the level of stress perceived or gauge the factors that contribute most to success. Further, this study did not seek to identify stressors more salient for certain demographic subgroups. More research is

needed to identify whether there is a difference in perceived stressors or coping strategies utilized based on demographic subgroup or even gender.

Suldo, Shaunessy, Thalji, Michalowski, and Shaffer (2009) used factor analyses to identify sources of stress for IB students compared to general education peers. Data were collected at two different time points as part of a larger study (see Shaunessy et al., 2006 and Suldo et al., 2008 described later in this section). Participants at Time 1 included majority IB students (about 68%), predominantly female (67.6%), and Caucasian (77.5%; 5.6% African American, 4.2% Asian, 4.2% Hispanic/Latino, 8.5% Other). At Time 2, participants were also predominantly female (69.3%) and Caucasian (66.8%; 10.3% African American, 7.5% Asian, 11.0% Hispanic/Latino, 0.3% Native American, and 41% other). Participants at Time 2 were also relatively even as far as the number of IB and general education students ($n$=162 and $n$=157, respectively). At Time 1, students participated in 12 focus groups, and at Time 2 students responded to a variety of self-report measures including a demographics form. Students in the IB program reported more stress related to academic requirements than students in general education. Students in general education reported more perceived stress on five factors: stressful life events, peer relations, parent-child relations, academic struggles, and problems in family. Both groups reported similar stress levels related to participation in extracurricular activities. While all seven sources of stress were related to externalizing behaviors in IB students, for general education students, only problems in family, parent-child relations, peer relations, and academic struggles were associated with externalizing behaviors. While results show a few differences in sources of stress for IB students compared to general education students, more information is needed to determine whether there are differences within IB students based on

demographic subgroup or even gifted status. Further, more research is needed with a more diverse sample of students and ideally with a larger sample size to promote generalizability.

Suldo, Shaunessy, and Hardesty (2008) investigated the relationships among stress and coping in a sample of IB high school students compared to their general education peers. A total of 307 students were included in the study (about 45% IB) with a predominantly White, female demographic makeup (68% female; 69% Caucasian, 10% African American, 8% Asian, 8% Hispanic/Latino, and 5% other). Most students included in the sample reported average or high SES (80%). Overall, students in IB reported more perceived stress than students in general education. Within the high achieving students, the higher levels of perceived stress co-occurred with compromised mental health. Coping accounted for about one-third of the variance in global life satisfaction. Anger coping was positive correlated with more perceived stress. Anger coping was also found to be the strongest predictor of externalizing behavior while avoidance coping was found to be the strongest predictor of internalizing behaviors. Interestingly, coping was not found to be correlated with GPA, suggesting that students in the IB curriculum have academic functioning superior to general education students despite reporting higher perceived stress. It is important to note that this sample was a small convenience sample and as such, may not be representative of all IB or high achieving students in the United States. Further, there was a natural disaster that affected the area and could have affected perceived stress scores. More information is needed that explores these factors of stress and coping among different demographic groups within the IB or AP programs specifically.

Suldo, Shaunessy, Michalowski, and Shaffer (2008) interviewed a total of 48 IBD students to uncover different coping strategies that may be related to varying levels of psychopathology. Students were separated into a low anxiety group and above-average anxiety

group based on scores on the Youth Self-Report Anxiety Problems scale. Both groups consisted of primarily females (52% for the low anxiety group and 83% for the above-average anxiety group). Both groups were also predominantly White (68% for the low anxiety group and 87% of the above-average anxiety group). Students in the study reported using problem-solving and avoidance coping most often. Further, results indicate that within avoidance coping, IB students may engage in more active procrastination, characterized by deliberately working under pressure relative to not making a decision to work at all. Students also reported developing self-reliance, seeking support from multiple sources, and even engaging in multiple diversions. The results of this study cannot be generalized to students outside of IB programs. Further, the small sample of students included may not be able to generalize to other geographic areas. Lastly, the sample of participants was not very diverse in that it consisted of mostly females and White students. More research is needed that includes coping strategies of AP students as well, in addition to a larger diverse sample of students.

In a study of IB high school students that compared 52 students identified as gifted to 89 students not identified as gifted, Shaunessy and Suldo (2010) aimed to identify whether there were differences in perceived stress experienced by these groups along with their coping behaviors. Participants were predominantly Caucasian (68.8%; 2.8% African American, 16.3% Asian American, 7.1% Hispanic, 0.7% Native American, and 4.3% other) as well as female (61.0%). Demographic information collected also indicates that 93.6% of the sample were classified as moderate to high SES. Results indicated that levels of perceived stress are similar between the two groups, indicating that there may not be a difference in students who were placed in such coursework regardless of previous status as gifted. Among strategies deemed ineffective by both groups of students, across the proportion of focus groups, gifted IB students

mentioned engaging in activities unrelated to the problem and engaging in relaxing activities more than high-achieving IB students. High-achieving IB students mentioned fixating on a problem without taking action and sleeping more among ineffective coping than gifted IB students. Differences were also found within the number of mentions in a variety of effective coping styles such as focusing efforts, sleeping, reducing workload, or being alone. Overall, tests of group differences in coping strategies assessed by the Adolescent Coping Orientation for Problem Experiences (ACOPE) indicated a significant difference in anger coping with gifted IB students reporting using this coping style more. While the other strategies were not considered statistically significant, high achieving IB students reported greater use of positive appraisal, family communication, and negative avoidance. More research is needed with a larger sample size that is more diverse both ethnically and within gender to determine whether these differences hold true or may be significant in another population.

In Suldo and colleagues' (2018) study of the factors associated with success among AP/IBD students, stress and coping factors examined included sources of stress (academic requirements, parent-child conflict, academic and social struggles, family financial problems, cultural issues, major life events, and curriculum) and use of five different styles of coping (approach/problem-focused, diversions, avoidance, alone, and rumination). Findings included that lower levels of avoidance coping, as well as higher levels of motivation, cognitive engagement and home support for learning, co-occurred with better mental health and academic outcomes. Problem-focused coping was found to be related to better mental health which was reflected in high life satisfaction, low psychopathology, and low levels of school burnout. Alone coping, parent-child conflict, and academic and social struggles were associated with worse mental health outcomes. While being related to lower AP/IB exam scores, coping through

diversions appeared to be a promotive factor of all mental health outcomes. Also interesting, coping through rumination was found to have a positive association with AP/IB exam scores and GPA, but a negative association with mental health outcomes. Overall, this indicates that among students in AP/IBD coursework, avoidance coping and coping through rumination appear to be associated with worse mental health outcomes but improved academic achievement. While this study indicates specific coping strategies that are related to mental health and academic outcomes, more research is needed to determine whether these correlations hold true when separating the population by demographic variables. More specifically, if certain demographic groups are experiencing certain stressors more often than other demographic groups.

Overall, students in accelerated coursework have been found to experience more stress than peers in general education. Reschly and colleagues (2008) found preliminary support that frequent positive emotions in school can relate to better cognitive and behavioral coping strategies. This is also related to better student engagement. By focusing on increasing the coping strategies of students in accelerated coursework it is thought that students will have better engagement in school, thus greater interest and better outcomes. Most stress as reported by students in accelerated coursework has been attributed to the heightened academic requirements associated with such coursework. Further research indicates the potential for unique ways of coping with this stress among students in AP/IBD, and perhaps further associated with gifted status. Results of the above studies points to potential differences in students identified as gifted and students who have not been identified as gifted within the IB program in particular. Students have reported coping through rumination and avoidance (or procrastination) while these forms of coping have been demonstrated to be associated with worse mental health outcomes. Further research is needed to identify whether race and ethnicity can play a role in stress and coping

among students in accelerated coursework. More specifically, research is needed to identify whether certain demographic groups (African American, low SES, or Hispanic) experience different types of stressors more often than other groups (i.e., White and Asian) as well as whether differences in coping styles may lead to differential effects on academic and mental health outcomes.

## Underrepresentation of Students in Accelerated Coursework

Historically, the IBD tends to enroll high-achieving students from families who are aware of the program and its potential benefits, as well as students from higher income families (Perna, May, Yee, Ransom, Rodriguez, & Fester, 2013). Although the total number of high schools that offer the IBD is steadily increasing, there has been little change in the distribution of Black students in these programs. However, research has suggested that the total number of Hispanic students in the IBD is increasing, but this increase still puts the overall enrollment of these students below the national average (Perna et al., 2013).

In an effort to explore whether students from low-income backgrounds and racial/ethnic minority groups have the opportunity to benefit in the IBD, Perna et al. (2013) drew upon data from the IBO as well as Common Core. Results indicated that the opportunity to benefit from the IBD vary based on family income and student race/ethnicity. Students from low-income backgrounds or identified as Black or Hispanic has shown less success in enrolling in such programs. These programs have also been found, at least in Florida, to vary in admission requirements and the rigidity to which they adhere to these requirements. This research suggests that Black, Hispanic, and low-income students have a lowered ability to succeed from such coursework and baseline levels of academic achievement may be varied.

Peters, Gentry, Whiting, and McBee (2019) sought to understand the changes in demographic representation of gifted students across the United States. Using public data from the Office of Civil Rights (OCR), Peters and colleagues found little to no change in the disproportionate demographic representation of gifted students in the United States. More specifically, from 2000 to 2016, Asian American and European American students were found to be consistently overrepresented in gifted and talented programs (RI = 2.01 and 1.18 in 2016, respectively) while African American, Latinx, and Native American students were consistently underrepresented (RI = .57, .70, and .87, respectively). These results indicate that White and Asian students have been historically overrepresented in gifted and talented programs with the latter being represented more than twice their population representation. Being that this study focused on students in gifted and talented programs, more information is needed to identify whether this disproportionality extends into AP and IB coursework.

Kolluri (2018) conducted a literature review on the extent to which the AP program has achieve goals of equal access and effectiveness for all students. Conducting a Google Scholar search of empirical articles on AP access and effectiveness, Kolluri (2018) found that from 1994 to 2013, access to AP coursework increased for all race/ethnicity groups (White, Asian, African-American, and Latina/o; Malkus, 2016) as well as for parent education level (did not finish high school or graduate college). It is important to note that the included articles did not contain an empirical articles of AP access or effectiveness in private education. Although promising that access to such courses seems to have increased, the percent of Latina/o and African American graduates with AP credit still lags behind White and Asian peers. Results also indicated an increase in participation for low-income students as the percent of low-income examinees increased from 11.3% to 27.5% in 10 years. While AP exam participation in 2014 demonstrated

that Latina/o students were being proportionally represented, African American students remained moderately underrepresented. It is important to note that this literature review by Kolluri (2018) also found that Latina/o students are more likely to take AP Spanish Language (65.6% of examinees). While results of this literature review hold promise in that access is increasing, more information is needed to determine access in private schools as well as other students who are considered gifted and talented or in other advanced curricula such as IB. Further, more qualitative data should be collected to establish more recent trends of participation in AP programs. Such data may come from public AP examinee data published by the College Board.

Similar to the above study, Ford (2014) examined the underrepresentation of Hispanic/Latino and African American students in gifted education. The Relative Difference in Composition Index (RDCI) for both groups were calculated which expresses the proportion of students in gifted education relative to general education participation. Based on data collected from the Office of Civil Rights (OCR; 2009, 2011), African American students were more underrepresented in 2011 (-47%) than in 2009 (-43%) suggesting a change in access. In 2011, it was hypothesized that African American students should makeup 15.2% of students in gifted education. Hispanic/Latino were also found to be underrepresented more in 2011 (-36%) than 2009 (-31%). In 2011, it was expected that Hispanic/Latino students would makeup 20% of gifted education. These trends demonstrate that African American and Hispanic/Latino students remained underrepresented in gifted education from 2009 to 2011. Unfortunately, it is not specified as to which grade levels are included in analysis. Thus, more research is needed to determine a RDCI for high school gifted students in particular. Further, more research should aim to identify the experiences of such students in gifted education to determine reasons for

underrepresentation—whether personal or academic. While data represents students nationally, similar studies should be conducted with students in accelerated curricula such as AP or the IBD.

In a study of 117 suburban schools in Texas, Kettler and Hurst (2017) examined AP and IB participation among students along with ethnicity gaps and school level factors that may play a part in any gaps. Only high schools with the necessary diversity (White, African American, and Hispanic students) were included in the study analysis. Data were collected from the state's education agency, and schools without data for both 2001 and 2011 (the most recent data available at the time of study) were excluded from analysis. Results included a mean difference between White and African American students as well as between White and Hispanic students in participation in AP/IB programs. Neither of these were found to be significant. Despite this, within the Black-White ethnicity gap model, a small positive correlation was found between an increase in economic disadvantage and minority students as well as a negative correlation between teaching experience and increase in minority. This suggests that less teaching experience and more minority students are associated with the Black-White ethnicity gap in AP/IB participation. Further, an increase in the number of economically disadvantaged students and minority students are associated with this gap. Within the Hispanic-White ethnicity gap, an increase in economically disadvantaged and minority students were associated with this gap along with degree of teaching experience and minority students. These findings were similar to findings of the Black-White ethnicity gap model. While it seems that school level factors may contribute to the underrepresentation of students in accelerated coursework, more research is needed to identify other possible factors as these two models only accounted for 19-20% of the variance in the gaps. Further, more research should be conducted that is representative of national rates.

Previous studies of these populations are limited in scope. The research presented here provides trends in participation in gifted and talented programs along with AP and IB programs. Further, a clear ethnicity gap may be demonstrated, with White and Asian students being typically overrepresented in advanced coursework and Black, Hispanic, and low-SES students being typically underrepresented in gifted, AP, and IB programs. However, more research is needed that explores the reasons for this disproportionality. While a few studies point to variables such as school factors, more is needed to determine whether other factors have an impact on the specific underrepresentation of students in accelerated coursework. The combination of quantitative and qualitative studies may reveal variables that have an influence on participation in the contexts of home, school, environmental, and personal.

## Summary

Research by Suldo and colleagues (2018) identified significant predictors of success among a sample of 2,379 AP and IB students from five geographically diverse school districts. Among this sample, students were relatively equally dispersed across grades 9-12, ethnically diverse (49.4% Caucasian, 13.5% Asian, 12.3% Hispanic, 11.8% African American, 13.0% multiracial), and varied in SES (27.7% eligible for free or reduced lunch). Mental health outcomes (psychopathology, life satisfaction, and school burnout) were found to be significantly correlated with a variety of stressors including academic requirements, parent-child conflict, academic and social struggles, family financial problems, cultural issues, and major life events. The results of this study identified other unique correlates such as student engagement and motivation, coping, environmental influences at home and school, as well as demographic factors. While promising in that significant predictors were found across a variety of variables,

more information is needed to determine whether these factors may differ in influence among demographic subgroups.

Research presented in this literature review demonstrated that students in accelerated coursework report more perceived stress than their general education peers. While perceiving elevated stress, it was reported that students in accelerated courses were still superior in academic achievement and differences within coping styles were found. Coping styles were found to differ even between gifted IB students and high-achieving IB students not identified as gifted. Further, research has demonstrated that family factors may be related to academic achievement with parent-child conflict and low SES being associated with lower academic achievement. Currently, there is also very limited research regarding the underrepresentation of African American, Hispanic/Latino, and low SES students in high school accelerated coursework. Although recognized as an area for growth by the IBD, little research empirically investigates the unique stressors and levels of coping that are associated with these historically underrepresented groups. Trends in data show a consistent underrepresentation of African American students in gifted and talented programs as well as AP/IB curricula. Hispanic/Latino students have also been found to be consistently underrepresented. However, no research indicates whether trends are similar for students of various income levels.

No research to my knowledge has been conducted that identifies reasons for underrepresentation whether institutional, personal or stemming from family and the community contexts. It would also be useful to identify whether demographic subgroups differ in the intensity of stressors and whether their use of coping strategies differ to match these unique stressors. An investigation of these factors may help to identify specific intervention targets for

historically underrepresented students with the aim of increasing students' ability to benefit from the accelerated curricula.

# CHAPTER III: METHOD

This study examined the factors that characterize underrepresented students in accelerated coursework who are identified as demonstrating academic or emotional challenges ("at risk") during a mid-year screening. To address the emotional needs of students in accelerated coursework in the schools, Drs. Shannon Suldo and Elizabeth Shaunessy-Dedrick along with their Co-Investigators and research team at the University of South Florida (USF) created the *Advancing Coping and Engagement* program, which is a multi-tier program for students in accelerated coursework that directly teaches students strategies for coping with academic stressors and engaging with teachers, peers, and families to connect to school and gain support. This chapter describes the setting and participants, procedures used during recruitment, measures used in the original study for the pre-MAP assessment and mid-year screening, data collection, and an overview of the data analytic plan. This chapter also describes important ethical considerations.

## Research Design

The current study is a secondary data analysis that used a quantitative research design in order to explore whether students in underrepresented subgroups (African American, Hispanic, and Low SES) were identified as at-risk for academic or emotional problems more in comparison to historically overrepresented subgroups in accelerated coursework (White and Asian; Mayer, 2008). Among the at-risk for academic or emotional problems sample (MAP participants), a multiple regression was conducted to identify trends in levels of coping and engagement, as

measured by 24 identified targets in the ACE program related to student academic and emotional success in accelerated coursework as a function of race/ethnicity and SES. A logistic regression was used in order to identify whether a student being deemed "at-risk" is predicted by student demographic group. The researcher conducted one logistic regression for at-risk or no risk, and three subsequent logistic regressions for each type of risk. A multinomial logistic regression was used to determine whether historically underrepresented students in accelerated coursework are identified as "at-risk" more than overrepresented students. More specifically, the chi-square analysis determined whether the observations are due to chance, or if the variables risk and demographic group were independent of one another. Further, this allowed the researcher to identify whether we can expect underrepresented students to be identified more than overrepresented students in subsequent mid-year screenings. Lastly, the chi-square analysis also determined whether the distribution of targets chosen to address in action plans were due to chance and not related to demographic variables.

## Setting

The student data that were analyzed came from an archival dataset collected in an IES granted study (IES Research #R305A150543) awarded to Drs. Shannon Suldo and Elizabeth Shaunessy-Dedrick to develop and evaluate the efficacy of the ACE Program, a classwide universal social-emotional learning curriculum with an embedded selective intervention—MAP. This researcher analyzed data from the 332 students who were screened for participation in MAP during Year 3 of the IES granted study. With 115 students who participated in MAP, this study analyzed possible patterns across AP/IBD subgroups (e.g., low SES, African American, Hispanic, White, and Asian) in self-reported levels of coping and engagement, as well as perceived parenting practices, that have been demonstrated to be related to success in accelerated

coursework. The self-report survey data were collected from the pre-MAP assessment administered to all students who participated in the Tier 2 intervention. Criteria for determining which students were eligible to participate in the tier 2 intervention will be discussed later in this chapter. The ACE program along with its Tier 2 component is briefly described in the section below, to set the stage for the sample within the archival dataset to be examined in the study.

**The ACE Program**

The *Advancing Coping and Engagement* program is a 12-module universal curriculum (Tier 1 support) in development for ninth-grade students in accelerated coursework (Shaunessy-Dedrick et al., 2018). Developers of the program conducted focus groups and numerous studies to support the content of the program and thus the methods used by the program as well (Shaunessy-Dedrick et al., 2018). The ACE Program followed research that showed connections between student coping and engagement with mental health and academic outcomes (Suldo, Shaunessy-Dedrick, Ferron, & Dedrick, 2018). A list of modules presented in the ACE Program curriculum is included in Table 1 below.

Table 1

*ACE Program Modules*

| |
|---|
| Module 1: Adjusting to AP/IB |
| Module 2: Factors Related to AP/IB Student Success |
| Module 3: Increasing Pride at Your School and AP/IB Program |
| Module 4: Relationships with People at School |
| Module 5: Investing in Extracurricular Activities |
| Module 6: Time and Task Management (Organize, List, Prioritize) |
| Module 7: Time and Task Management (Limiting Procrastination) |
| Module 8: Seeking Support |
| Module 9: Relaxation and Positive Thinking |
| Module 10: Limiting Use of Ineffective Coping Styles |
| Module 11: Promoting Eustress |
| Module 12: Strengths, Values, and Goals |

The classwide curriculum was followed by a selective (Tier 2) support—MAP (*Motivation, Assessment, and Planning Intervention*)—for students who have been identified by a mid-year screening as being at risk for later academic or emotional difficulties (O'Brennan et al., 2020). MAP meetings incorporate the principles of motivational interviewing (MI), to help students who may benefit from a brief individualized support to address suspected academic or emotional difficulties. An outline of MAP Meeting One is included in Table 2.

Table 2

*MAP Meeting One Outline*

| Motivational Interviewing Procedure | Procedures and Goals for Stage |
|---|---|
| Engage | MAP coach gets to know the students' values, character strengths, and long-term goals. The MAP coach helps the student to identify links between their goals and their current coursework. |
| Focus | MAP coaches introduce students to their graph and compare performance to a sample of peers. Students identify strengths and areas for growth and identify an area to focus on for the remainder of the meeting. |
| Evoke | The MAP coach uses evocative questions to elicit the students desire to change in their area of focus that would help them achieve their long-term goals. MAP coaches elicit positive reasons to change. |
| Plan | MAP Coaches work with students to develop an action plan to achieve change in their area of focus. Students identify the best reasons for change and also problem-solve any barriers to change. |

Students identified for the MAP intervention completed a survey prior to meeting with a MAP Coach to assess their current level of coping and engagement as well as perceived parenting practices. Students met one-on-one with a MAP coach, an interventionist proficient in MI and the MAP meeting protocols and develop an Action Plan to improve a factor they deemed low on their Student Individualized Graph (see Appendix G for a sample graph). Scores on the graph were generated by comparing the responses of the student to the norm-referenced sample

of 2,300 other AP/IBD students who also completed the survey. After the first meeting, the students selected whether or not they would like to have a second meeting with their coach one month after their initial meeting. Two weeks after the first meeting, students received a "Reminder Letter" from their coach about their action plan which also poses questions to think about in relation to the students' plan.

## Study Sample

The study sample included 9th grade students in accelerated coursework participating in a larger RCT study conducted to evaluate universal and selective interventions for such students. I was already an approved member of the research team that interacted with the archival dataset, and IRB approval (Pro00022787) for the larger study is current (see Appendix A). Overall, there were 351 ninth-grade students from three school districts in a southeastern state who participated in the ACE Program and were targeted for screening to participate in the selective Tier 2 intervention. The completion time for the screening survey was between 5-10 minutes and requested information such as stress and school engagement (semester unweighted GPA and current course grade in either AP Human Geography of IB Biology were collected from students' school records).

Racial groups within this sample included Black/African American, Hispanic, Multiracial, or Other. Decisions about racial categories and whether to include ethnicity as a variable were made by the larger research group. Indicators of socioeconomic status (SES) include both whether the student was receiving free or reduced-price lunch (FRL; low SES) or whether the student indicated that at least one parent obtained a college degree (high SES). Students were also separated by whether they were considered to be enrolled in a pre-IB program or enrolled in an AP course and gender.

**IRB Ethical Treatment of Participants and Data**

The procedures and documents used in the larger study were approved by the USF IRB (Pro00022787) and by the offices of research within each of the three participating districts. All 352 students returned a signed parent permission form (Appendix B) as well as provided assent (Appendix C) granting participation in the larger evaluation study. In two of three districts, parents of students in the sample later received a "notification of screening" letter explaining that all students would complete a survey on stress and feelings about school. The notification letter also explained that the ratings, and semester grades, would be a part of the data reviewed to determine eligibility to participate in the Tier 2 intervention. Parents were instructed to return the letter only if they wished to *not* have their child participate in the screening. In the third district, parents provided consent for the screening at the same time they provided consent for participation in the larger study.

Student responses were assigned a code number for confidentiality purposes and stored in a locked file cabinet. There was no identifying information on the data collected. Only students with permission were screened and only students who were identified and agreed to take part were allowed to participate in MAP meetings. All data were stored in electronic files within a secure USF storage area. Only approved the PIs and approved team members, including the researcher in this thesis.

**Issues of Diversity**

All consent and assent forms were written in English under the assumption that all students were enrolled in English-speaking accelerated courses and thus had no issues with understanding written or spoken English.

## Measures

### Demographic Form

Students provided demographic information using a 1-page demographics form in August 2017 as part of the larger study evaluating the efficacy of the ACE Program. The demographic form asked students to self-report their age, race, ethnic identity, gender, and parent educational level. Parent educational level served as one indicator of SES. The demographic form is provided in Appendix E.

### Mid-Year Universal Screener

The mid-year screening was completed in January 2018. The purpose of the mid-year screener was to identify students who participated in the ACE program who reported elevated levels of perceived stress and low life satisfaction using criteria defined in the sections below. A description of the measures used to assess perceived stress and life satisfaction are included below along with cut scores for being identified as at-risk. The full screener is provided in Appendix D.

#### *Perceived Stress Scale (PSS; Cohen et al., 1983)*

The PSS is one of the most widely used psychological instruments for measuring the perception of stress. It was originally a 14-item survey designed to be used in community samples with a minimum junior high school education. For the current study, a 6-item version of the PSS was used that only contained items asking about students' perceived levels of stress. Items about coping with stress were removed in part because coping is measured by different scales in the larger study. Students respond on a five-point Likert scale: (1) *Never*, (2) *Almost Never*, (3) *Sometimes*, (4) *Fairly Often*, and (5) *Very Often*, how frequently in the past month they have felt negative experiences associated with high perceived stress. In prior use with

AP/IB students, the PSS demonstrated a reliability (α) of .91 (Suldo, Shaunessy, & Hardesty, 2008). Students who obtained a mean score of greater than 3.6 were considered at-risk, a cut point established in prior research with freshmen in AP/IB classes (Suldo et al., 2019) and indicates elevated stress levels for this population.

***Multidimensional Students Life Satisfaction Scale (MSLSS; Huebner, 1994)***

The MSLSS directly assesses a students' life satisfaction related to various domains: family (7 items), friends (9 items), living environment (9 items), self (7 items) and school (8 items). Students respond on a six-point response metric: (1) *Strongly Disagree*, (2) *Disagree*, (3) *Mildly Disagree*, (4) *Mildly Agree*, and (5) *Agree*, and (6) *Strongly Agree*. The School Satisfaction subscale (SS; Huebner, 1994) specifically measures life satisfaction as it relates to the school setting. For the current study, the 8-item SS scale was used to determine satisfaction with school. An average score of 3.4 is closer to dissatisfaction with school than satisfaction and was determined to indicate possible emotional risk in prior research with AP/IB freshmen (Suldo et al., 2019). The SS scale yielded a reliability of 0.86 in prior research with AP/IB students (Suldo, Storey, O'Brennan, Shaunessy-Dedrick, Ferron, Dedrick, & Parker, 2018).

***Additional Indicators of, and Criteria for, Risk***

In addition to self-reporting levels of stress and school satisfaction, school records provided by the district to study staff indicated student eligibility for discounted or free school meals, another indicator of low SES. Student grades from the first semester of 9$^{th}$ grade in either IB Biology or AP Human Geography as well as grade point average (GPA) were provided to study staff from a school administrator.

**Emotional Risk.** Students were identified as having an emotional risk if they exhibited elevated stress measured by the PSS (mean score > 3.6) or low school satisfaction as measured

by the School Satisfaction scale of the MSLSS (mean score < 3.4). Students did not have to meet criteria for both.

**Academic Risk.** Students were identified as having an academic risk based on two sources. Academic risk was dichotomized as "at-risk" or "no risk". Students were at risk based on an unweighted fall semester GPA of < 3.0, or a grade of C, D, or F in their respective AP or pre-IB course (AP Human Geography or IB Biology). A summary of criteria for both academic and emotional risk are included in Table 3 below.

Table 3

*Summary of Criteria for Risk*

| Risk Type | Measure | Criteria |
|---|---|---|
| Emotional | Perceived Stress Scale (PSS) | PSS mean score > 3.6 |
| | School Satisfaction (SS) scale of the Multidimensional Students Life Satisfaction Scale (MSLSS) | SS mean score < 3.4 |
| Academic | Unweighted Grade Point Average (GPA) from 1st semester | GPA < 3.0 |
| | Course Grade (IB Biology or AP Human Geography) | Grade of C, D, or F in designated course |

**Pre-MAP Assessment**

The pre-MAP assessment consisted of a 148-item self-report survey of variables identified in prior research as relevant to AP/IB student success (Suldo, Shaunessy-Dedrick, Ferron, & Dedrick, 2018). This included students' use of coping strategies, perception of eustress, level of school engagement, level of motivation to achieve, perceived parenting practices, and sources of stress. This packet also included surveys of personal values and character strengths. See Table 4 for a full list of factors explored in the pre-MAP assessment. Table 4 also summarizes the measures included in the packet including factor descriptions and items. Prior to beginning MAP

Meeting One, the student's hand-written ratings were entered into an Excel file which generated a personalized graph (see sample base graph in Appendix F; individual student graph example Appendix G) to compare the students' scores/performance to the average scores of 2,379 other AP/IBD students who were previously surveyed by Suldo and Shaunessy-Dedrick (2013). The student's individual scores were organized into four main areas: *effective coping styles*, *ineffective coping styles*, *student engagement*, and *home*. Dark grey bars indicate the overall composite in the broad areas (e.g., problem focused, withdraw and rely on self, eustress at school, etc.) while light gray bars indicate specific areas (e.g., time and task management, turn to family). These broad areas are indicated with bold lettering in Table 4.

***Coping with Academic Demands Scale (CADS; Suldo, Shaunessy-Dedrick, Fefer, &Ferron, 2015)***

The CADS measures academic coping strategies. Of the five overall categories explored, MAP included problem-focused coping, withdraw and rely on self, and avoidance. Items are organized on a 5-point Likert scale ranging from 1 (*never*) to 5 (*almost always*). Initial validation studies of the CADS indicate test-retest reliabilities greater than .70 and Cronbach's alpha reliabilities ranging from .53 to .90 with 11 of the 16 factors exceeding .70 (Suldo et al., 2014).

***Eustress Scale (ES; O'Sullivan, 2011)***

The ES measured how frequently students are able to respond to stress in a positive way. Students who report feeling a sense of eustress also report feeling motivated by stress (Suldo et al., in development). Responses ranged on a six-point Likert scale from 1 (*never*) to 6 (*always*).

***School Attitude Assessment Survey—Revised (SAAS-R; McCoach & Siegle, 2003).***

**Attitudes Towards Teachers (ATT) Scale.** The ATT is a subscale of the School Attitude Assessment Survey—Revised (SAAS-R; McCoach & Siegle, 2003). The scale measured student

perceptions of relationships with teachers. Responses ranged on a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

**Attitudes towards School Scale.** The ATS scale of the SAAS-R measured a students' pride in school. Response options were from 1 (strongly disagree) to 7 (strongly agree).

**Academic Self-Perceptions (ASP) Scale.** The ASP scale is a subscale of the SAAS-R. The ASP scale was used to measure perceived academic skills and capabilities. Response options ranged from 1 (*strongly disagree*) to 7 (*strongly agree*).

**Motivation/Self-Regulation (MOT/S-R) Scales.** The MOT/S-R scales of the SAAS-R measured a students' motivation to engage. Response options ranged from 1 (*strongly disagree*) to 7 (*strongly agree*).

***Measure of Satisfaction with AP/IBD Course***

Students completed a single item developed by the research team to measure satisfaction with classes. The item asked students to rate their satisfaction with their AP/IBD course. Responses ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). The item is included in Table 4 below.

***Extracurricular Activity Involvement (EAI) Scale***

The EAI was developed by the research team to evaluate the breadth and intensity of student involvement in extracurricular activities. The EAI is a composite score generated by the two constructs. The breadth aspect included responses from 0 (*not involved with this activity*) to 10+ (*I spend 10 or more hours per week in this activity*) and listed several common extracurricular activities in a high school setting, with the option to include two additional experiences not listed. This allowed students to identify the variety of experiences they are gaining. Intensity responses ranged from 0 (*I spend no time in any activity this year*) to 20+ (*I*

*spend 20 or more hours a week involved in activities*) as an overall measure of how many hours are spent on extracurricular activities. Further validation of the EAI scale has not been conducted.

***Short Grit Scale (Grit-S; Duckworth & Quinn, 2009)***

The Grit-S measured a students' resilience and commitment to completing long-term goals. Responses ranged from 1 (*not like me at all*) to 5 (*very much like me*).

***High Standards Scale of The Almost Perfect Scale—Revised (APS-R; Slaney, Mobley, Trippi, Ashby, & Johnson, 1996)***

The high standards scale of the APS-R measured students' internal expectations for personal performance. Responses ranged from 1 (*strongly disagree*) to 7 (*strongly agree*).

***Flow in Academic Coursework***

Pacing flow of a students' academic coursework was measured by two items developed by the research team. Responses ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). The measure of flow was developed to assess absorption in tasks/activities and a marked change in the perception of passage of time associate with being fully engaged in the task at hand.

***Parenting Style Inventory (PSI-II; Darling & Toyokawa, 1997)***

**Responsiveness Scale.** The responsiveness scale of the PSI-II can be used to measure youth perceived support from parents in the areas of emotional support, availability, and warmth. Response options ranged from 1 (*strongly disagree*) to 5 (*strongly agree*).

**Autonomy Granting Scale.** The autonomy granting scale of the PSI-II perceptions of independence and privacy among youth. Response options ranged from 1 (*strongly disagree*) to 5 (*strongly agree*).

Table 4

*Factors Explored on Student Pre-MAP Assessment*

| Category | Factor | Measure | Number of Items | Sample Item |
|---|---|---|---|---|
| Effective Coping Styles | **Problem-Focused Coping** | | | |
| | Time and Task Management | CADS | 6 | 59. Prioritize the order in which you complete your work. |
| | Positive Thinking | CADS | 4 | 49. Adopt an optimistic or positive attitude. |
| | Turn to Family | CADS | 3 | 31. Spend time with family. |
| | Seek Academic Support | CADS | 3 | 20. Ask teacher(s) questions about assignments or coursework. |
| | Relaxation | CADS | 2 | 31. Take deep breaths. |
| | Turn to Spirituality | CADS | 3 | 39. Rely on your faith to help deal with the problem. |
| Ineffective Coping Styles | **Withdraw and Rely on Self** | CADS | 4 | 25. Keep problems to yourself. |
| | **Avoidance** | | | |
| | Sleep More | CADS | 3 | 43. Sleep to escape or put off the problem. |
| | Reduce Effort on Schoolwork | CADS | 4 | 9. Turn in assignments late. |
| | Take Short Cuts at School | CADS | 3 | 13. Copy other students' homework and assignments. |
| | Skip School | CADS | 3 | 37. Take a day off from school to sleep or relax (a "mental health day") |
| | Turn to Substances | CADS | 3 | 58. Smoke cigarettes or use other tobacco products. |
| Student Engagement | **Eustress at School** | ES | 5 | 1. How often do you feel that stress positively contributes to your ability to handle your academic problems? |

Table 4

*Factors Explored on Student Pre-MAP Assessment* (Continued)

| Category | Factor | Measure | Number of Items | Sample Item |
|---|---|---|---|---|
| Student Engagement | **School Connectedness** | | | |
| | Positive Relations with AP/IB teachers | Attitudes toward Teachers scale of the SAAS-R | 7 | 9. I relate well to my IB teacher(s). |
| | Satisfied with AP/IB Classes | Developed by research team | 1 | 1. I am satisfied with my school program (AP classes or IB Program). |
| | Pride in School | ATS scale of the SAAS-R | 5 | 12. This school is a good match for me. |
| | **Extracurricular Activity Involvement** | EAI scale developed by research team | 15 | On average, in a typical week during this school year, how much time do you spend in… |
| | Take Part in Multiple Types of Extracurriculars | | | |
| | Total Weekly Hours in All Extracurriculars | | | |
| | **Focused and Interested in AP/IB Classes** | | | |
| | *Motivation/Self-Regulation* | MOT/S-R scales of SAAS-R | 10 | 8. I check my assignments before I turn them in. |
| | *Perseverance (Grit)* | Grit-S | 8 | 3. I have been obsessed with a certain idea for a short time but later lost interest. |
| | *Standards for Personal Performance* | APS-R | 7 | 5. I expect the best from myself. |
| | **Motivated to Engage** | | | |
| | *Academic Self-Perception* | ASP scale of SAAS-R | 7 | 11. I am good at learning new things. |
| | *Flow* | Developed by research team | 2 | 2. I am completely absorbed in my work |

Table 4

*Factors Explored on Student Pre-MAP Assessment* (Continued)

| | | | | |
|---|---|---|---|---|
| Home | **Positive Parenting Practices** | | | |
| | Provide Emotional Support (warn, available) | Responsiveness scale of PSI-II | 5 | 7. My parent(s) spends time just talking to me. |
| | Encourage Age-Appropriate Independence | Autonomy granting scale of PSI-II | 5 | 10. My parent(s) believes I have a right to my own point of view. |

*Note:* Content adapted from MAP Manual (Suldo et al., in development). Italicized factors are not shown directly on student graph as a factor, but rather the bolded broad area.

**Action Plan Target**

MAP uses a motivational interviewing (MI) approach to increase a client's intrinsic motivation for improving upon a personally selected target area. The MAP Meeting One outline is presented in Table 2. MI techniques include four processes to elicit change talk and increase students' motivation to change. In this case, MAP coaches use MI tools, such as open-ended questions and reflections, to help students identify factors to improve related to student success in accelerated coursework. In MAP Meeting One, students were oriented to a base graph before being shown their own graph generated by scores of the pre-MAP assessment. The graph included comparisons to the average behaviors and attitudes of students in accelerated coursework as well as the average scores of students who are particularly successful. Students discussed with the coach perceived character strengths and values that tie into the areas on the graph (i.e., ineffective coping styles, effective coping styles, school engagement, and perceived parenting practices) generated by their individual survey results (see Appendix G for a sample graph). After having some time to review the graph, students were asked to pick one specific target to address in their action plans. This target is conceptualized to be a key area that is

important to improve, usually an aspect of the students' coping or engagement, and is often an area they deem "low" based on the norm-referenced results of the survey, which are presented in a graph. These targets were recorded on an Excel spreadsheet for each MAP participant during the larger RCT and will be the focus of analysis for research question two. Students collaborated with their coach to develop an action plan intended to improve the students' performance in the target area. The student success planning guide that students used to create a self-directed changed plan is included in Appendix H.

**Data Collection**

Student demographic data were collected at the beginning of the ACE program (August 2017). In January 2018, study staff administered the mid-year screener to students during their respective AP Human Geography or IB Inquiry Skills course. All student data from both points were entered into a protected Excel file.

The Tier 2 intervention (MAP) took place between February-April 2018. Each student who participated in a MAP meeting first completed the pre-MAP assessment during January of 2018. Each students' pre-MAP assessment packet was individually entered into an excel spreadsheet that generated a graph for comparison to the earlier sample of over 2,300 AP/IBD students surveyed prior to the first MAP session by MAP coaches. A total of seven MAP coaches who were members of the university research team served all students in MAP Meeting One. Targets selected by students to address in their action plans were recorded in an Excel spread sheet that included screening data and student code number. A full diagram of the process of screening and MAP participation with associated sample sizes can be found in Appendix I.

## Overview of Analyses

This study used logistic regression, chi-square analysis, multiple regression, and descriptive statistics to examine disproportionality and determine factors common to these identified subgroups. Descriptive statistics was used to identify measures of central tendency and variability for factors explored on the student Pre-MAP Assessment by demographic subgroup. A logistic regression was used to describe data and to explain the relationship between one dependent binary variable (at-risk or no risk) and one or more nominal, ordinal, interval or ratio-level independent variables (demographic group). A chi-square analysis was used to test how likely that an observed distribution is due to chance. A multiple regression evaluated the effects of one or more independent variables (e.g., demographic group) on one or more dependent variables (e.g., factors explored on pre-MAP assessment).

### Research Question One

To what extent, if any, are students in specific demographic subgroups categorized on the basis of race/ethnicity or SES differ in the incidence of risk?

- Of the students identified as "at-risk," what percentage of students were identified as having an emotional risk, academic risk, or a combination of these by demographic group?

For research question 1, the researcher first examined all data files for any missing data and calculated rates of missing data points. The researcher used the SPSS 25 statistical software provided by the university to conduct a logistic regression analysis. A logistic regression was used to explain the relationship between one dependent binary variable (at-risk or no risk) and one or more nominal, ordinal, interval or ratio-level independent variables (race/ethnicity and SES). For the purposes of this analysis, the White and Asian groups were examined separately

despite both groups being considered as overrepresented in AP/IBD coursework. This test showed if there were any statistical differences across racial subgroups for identification of risk. Information was combined to state more simply “academic risk”, “emotional risk”, or “no risk” as outlined in Table 3.

A chi-square analysis was conducted using SPSS 25 statistical software as well. Chi-square analyses were intended to test how likely it is that an observed distribution is due to chance. Based on the chi-square analysis, the researcher was able to determine whether we can always expect the same proportion of students to be identified as at-risk for emotional or academic difficulties.

**Research Question Two**

Once students participate in MAP intervention, do certain subgroups (i.e., African American, Hispanic, low SES) differ in terms of:

- The factors associated with AP/IBD student success (e.g., ineffective coping, effective coping, engagement, parenting) that may be especially elevated in either direction?
- What students select as a target to address in their action plan (i.e., time and task management, turning to family, positive thinking, etc.)?

For research question 2, this researcher began by calculating the rate of missing data points. Following, the researcher used the SPSS 25 statistical software to conduct a series of multiple regression analyses. A multiple regression is used when there is a continuous dependent variable (level of coping or engagement) and allows a researcher to test a hypothesis regarding the effect of independent variables (demographic group) on the dependent variables. An individual analysis of variance (ANOVA) test for significance to identify differences in mean

levels of coping and engagement based on demographic group was conducted for each factor as well. Dependent variables in the multiple regression included categories (i.e., effective coping, ineffective coping, student engagement, and family). A full list of the factors that were examined in the multiple regression can be found in Table 4 as well as Appendix F. Research question 2b was evaluated by conducting a chi-square analysis for each target selected. The researcher also used descriptive statistics and compared means across subgroups. Of note, students were also able to pick a variable that was not displayed on the graph in Appendix F. Approximately 4 students chose a target other than the 29 suggested targets on the graph. A total of 18 different targets were selected by the 115 students who participated in MAP.

## Limitations

One limitation of this study is that the researcher used archival data. This means that the researcher was not collecting her own data, and as such could not control for how the data were collected although records from the study staff indicate high levels of fidelity of data collection and accuracy of data entry procedures. However, the researcher could not control for extraneous variables that were not already collected/accounted for, such as the method of placing students in such accelerated courses.

Further, using a strictly MI approach meant that students led the conversation and content focused on in the MAP Meetings. Students were allowed to select whichever target they wanted to even if their coach suspected that there was another area with more room for growth. It is possible that students simply selected a target that was easier to work on or a common target which could mean that any significant results in factors deemed important by demographic subgroup must be taken with caution.

The data collected may also not be generalizable to the entire population of students in accelerated coursework. The study sample included ninth-grade students in a southeastern state, and as such the results can only generalize to this population. The limited geographic location (i.e., one state in the southeastern U.S.) may pose a challenge with regards to generalizability of findings.

Due to needing consent, not all students in the population were screened although the vast majority was included in the screening. Furthermore, the majority of, but not all, students who were identified as "at-risk" obtained parent consent or provided assent to participate in the MAP meetings, which further reduced the size of the sample available for analyses and left some subgroups with a relatively small *N* (e.g., 7 Asian students participated in MAP).

One further limitation of this study is in regard to the criteria for enrollment in AP/IBD courses. Each district had its own methods for placing students in accelerated coursework. Some students are placed in AP classes due to previous academic performance in middle school (e.g., course grades as specified on report cards; FSA test scores), while other students choose the particular class. Other students who have been accepted into the IBD program at their respective schools may have been required to take a particular AP or pre-IB class limiting student choice and interest in the subject area. With this in mind, students may have entered AP/IBD coursework with various skills and different levels of coping at baseline. There was no way for the researcher to know for sure how a student was placed in such coursework.

# CHAPTER IV: RESULTS

This chapter describes the results from the quantitative analyses conducted to answer the two research questions. Results are organized by research question. Each analysis is described along with results. Data screening for both research questions is presented first followed by each individual research question and its aims.

## Data Screening

For each variable of interest, the rate of missing data points was calculated. A total of eight (2.4%) students did not provide data on mother and father education. This is the only variable that was found to have missing data. It is possible that some students come from single-parent households in which educational attainment for one parent only was known rather than both parents.

## Research Question One

To what extent, if any, are students in specific demographic subgroups categorized on the basis of race/ethnicity or SES differ in the incidence of risk?

- Of the students identified as at-risk for later emotional or academic difficulties, what percentage of students were identified as having an emotional risk, academic risk, or a combination of these by demographic group?

A total of 332 cases were included in the analysis of risk status by demographic group. Table 5 contains the complete breakdown of sample size by race, eligibility for free or reduced-price lunch (FRL), parent education (students who reported having no parent who has obtained a

bachelor's degree or higher), and by risk group. It was determined that the relationship between those identified for FRL and those who reported having no parents that had a bachelor's degree was not sufficiently strong to combine the variables. Therefore, the variables were kept as separate variables in the analyses. Similarly, the categories of White and Asian students were also kept separate for analysis purposes. There were more White participants (45.2%) in the sample than any other racial group, followed by Hispanic, multiracial, Asian, and Black. A total of 43.1% of participants were eligible for free and reduced lunch (FRL). A majority of the sample was not identified as at-risk (59.3%).

Table 5

*Sample Sizes Across Demographic Groups*

| | *n*=332 | % |
|---|---|---|
| Race/Ethnicity | | |
| White | 150 | 45.2 |
| Black | 28 | 8.4 |
| Hispanic | 74 | 22.3 |
| Asian | 32 | 9.6 |
| multiracial | 48 | 14.5 |
| FRL (0=no, 1=yes) | 143 | 43.1 |
| Parents No Bachelor's Degree (0=no, 1=yes) | 168 | 50.6 |

Table 5

*Sample Sizes Across Demographic Groups (Continued)*

| | | |
|---|---|---|
| Risk Status | | |
| No Identified Risk | 197 | 59.3 |
| Academic Risk | 39 | 11.7 |
| Emotional Risk | 55 | 16.6 |
| Academic & Emotional Risk | 41 | 12.3 |

*Note*. Demographic characteristics were self-reported by students or obtained from student educational records. Academic risk determined by fall semester unweighted GPA < 3.0 and/or AP/IBD course grade of C or below. Emotional risk determined by scores of >3.6 on PSS and <3.4 of SS scale of MSLSS.

**At-Risk versus No Risk**

I tested the bivariate association between each of the demographic variables (race, FRL eligibility, and parent education) and risk status (at-risk or no risk). At-risk included those who were at-risk academically, emotionally or both academically and emotionally (40.7% were at risk). Table 6 includes the frequencies of risk group based on student self-reported racial demographic. The chi-square indicated a statistically significant relationship between at risk status and race, $\chi^2(4, N = 332) = 15.983$, $p = .003$. A majority of Black students in the sample were identified as at-risk (64.3%) as well as half (50%) of students who identified as multiracial. Almost half (45.9%) of Hispanic students were identified as at-risk. Only 21.9% of Asian students were identified as at-risk. In comparison, 34.7% of White students were identified as at-risk.

Table 6

*At-Risk vs. No Risk by Racial Group*

| | Race | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | White (*n*=150) | | Black (*n*=28) | | Hispanic (*n*=74) | | Asian (*n*=32) | | Multi (*n*=48) | |
| | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % |
| No Risk | 98 | 65.3 | 10 | 35.7 | 40 | 54.1 | 25 | 78.1 | 24 | 50.0 |
| At-Risk | 52 | 34.7 | 18 | 64.3 | 34 | 45.9 | 7 | 21.9 | 24 | 50.0 |

*Note*. At-risk was determined by scores of <3.4 on SS subscale of MSLSS, >3.6 on PSS, fall semester unweighted GPA < 3.0 and AP/IBD course grade of C or below.

In regard to other demographic characteristics, Table 7 includes the breakdown of students identified as at risk versus students who were identified as having no risk based on FRL status and parent education. FRL status was obtained from student records. Parent education was obtained from student self-reported levels of their parents' highest level of education completed. For the purposes of this study, this variable was dichotomized into students who reported having no parents who had obtained at least a bachelor's degree (no bachelor's degree) and students who reported having at least one parent who had obtained a bachelor's degree or higher (bachelor's or higher). A majority of students identified as eligible for FRL were also identified as at-risk (51.7%). A total of 48.8% of students who reported having no parents having a bachelor's degree were also identified as at-risk. The chi-square indicated a statistically significant relationship between at risk status and FRL eligibility and between risk status and parent education, $\chi^2(1, N = 332) = 12.79$, $p = .000$ and $\chi^2(1, N = 332) = 7.99$, $p = .005$, respectively.

Table 7

*At-Risk versus No Risk by FRL and Parent Education*

| Risk Group | Free/Reduced Lunch | | | | Parent Education | | | |
|---|---|---|---|---|---|---|---|---|
| | Eligible | | Ineligible | | No Bachelor's Degree | | Bachelor's or Higher | |
| | *n* | % | *n* | % | *n* | % | *n* | % |
| No Risk | 69 | 48.3 | 128 | 67.7 | 86 | 51.2 | 104 | 66.7 |
| At-Risk | 74 | 51.7 | 61 | 32.3 | 82 | 48.8 | 52 | 33.3 |

*Note*. Parent education was self-reported by students and dichotomized into two groups. FRL eligibility was determined from school records. At-risk was determined by scores of <3.4 on SS subscale of MSLSS, >3.6 on PSS, fall semester unweighted GPA < 3.0 and AP/IBD course grade of C or below.

Next, I examined the three predictor variables in relation to at-risk status using a logistic regression. For the race category, White was used as the reference. The parameter estimates are shown in Table 8. For students who were deemed eligible for FRL, they were significantly more likely to be identified as at-risk than student ineligible for FRL. Although not significant at the .05 level, Black students may be likely to be identified as at-risk more than White peers. No other racial groups were found to be statistically significant in predicting at-risk status.

Table 8

*Parameter Estimates from Logistic Regression for Prevalence of Risk by Demographic Group* (*n*=134)

| | *B* | Standard Error | Odds Ratio | Significance |
|---|---|---|---|---|
| Black | 0.88 | 0.45 | 2.37 | .055 |
| Hispanic | 0.29 | 0.31 | 1.34 | .346 |
| Asian | -0.73 | 0.47 | 0.48 | .121 |
| Multiracial | 0.39 | 0.35 | 1.48 | .266 |
| FRL eligible | 0.52 | 0.26 | 1.69 | .045 * |
| Parents no Bachelor's | 0.35 | 0.25 | 1.42 | .158 |

*Note:* Reference category for race/ethnicity is White. FRL (1=yes, 0=No). Parent Education (1=no bachelor's degree, 0=yes bachelor's degree or higher). * $p < .05$.

**Type of Risk by Demographic Group**

Table 9 contains descriptive information about the number of students in each risk group based on self-reported race/ethnicity. The numbers of students identified for an academic risk only are similar in size to students who were identified for a combined academic and emotional risk from the same racial group, except for Asian students who identified as having both an academic and emotional risk combined. For example, 28.6% of Black students were identified as having an academic risk only and another 28.6% of Black students were identified as having a combination of academic and emotional risk. This seems high compared to other groups of students who had close to 10% of students identified for either risk, with the exception of multiracial student (18.8% identified for combination risk). When looking at emotional risk only, there were similar identifications across racial subgroups, except for Black and Asian students who were identified almost twice as less than White, Hispanic, or multiracial students (7.1 to

23%). The chi-square analysis indicated a statistically significant relationship between type of risk and race, $\chi^2(12, N = 332) = 29.593$, $p = .003$.

Table 9

*Sample Size Across Risk Type (No Risk or Has Risk for Emotional or Academic Problems or Both Emotional and Academic Problems) by Race/Ethnicity*

| | Race | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Risk Group | White (*n*=150) | | Black (*n*=28) | | Hispanic (*n*=74) | | Asian (*n*=32) | | Multi (*n*=48) | |
| | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % |
| No Risk | 98 | 65.3 | 10 | 35.7 | 40 | 54.1 | 25 | 78.1 | 24 | 50.0 |
| Acad. Only | 14 | 9.3 | 8 | 28.6 | 8 | 10.8 | 3 | 9.4 | 6 | 12.5 |
| Emot. Only | 24 | 16.0 | 2 | 7.1 | 17 | 23.0 | 3 | 9.4 | 9 | 18.8 |
| Both Emot. + Acad Risk | 14 | 9.3 | 8 | 28.6 | 9 | 12.2 | 1 | 3.1 | 9 | 18.8 |

*Note*. Academic risk determined by fall semester unweighted GPA < 3.0 and/or AP/IBD course grade of C or below. Emotional risk determined by scores of >3.6 on PSS and <3.4 of SS scale of MSLSS.

Table 10 contains descriptive information about the number of students in each risk group based on school records of student eligibility for FRL. Table 10 also contains descriptive information about the number of students in each risk group based on students' reported parent educational attainment. Students were grouped based on whether they had at least one parent who has obtained a bachelor's degree or higher. Of the students identified as at risk and eligible for FRL, a majority (19.6%) were identified as having an emotional risk only followed by a

combination of academic and emotional risk (18.2%). For students who reported having no parent who has obtained a bachelor's degree, students identified as having an emotional risk only and combination of academic and emotional risk were equal (16.7% each) followed by students identified as having only emotional risk (15.5%). Students who reported having no parents who have obtained a bachelor's degree or higher seemed to be almost twice as likely identified for an academic risk or a combination risk than students who report at least one parent with a bachelor's degree. The chi-square indicated a statistically significant relationship between type of risk and FRL eligibility as well as between type of risk and parent education, $\chi^2(3, N = 332) = 14.571$, $p = .002$ and $\chi^2(3, N = 332) = 12.029$, $p = .007$, respectively.

Table 10

*Sample Size Across Risk Type by FRL and Parent Education*

| | Free/Reduced Lunch | | | | Parent Education | | | |
|---|---|---|---|---|---|---|---|---|
| Risk Group | Eligible (*n*=28) | | Ineligible (*n*=28) | | No College (*n*=28) | | Bachelor's or Higher (*n*=28) | |
| | *n* | % | *n* | % | *n* | % | *n* | % |
| No Risk | 69 | 48.3 | 128 | 67.7 | 86 | 51.2 | 104 | 66.7 |
| Acad. Only | 20 | 14.0 | 19 | 10.1 | 26 | 15.5 | 13 | 8.3 |
| Emot. Only | 28 | 19.6 | 27 | 14.3 | 28 | 16.7 | 27 | 17.3 |
| Both Emot. + Acad. | 26 | 18.2 | 15 | 7.9 | 28 | 16.7 | 12 | 7.7 |

*Note*. FRL eligibility was obtained from student records. Parent education was self-reported by students and dichotomized. Academic risk determined by fall semester unweighted GPA < 3.0 and/or AP/IBD course grade of C or below. Emotional risk determined by scores of >3.6 on PSS and <3.4 of SS scale of MSLSS.

Next, a multinomial logistic regression was performed to model the relationship between the demographic variables (race, FRL, and parent education) and type of risk (academic risk, emotional risk, or combination of academic and emotional risk). No Risk was the reference category. The .05 criterion for establishing statistical significance was employed for all tests. The full model was found to be significant, $\chi^2(18, N = 332) = 40.42$, $p = .002$, indicating that at least one of the predictors had a non-zero relationship. As shown in Table 11, statistically significant unique contributions were made by identifying as Black.

Table 11

*Predictors' Unique Contributions in the Multinomial Logistic Regression (n=332)*

| Predictor | $\chi^2$ | *df* | *p* |
|---|---|---|---|
| Black | 10.98 | 3 | .012* |
| Hispanic | 0.99 | 3 | .805 |
| Asian | 3.63 | 3 | .304 |
| Multiracial | 1.98 | 3 | .577 |
| Free/Reduced Lunch (FRL) | 5.06 | 3 | .168 |
| No College (Parents) | 5.30 | 3 | .151 |

Note: $\chi^2$ = amount by which -2 log likelihood increases when predictor is removed from the full model. FRL eligibility was obtained from student records. Parent education was self-reported by students and dichotomized. *$p < .05$

The parameter estimates for the multinomial logistic regression are shown in Table 12. Students who identified as Black were more likely to be identified as having an academic risk only or a combination of academic and emotional risk. No other predictors were found to be significant for type of risk.

Table 12

*Parameter Estimates of Multinomial Logistic Regression of Type of Risk Using Demographic Characteristics as Predictor Variables* (*n*=332)

| | Academic Risk | | | | Emotional Risk | | | | Academic + Emotional Risk | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *B* | Std. Error | *OR* | Sig. | *B* | Std. Error | *OR* | Sig. | *B* | Std. Error | *OR* | Sig. |
| Black | 1.44 | 0.59 | 4.21 | .01* | -0.54 | 0.82 | 0.58 | .51 | 1.31 | 0.59 | 3.71 | .03* |
| Hispanic | 0.19 | 0.50 | 1.21 | .70 | 0.36 | 0.39 | 1.44 | .35 | 0.25 | 0.50 | 1.28 | .62 |
| Asian | -0.22 | 0.68 | 0.81 | .75 | -0.86 | 0.66 | 0.42 | .19 | -1.32 | 1.07 | 0.27 | .22 |
| Multiracial | 0.35 | 0.55 | 1.43 | .52 | 0.18 | 0.47 | 1.19 | .71 | 0.70 | 0.51 | 2.02 | .17 |
| FRL | 0.21 | 0.41 | 1.23 | .61 | 0.64 | 0.35 | 1.89 | .07 | 0.67 | 0.41 | 1.96 | .10 |
| Parent Edu. | 0.69 | 0.40 | 1.98 | .09 | -0.04 | 0.33 | 0.96 | .90 | 0.65 | 0.40 | 1.91 | .11 |

*Note*: FRL = free/reduced lunch; Edu = Education; *OR* = odds ratio associated with the effect of a one unit increase in the predictor. Reference category for race/ethnicity is White. FRL (1=yes, 0=No). Parent education (1=No Bachelor's degree, 0=Bachelor's degree or higher). FRL eligibility was obtained from student records. Parent education was self-reported by students and dichotomized. Std. Error = Standard Error. * $p < .05$.

**Research Question Two**

Once students participate in the MAP intervention, do certain subgroups (i.e., African American, Hispanic, low SES) differ in terms of:

- The factors associated with AP/IBD student success (e.g., ineffective coping, effective coping, engagement, parenting) that may be especially elevated in either direction?
- Targets selected in the MAP action plan (i.e., time and task management, turning to family, positive thinking, etc.)?

Research question two focused on students who were identified as at-risk for later emotional and/or academic difficulties and also participated in the Tier 2 MAP intervention (n=121). The means and standard deviation of each of the outcome variables (levels of coping and engagement as measured in the Pre-MAP Assessment) are included in Table 13.

In a series of multiple regressions each of these MAP factors served as a dependent variable and the following variables were used as predictor variables: race, FRL-eligibility, and parent education. Of the MAP factors, skip school, turn to substances, positive relations with AP/IB teacher, and satisfied with AP/IB classes were all found to have a non-normal distribution as indicated by skewness and/or kurtosis values that were larger than the absolute value of 1.

Table 13

*Descriptive Statistics of MAP Factors Related to Coping and Engagement* (*n*=121)

| | *M* | *SD* | Skewness | Kurtosis |
|---|---|---|---|---|
| Effective Coping | | | | |
| Time and Task Management | 3.06 | 0.77 | 0.13 | -0.63 |
| Positive Thinking | 3.30 | 0.95 | -0.004 | -0.79 |
| Turn to Family | 2.61 | 0.93 | 0.33 | -0.30 |
| Seek Academic Support | 2.34 | 0.81 | 0.73 | 0.45 |
| Relaxation | 2.84 | 0.93 | 0.07 | -0.25 |
| Spirituality | 2.15 | 1.24 | 0.65 | -0.42 |
| Ineffective Coping | | | | |
| Withdraw and Rely on Self | 3.52 | 0.88 | -0.17 | -0.34 |
| Sleep | 2.74 | 1.09 | 0.14 | -0.95 |
| Reduce Effort on Schoolwork | 2.43 | 0.97 | 0.45 | -0.06 |
| Take Short Cuts | 2.08 | 0.74 | 0.36 | -0.15 |
| Skip School | 1.65 | .830 | 1.36 | 1.65 |
| Turn to Substances | 1.04 | 0.18 | 4.47 | 23.81 |

Table 13

*Descriptive Statistics of MAP Factors Related to Coping and Engagement* (*n*=121; Continued)

| | | | | |
|---|---|---|---|---|
| Mixed Coping | | | | |
| Social Activities | 2.75 | 0.94 | 0.27 | -0.11 |
| Athletic Activities | 2.58 | 1.15 | 0.53 | -0.55 |
| Tech/Media Activities | 3.14 | 0.97 | -0.23 | -0.49 |
| Talk with Classmates and Friends | 3.22 | 0.94 | -0.23 | -0.44 |
| Express Strong Emotions | 2.94 | 0.88 | -0.27 | -0.17 |
| Student Engagement | | | | |
| Eustress at School | 2.90 | 0.92 | 0.40 | -0.16 |
| Positive relations with AP/IB teachers | 5.32 | 1.10 | -1.06 | 1.96 |
| Satisfied with AP/IB classes | 3.75 | 0.91 | -0.81 | 1.05 |
| Pride in school | 5.32 | 1.26 | -0.84 | 0.72 |
| Motivation/Self-Regulation | 4.88 | 1.15 | -0.38 | -0.45 |
| Standards for Personal Performance | 5.61 | 1.19 | -0.72 | 0.002 |
| Academic Self-Perception | 4.94 | 0.97 | -0.40 | 0.33 |
| Flow | 3.19 | 0.84 | -0.19 | 0.19 |
| Grit | 3.03 | 0.57 | 0.14 | 0.04 |
| Home | | | | |
| Supportive and Warmth | 3.71 | 0.80 | -0.48 | -0.15 |
| Autonomy Granting | 3.32 | 0.82 | -0.46 | -0.19 |

*Note*. Scores were averaged from responses to Pre-MAP assessment items. See Table 4 in chapter 3 for breakdown of items in each factor.

**Levels of Coping and Engagement by Race, FRL, and Parent Education**

Each of the dependent variables (i.e., factors on the Pre-MAP assessment) were created from the averages of specific assessment items that were administered prior to implementing MAP (see Table 4 in Chapter 3 for the items). Reliabilities were also computed after each of the scores were averaged. Items with reliabilities below 0.7 included Turn to Family, Seek Academic Support, Reduce Effort on Schoolwork, Skip School, Athletic Activities/Diversions, Positive Relations with AP/IB Teachers, and Academic Self-Perceptions.

A multiple regression was performed to model the relationship between the independent variables of FRL eligibility and each of the 28 dependent variables (i.e., levels of coping and engagement as measured by the Pre-MAP Assessment). In Table 14, only specific variables of interest were included. Multiple regressions were conducted for each MAP factor. The 0.05 criterion level of statistical significance was employed for all tests. Residuals from the multiple regressions for each factor were calculated and graphed to identify whether violations of normality and equal variance occurred.

Race, FRL-eligibility, and parent education significantly predicted levels of Positive Thinking, $F(6, 113) = 3.03$, $p < .002$, $R^2 = .170$ and Turn to Spirituality, $F(6, 113) = 3.873$, $p < .001$, $R^2 = .171$. This indicates that about 17% of the variance in positive thinking and turning to spirituality is attributed to race, FRL-eligibility, and parent education. Table 14 provides the parameter estimates for each of the multiple regression models. To control for Type I errors, the *p*-value of .002 was used for significance (.05 divided by 28 factors). Students who identified as Black were most likely to report higher levels of coping with stress through Turning to Spirituality than White peers ($b = 1.51$, SE = 0.35, $p < .001$). Using this stringent alpha level, there were no other significant relationships between demographic characteristics and the 28 factors related to coping and engagement. However, using a more liberal alpha level ($p < .05$), additional patterns of coping and engagement emerge based on demographic characteristics. For example, first-generation college students are more likely to experience increased affective engagement, as reflected in the following outcomes: higher levels of pride in school, satisfaction with AP/IB classes, and positive relations with teachers. Further, Black students reported higher levels of parent emotional support and high personal standards for performance. Multiracial students reported coping with academic stress by turning to their families more frequently than

did other groups. Multiracial students reported coping with academic stress by expressing emotions (crying, becoming angry) but also through turning to spirituality more frequently than did other groups. Students eligible for FRL reported experiencing eustress and coping with academic stress by using relaxation strategies more frequently than did other groups.

Table 14

*Parameter Estimates from Multiple Regressions of Each MAP Factor Using Race/Ethnicity, FRL, and Parent Education as Predictor Variables* (*n*=121)

| | *b* | Standard Error | β | Significance |
|---|---|---|---|---|
| Time and Task Management | | | | |
| Black | 0.26 | 0.24 | 0.12 | .278 |
| Hispanic | 0.13 | 0.19 | 0.07 | .499 |
| Asian | 0.34 | 0.32 | 0.10 | .293 |
| Multiracial | -0.09 | 0.22 | -0.04 | .673 |
| FRL | 0.05 | 0.16 | 0.03 | .774 |
| Parent No College | -0.20 | 0.16 | -0.13 | .204 |
| Positive Thinking | | | | |
| Black | 0.55 | 0.27 | 0.21 | .045 |
| Hispanic | 0.65 | 0.21 | 0.31 | .003 |
| Asian | -0.07 | 0.36 | -0.02 | .840 |
| Multiracial | 0.09 | 0.25 | 0.03 | .720 |
| FRL | 0.38 | 0.19 | 0.20 | .044 |
| Parent No College | -0.31 | 0.18 | -0.16 | .081 |
| Turn to Family | | | | |
| Black | 0.54 | 0.28 | 0.21 | .057 |
| Hispanic | 0.22 | 0.22 | 0.11 | .312 |
| Asian | 0.20 | 0.38 | 0.05 | .604 |
| Multiracial | 0.61 | 0.26 | 0.24 | .020 |
| FRL | -0.02 | 0.19 | -0.01 | .939 |
| Parent No College | -0.22 | 0.18 | -0.12 | .243 |
| Relaxation | | | | |
| Black | 0.29 | 0.28 | 0.11 | .308 |
| Hispanic | 0.22 | 0.22 | 0.10 | .329 |
| Asian | 0.30 | 0.38 | 0.08 | .422 |
| Multiracial | 0.25 | 0.26 | 0.10 | .329 |
| FRL | 0.43 | 0.19 | 0.23 | .028 |
| Parent No College | -0.14 | 0.18 | -0.07 | .461 |

Table 14

*Parameter Estimates from Multiple Regressions of Each MAP Factor Using Race/Ethnicity, FRL, and Parent Education as Predictor Variables* (*n*=121; Continued)

| | | | | |
|---|---|---|---|---|
| Turn to Spirituality | | | | |
| Black | 1.51 | 0.35 | 0.44 | .000* |
| Hispanic | 0.67 | 0.28 | 0.24 | .017 |
| Asian | 0.43 | 0.48 | 0.08 | .365 |
| Multiracial | 0.55 | 0.32 | 0.16 | .094 |
| FRL | 0.15 | 0.24 | 0.06 | .549 |
| Parent No College | -0.31 | 0.23 | -0.12 | .182 |
| Turn to Substances | | | | |
| Black | -0.10 | 0.05 | -0.19 | .083 |
| Hispanic | -0.04 | 0.04 | -0.09 | .396 |
| Asian | -0.05 | 0.08 | -0.06 | .512 |
| Multiracial | -0.004 | 0.05 | -0.008 | .934 |
| FRL | 0.04 | 0.04 | 0.11 | .301 |
| Parent No College | 0.03 | 0.04 | 0.09 | .365 |
| Temporary Diversions: Social Activities | | | | |
| Black | 0.58 | 0.29 | 0.22 | .044 |
| Hispanic | 0.09 | 0.22 | 0.04 | .687 |
| Asian | -0.22 | 0.39 | -0.06 | .566 |
| Multiracial | 0.03 | 0.26 | 0.01 | .906 |
| FRL | -0.09 | 0.20 | -0.05 | .632 |
| Parent No College | 0.11 | 0.19 | 0.06 | .545 |
| Express Strong Emotions | | | | |
| Black | 0.15 | 0.26 | 0.06 | .579 |
| Hispanic | 0.50 | 0.21 | 0.26 | .017 |
| Asian | 0.13 | 0.36 | 0.03 | .727 |
| Multiracial | 0.28 | 0.24 | 0.12 | .244 |
| FRL | -0.19 | 0.18 | -0.11 | .287 |
| Parent No College | 0.26 | 0.17 | 0.15 | .134 |
| Eustress | | | | |
| Black | 0.14 | 0.28 | 0.05 | .622 |
| Hispanic | -0.21 | 0.22 | -0.11 | .327 |
| Asian | 0.05 | 0.38 | 0.01 | .890 |
| Multiracial | -0.24 | 0.25 | -0.10 | .353 |
| FRL | 0.38 | 0.19 | 0.21 | .048 |
| Parent No College | -0.24 | 0.18 | -0.13 | .183 |

Table 14

*Parameter Estimates from Multiple Regressions of Each MAP Factor Using Race/Ethnicity, FRL, and Parent Education as Predictor Variables* (*n*=121; Continued)

| | | | | |
|---|---|---|---|---|
| Positive Relations with Teachers | | | | |
| Black | 0.18 | 0.33 | 0.06 | .596 |
| Hispanic | 0.15 | 0.26 | 0.06 | .575 |
| Asian | -0.23 | 0.45 | -0.05 | .610 |
| Multiracial | 0.28 | 0.30 | 0.09 | .354 |
| FRL | -0.27 | 0.23 | -0.13 | .233 |
| Parent No College | 0.50 | 0.22 | 0.23 | .023 |
| Pride in School | | | | |
| Black | -0.46 | 0.34 | -0.13 | .224 |
| Hispanic | -0.02 | 0.30 | -0.01 | .945 |
| Asian | 0.04 | 0.51 | 0.01 | .944 |
| Multiracial | -0.50 | 0.35 | -0.15 | .151 |
| FRL | 0.15 | 0.26 | 0.06 | .576 |
| Parent No College | 0.59 | 0.25 | 0.24 | .018 |
| Grit | | | | |
| Black | 0.21 | 0.17 | 0.13 | .222 |
| Hispanic | 0.02 | 0.14 | 0.01 | .909 |
| Asian | 0.08 | 0.23 | 0.03 | .731 |
| Multiracial | 0.06 | 0.16 | 0.04 | .726 |
| FRL | 0.04 | 0.12 | 0.04 | .741 |
| Parent No College | -0.23 | 0.11 | -0.20 | .051 |
| Satisfied with Classes | | | | |
| Black | 0.15 | 0.28 | 0.06 | .588 |
| Hispanic | 0.06 | 0.22 | 0.03 | .773 |
| Asian | -0.27 | 0.37 | -0.07 | .470 |
| Multiracial | 0.04 | 0.25 | 0.02 | .863 |
| FRL | -0.25 | 0.19 | -0.14 | .189 |
| Parent No College | 0.42 | 0.18 | 0.23 | .023 |
| Motivated to Engage | | | | |
| Black | 0.57 | 0.36 | 0.17 | .119 |
| Hispanic | 0.24 | 0.28 | 0.05 | .621 |
| Asian | 0.20 | 0.47 | 0.04 | .669 |
| Multiracial | -0.10 | 0.32 | -0.03 | .754 |
| FRL | -0.18 | 0.24 | -0.08 | .457 |
| Parent No College | -0.22 | 0.23 | -0.10 | .335 |

Table 14

*Parameter Estimates from Multiple Regressions of Each MAP Factor Using Race/Ethnicity, FRL, and Parent Education as Predictor Variables* (*n*=121; Continued)

| | | | | |
|---|---|---|---|---|
| High Personal Standards for Performance | | | | |
| Black | 0.76 | 0.36 | 0.23 | .035 |
| Hispanic | 0.30 | 0.28 | 0.11 | .280 |
| Asian | 0.33 | 0.48 | 0.07 | .494 |
| Multiracial | -0.35 | 0.33 | -0.11 | .290 |
| FRL | 0.06 | 0.24 | 0.03 | .793 |
| Parent No College | -0.13 | 0.23 | -0.06 | .568 |
| Parents Provide Emotional Support | | | | |
| Black | 0.55 | 0.24 | 0.25 | .024 |
| Hispanic | 0.03 | 0.19 | 0.02 | .883 |
| Asian | 0.12 | 0.33 | 0.04 | .714 |
| Multiracial | 0.25 | 0.22 | 0.12 | .257 |
| FRL | -0.09 | 0.17 | -0.06 | .581 |
| Parent No College | 0.06 | 0.16 | 0.04 | .717 |

Note: An adjusted Bonferroni approach was used to control for Type I errors ($p < .002$). Demographic characteristics were self-reported by students or obtained from student educational records.

**Chosen MAP Target by Race, FRL, and Parent Education**

Because of consent and assent, a total of 115 students of the 121 invited students actually participated in MAP meetings. A breakdown of the sample by race, FRL status, and parent education are included in Tables 15 and 16. The majority of students who participated in MAP identified as White (34.8%) or Hispanic (28.7%). Approximately 53.0% of students who participated were also eligible for FRL and about 57.9% of students reported having no parents who had obtained a bachelor's degree or higher.

Table 15

*MAP Participants by Race*

| Race | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| White | | Black | | Hispanic | | Asian | | multiracial | |
| *n* | % | *n* | % | *n* | % | *n* | % | *n* | % |
| 40 | 34.8 | 16 | 13.9 | 33 | 28.7 | 7 | 6.1 | 19 | 16.5 |

Table 16

*MAP Participants by FRL and Parent Education*

| FRL | | | | Parent Education | | | |
|---|---|---|---|---|---|---|---|
| Eligible | | Ineligible | | No Bachelor's Degree | | Bachelor's or Higher | |
| *N* | % | *n* | % | *n* | % | *n* | % |
| 61 | 53.0 | 54 | 47.0 | 66 | 57.9 | 48 | 42.1 |

Due to MAP meetings consisting of motivational interviewing techniques, students who participated were able to choose their own behavioral change target on the MAP graph or a target of their own. Some students even chose to terminate the session. The frequencies that each of the MAP targets were chosen is included in Table 17. Time and Task Management was selected most often (27.8%) followed by Reduce Effort on Schoolwork (13.0%) and Positive Thinking (11.3%). Turn to Spirituality, Satisfied with AP/IB Classes, Parent Emotional Support, and Autonomy Granting were not selected as factors.

Table 17

*Frequencies of MAP Targets Chosen*

| MAP Target | *n*=115 | % |
|---|---|---|
| Time and Task Management | 32 | 27.8 |
| Reduce Effort on Schoolwork | 15 | 13.0 |
| Positive Thinking | 13 | 11.3 |
| Seek Academic Support | 7 | 6.1 |
| Withdraw and Rely on Self | 6 | 5.2 |
| Take Short Cuts at School | 6 | 5.2 |
| None - Chose Own Target | 5 | 4.3 |
| Skip School | 4 | 3.5 |
| Turn to Family | 3 | 2.6 |
| Sleep More | 3 | 2.6 |
| Positive Relations with AP/IB Teachers | 3 | 2.6 |
| Extracurricular Involvement - Weekly Hours | 3 | 2.6 |
| Pride in School | 3 | 2.6 |
| Motivated to Engage | 3 | 2.6 |
| Relaxation | 2 | 1.7 |
| Focused and Interested in Class | 2 | 1.7 |
| None - Terminated Session | 2 | 1.7 |
| Turn to Substances | 1 | 0.9 |
| Eustress | 1 | 0.9 |
| Extracurricular Involvement - Multiple Activities | 1 | 0.9 |
| Turn to Spirituality | 0 | 0.0 |
| Satisfied with AP/IB Classes | 0 | 0.0 |
| Parent Emotional Support | 0 | 0.0 |
| Autonomy Granting | 0 | 0.0 |

*Note*. Students selected their own targets based on personal goals. Not all targets were selected.

The researcher tested the direct association between demographic variables (race, FRL, and parent education) and chosen targets. Prior to conducting the logistic regression, crosstabs were conducted to determine the percentage of students who chose each target by demographic variables. Tables 18 and 19 include the frequencies of targets chosen based on race, FRL status, and parent education. Time and Task Management was selected most often across racial groups except for students who identified as multiracial who chose Time and Task Management and

Reduce Effort on Schoolwork just as often (21.1%). Time and Task Management was also most selected regardless of FRL status and parent education

Table 18

*Chosen Targets by Race Group* (*n*=115*)*

| | Race | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | White | | Black | | Hispanic | | Asian | | Multi | |
| | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % |
| Time and task management | 10 | 25.0 | 6 | 37.5 | 10 | 30.3 | 2 | 28.6 | 4 | 21.1 |
| Reduce effort on schoolwork | 1 | 5.0 | 2 | 12.5 | 6 | 18.2 | 1 | 14.3 | 4 | 21.1 |
| Positive thinking | 4 | 10.0 | 1 | 6.3 | 5 | 15.2 | 1 | 14.3 | 2 | 10.5 |
| Seek academic support | 2 | 5.0 | 2 | 12.5 | 1 | 3.0 | 1 | 14.3 | 1 | 5.3 |
| Withdraw and rely on self | 3 | 7.5 | 0 | 0.0 | 3 | 9.1 | 0 | 0.0 | 0 | 0.0 |
| Take short cuts at school | 1 | 2.5 | 2 | 12.5 | 1 | 3.0 | 1 | 14.3 | 1 | 5.3 |
| None - chose own target | 2 | 5.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 15.8 |
| Skip school | 2 | 5.0 | 1 | 6.3 | 0 | 0.0 | 0 | 0.0 | 1 | 5.3 |
| Turn to family | 2 | 5.0 | 0 | 0.0 | 1 | 3.0 | 0 | 0.0 | 0 | 0.0 |
| Sleep more | 1 | 2.5 | 1 | 6.3 | 0 | 0.0 | 0 | 0.0 | 1 | 5.3 |
| Positive relations with AP/IB teachers | 2 | 5.0 | 0 | 0.0 | 1 | 3.0 | 0 | 0.0 | 0 | 0.0 |
| Extracurricular involvement - Weekly Hours | 1 | 2.5 | 1 | 6.3 | 1 | 3.0 | 0 | 0.0 | 0 | 0.0 |
| Pride in school | 2 | 5.0 | 0 | 0.0 | 1 | 3.0 | 0 | 0.0 | 0 | 0.0 |
| Motivated to engage | 1 | 2.5 | 0 | 0.0 | 0 | 0.0 | 1 | 14.3 | 1 | 5.3 |
| Relaxation | 1 | 2.5 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 5.3 |
| Focused and interested in class | 1 | 2.5 | 0 | 0.0 | 1 | 3.0 | 0 | 0.0 | 0 | 0.0 |
| None - terminated session | 1 | 2.5 | 0 | 0.0 | 1 | 3.0 | 0 | 0.0 | 0 | 0.0 |

Table 18

*Chosen Targets by Race Group* (*n*=115*; Continued)*

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Turn to substances | 1 | 2.5 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Eustress | 0 | 0.0 | 0 | 0.0 | 1 | 3.0 | 0 | 0.0 | 0 | 0.0 |
| Extracurricular involvement - Multiple activities | 1 | 2.5 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |

*Note*. Racial demographics were self-reported by students.

Table 19

*Chosen Targets by FRL and Parent Education (n=115)*

| | FRL | | | | Parent Education | | | |
|---|---|---|---|---|---|---|---|---|
| | Eligible | | Ineligible | | No Bachelor's | | Bachelor's or Higher | |
| | *n* | % | *n* | % | *n* | % | *n* | % |
| Time and task management | 14 | 23.0 | 18 | 33.3 | 19 | 28.8 | 13 | 27.1 |
| Reduce effort on schoolwork | 8 | 13.1 | 7 | 13.0 | 11 | 16.7 | 4 | 8.3 |
| Positive thinking | 5 | 8.2 | 8 | 14.8 | 7 | 10.6 | 6 | 12.5 |
| Seek academic support | 5 | 8.2 | 2 | 3.7 | 3 | 4.5 | 4 | 8.3 |
| Withdraw and rely on self | 2 | 3.3 | 4 | 7.4 | 3 | 4.5 | 3 | 6.3 |
| Take short cuts at school | 5 | 8.2 | 1 | 1.9 | 4 | 6.1 | 2 | 4.2 |
| None - chose own target | 2 | 3.3 | 3 | 5.6 | 2 | 3.0 | 3 | 6.3 |
| Skip school | 3 | 4.9 | 1 | 1.9 | 3 | 4.5 | 1 | 2.1 |
| Turn to family | 2 | 3.3 | 1 | 1.9 | 2 | 3.0 | 1 | 2.1 |
| Sleep more | 3 | 4.9 | 0 | 0.0 | 3 | 4.5 | 0 | 0.0 |
| Positive relations with AP/IB teachers | 1 | 1.6 | 2 | 3.7 | 0 | 0.0 | 3 | 6.3 |
| Extracurricular involvement - Weekly Hours | 3 | 4.9 | 0 | 0.0 | 2 | 3.0 | 1 | 2.1 |
| Pride in school | 3 | 4.9 | 0 | 0.0 | 1 | 1.5 | 2 | 4.2 |

Table 19

*Chosen Targets by FRL and Parent Education (n=115; Continued)*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Motivated to engage | 1 | 1.6 | 2 | 3.7 | 2 | 3.0 | 1 | 2.1 |
| Relaxation | 0 | 0.0 | 2 | 3.7 | 1 | 1.5 | 1 | 2.1 |
| Focused and interested in class | 2 | 3.3 | 0 | 0.0 | 1 | 1.5 | 0 | 0.0 |
| None - terminated session | 0 | 0.0 | 2 | 3.7 | 1 | 1.5 | 1 | 2.1 |
| Turn to substances | 1 | 1.6 | 0 | 0.0 | 1 | 1.5 | 0 | 0.0 |
| Eustress | 1 | 1.6 | 0 | 0.0 | 0 | 0.0 | 1 | 2.1 |
| Extracurricular involvement - Multiple activities | 0 | 0.0 | 1 | 1.9 | 0 | 0.0 | 1 | 2.1 |

Note: FRL eligibility obtained from student records. Parent education self-reported by students.

Due to the relatively small sample sizes of students who chose certain targets as evidenced in Table 20, only targets with at least 10% of participants (12 students) were included as dependent variables in a series of logistic regression analyses. None of these resulting models were found to be significant, meaning that there were no statistically significant connections found between race, FRL-eligibility, and parent education as it relates to selecting specific action plan targets. The parameter estimates for each of the MAP targets chosen by at least twelve students are included in Table 20 below.

Table 20

*Parameter Estimates from Logistic Regressions for Chosen MAP Target Using Race/Ethnicity, FRL, and Parent Education as Predictor Variables (n=121)*

| | B | Standard Error | Odds Ratio | Significance |
|---|---|---|---|---|
| Time and Task Management | | | | |
| Black | 0.95 | 0.70 | 2.59 | .176 |
| Hispanic | 0.46 | 0.56 | 1.58 | .409 |
| Asian | 0.04 | 0.93 | 1.04 | .963 |
| Multiracial | -0.15 | 0.69 | 0.86 | .825 |
| FRL | -0.85 | 0.50 | 0.43 | .086 |
| Parent No College | 0.24 | 0.46 | 1.27 | .607 |
| Reduce Effort on Schoolwork | | | | |
| Black | 0.97 | 1.11 | 2.63 | .381 |
| Hispanic | 1.49 | 0.88 | 4.44 | .089 |
| Asian | 1.28 | 1.33 | 3.60 | .334 |
| Multiracial | 1.60 | 0.93 | 4.94 | .087 |
| FRL | -0.43 | 0.63 | 0.65 | .502 |
| Parent No College | 0.89 | 0.67 | 2.45 | .181 |
| Positive Thinking | | | | |
| Black | -0.17 | 1.22 | 0.84 | .888 |
| Hispanic | 0.64 | 0.74 | 1.90 | .389 |
| Asian | 0.26 | 1.22 | 1.30 | .830 |
| Multiracial | 0.14 | 0.93 | 1.15 | .883 |
| FRL | -0.71 | 0.67 | 0.49 | .290 |
| Parent No College | 0.06 | 0.63 | 1.06 | .926 |

* $p < .05$

# CHAPTER V: DISCUSSION

The purpose of this study was to explore potential disproportionality in the likelihood of evidencing signs of later emotional or academic difficulties in high school accelerated curricula, with a focus on populations historically underrepresented in such coursework (i.e., African American, Hispanic, and low SES). This study sought to answer: (a) whether certain groups of students are identified as at-risk for later academic or emotional difficulties more than other students, (b) whether student demographic characteristics are associated with type of risk, and (c) whether students with different demographic characteristics (race, FRL-eligibility, and parent education) exhibit similar levels of coping and engagement, and (d) whether students of different demographic characteristics choose to address similar factors related to coping and engagement in an individualized action plan. Data analyzed were collected from a larger IES-funded study (IES Research #R305A150543) awarded to Drs. Shannon Suldo and Elizabeth Shaunessy-Dedrick. Participants in this study included ninth grade students enrolled in an AP or pre-IB course at schools in a southeastern state who participated in a new developed intervention intended to cultivate social-emotional skills that correlate with student success in accelerated coursework. This chapter begins with a summary of relevant key findings and how these fit with the current limited knowledge base on the experiences of historically underrepresented students in accelerated coursework. After, implications for school professionals and other key stakeholders are discussed. This chapter concludes with a discussion on limitations of the current study and recommendations for future research.

## Key Findings

### Disproportionality in the Likelihood of Risk in Academic and Emotional Domains

An initial goal of this study was to determine whether historically underrepresented students in accelerated coursework (African American, Hispanic, and low SES) evidenced early signs of risk for later emotional or academic difficulties and are thus subsequently recruited for a selective Tier 2 intervention more often than overrepresented subgroups (White, Asian, and high SES). In this study, risk was operationalized as emotional and academic status after the first semester of high school. Emotional health was indexed by levels of stress and school satisfaction, with elevated perceived stress and/or low school satisfaction signifying a student with an at-risk status in the emotional domain. Academic health was indexed by semester GPA and grade in AP or IB class, with a GPA < 3.0 or an AP/IB course grade lower than "B" signifying a student with an at-risk status in the academic domain.

In the entire sample of 332 freshmen, 135 students (40.7%) were identified as at-risk emotionally, academically, or in both areas; in contrast, 197 students (59.3%) did not evidence signs of elevated stress, diminished school satisfaction, or academic performance. Regarding the percentages of students who met criteria to be deemed at-risk, there were some differences in risk rate based on student demographic characteristics. Whereas 34.7% of White students were identified as at-risk and only 21.9% of Asian students, 45.9% of Hispanic students, 50% of multiracial students, and 64.3% of Black students met criteria for at-risk in one or both domains. Student SES was examined using two metrics—student eligibility for free/reduced-price lunch (FRL), and parent educational achievement (i.e., having at least one parent who has obtained a bachelor's degree or higher). A total of 51.7% of students eligible for FRL were identified as at-risk, and 48.8% of students who reported having no parent(s) with a bachelor's degree or higher.

Results of multiple analyses—a chi-square test and a logistic regression predicting prevalence of risk by demographic group—indicated that students eligible for FRL were statistically significantly more likely to be identified as at-risk than students ineligible for FRL. It is important to consider that student eligibility for FRL has been shown to demonstrate risk regardless of academic setting (i.e., accelerated coursework or general education). Being that 51.7% of students eligible for FRL were identified as at risk, it is important to note that the prevalence of risk is still high in comparison to students ineligible for FRL (32.3%). In particular, a review of odds ratios yielded from a logistic regression indicated that students eligible for FRL were found to be about 1.7 times more likely to be identified as at-risk than students not identified for FRL. First-generation college students may be slightly more likely to be identified as at-risk being that students who reported having no parent with a bachelor's degree or higher were more identified as at-risk than students with parent(s) who have graduated (48.8% and 33.3%, respectively). Due to the limited amount of research regarding students of low income who participate in accelerated coursework, it is unknown whether this finding may be due to chance and the specific population studied, or a real phenomenon. However, research conducted by Wang and Sheikh-Khalil (2014) indicated that effects of parental involvement differed by SES. As such the results of this study could be due to chance, or student perceived levels of relatively low parental involvement. Chappel and colleagues (2014) found that low SES (when indexed by FRL) is associated with somewhat lower life satisfaction, which aligns with the current study's finding that eligibility for FRL co-occurs with a higher likelihood of being identified as at-risk on emotional and academic indicators. Further, findings in this study align with research that indicates that approximately half of gifted dropouts are in the lowest SES

quartile (Renzulli & Park, 2000). These findings suggest that life satisfaction may be a contributor to at-riskness for students eligible for FRL.

Statistical analyses that examined prevalence of risk across race groups yielded somewhat contradictory findings. The chi-square analysis of the relationship between risk status and race was statistically significant, and relatively high rates of Black (64.3%) and multiracial students (50%) were identified as at-risk, in comparison to about 46%, 35% and 22% of Hispanic, White, and Asian students, respectively. However, in the multiple regression analysis in which race was consider alongside SES indicators (FRL, parent college graduate), the Black group variable did not emerge as a statistically significant unique predictor ($p$ = .055) although very close to significance. Conclusions from the logistic regression would be consistent with research conducted by de Anda et al. (2000) that found no ethnic differences in levels of perceived stress reported by 333 10$^{th}$ and 11$^{th}$ grade students. However, the results of the chi-square test and a visual review of the prevalence rates of risk by group suggest a possible pattern in that Black students may be identified as at-risk more frequently than their White peers, indicating the need for additional supports in order to achieve success later in their accelerated high school courses. If the current study were to be replicated with a larger sample that included sizeable number of students in each subgroup, it is possible that students who identify as Black/African American may emerge as having a unique, significant increased likelihood of evidencing signs of risk for later academic or emotional difficulties. Black students have been consistently underrepresented in accelerated coursework (Ford, 2014; Kolluri, 2018; Peters et al., 2019), and early signs of academic challenges are consistent with this pattern found in the analyses. It is also possible that multiracial students may emerge as at-risk more often as prevalence indicate half of multiracial students were identified as at-risk in any domain.

Whereas findings from this study identified significantly higher rates of risk among Black and low SES students, there was less support for a higher prevalence of risk among another historically underrepresented group—Hispanic students. A majority of Hispanic students in this sample (54.1%) were identified as having no risk in either domain. Looking at prevalence rates, it is interesting that Hispanic and multiracial students, although not statistically significant, may be at an elevated risk (45.9% and 50% respectively). Students who identified as multiracial were able to select Hispanic/Latino/Spanish origin in combination with a different race category (e.g., Black). Earlier research indicated no ethnic differences in levels of perceived stress (de Anda et al., 2000). While it seems that Hispanic and Black students have had less historical success in enrolling in accelerated curricula (Perna et al., 2013), enrollment in such programs may not be the result of more perceived stress among this population. It is possible that lack of enrollment in these programs but could be a function of lack of education about their availability and differential encouragement by academic counselors to pursue accelerated coursework. Although Hispanic students have been consistently underrepresented in such coursework (Peters et al., 2019; Kolluri, 2018; Ford, 2014; Texas et al., 2017), no statistically significant difference in risk was found in this study of freshmen. More research is needed to identify reasons that Hispanic students tend to enroll in accelerated coursework at lower rates than White and Asian peers.

**Disproportionality in Type of Risk**

A second aim of this study was to identify whether demographic characteristics determined the type of risk in which students were identified. The majority of the sample (about 59%) were not identified as having any risk regardless of demographic characteristics. Approximately 16% of White students were identified as emotional risk but not academic risk, and similar rates of emotional risk only were seen in the groups of multiracial students (19%)

and Hispanic students (23%). Only 7% of Black students evidenced signs of emotional risk without a co-morbid academic risk. However, a relatively large proportion of Black students (about 29%) were identified as at-risk for academic difficulties and another 29% of Black students were at-risk for a combination of academic and emotional problems. Rates of academic risk in the other groups were close to 10% (9.3 – 12.5%) for White, Hispanic, Asian and multiracial students. Multiracial students had somewhat higher rates of risk in the emotional only and combination risk domains (19%) in comparison to White (9%) and Hispanic (12%) students; only one Asian student (3%) had the combination of academic and emotional risk factors.

Results of the multinomial logistic regression analyses confirm that identifying as Black was significantly associated with increased chances of students being identified as having an academic risk factor(s), or a combination of academic and emotional risk factors. Academic risk was based specifically on GPA and course grades, indicating that one semester into high school, Black students in this sample were less likely to achieve benchmarks associated with ultimate academic success. In particular, a review of odds ratios yielded from the analyses reveals that Black students are about 4.2 times more likely to be identified for academic risk than White students. Black students were also found to be almost 4 times as likely to be identified for an academic risk with co-morbid emotional risk factors. Regarding co-morbid emotional problems, greater experiences of stress and low school satisfaction may reflect use of ineffective coping strategies to deal with academic stressors. Prior research indicates that AP/IBD students report more perceived stress than general education peers (Shaunessy et al., 2006). Based on previous research, it is possible that feelings of alienation and low school connectedness may contribute to increased perceived stress levels (Johnson-Bailey et al., 2009). Many Black students have also experienced risk factors such as less parental support (Cox, 2016; Johnson-Bailey et al., 2009)

along with microaggressions, and isolation due to social inequalities (Ford, 2014). Black students have also reported experiences of deficit thinking from teachers (Cox, 2016). It is important to note that lack of parental support may be due to parents having to work or take care of others in the home. These students may still receive parental support, but in different ways. Furthermore, Black students themselves may not hold a deficit thinking mindset but may feel less self-efficacy due to teacher behaviors or school climate (Cox, 2016). More research is needed that identifies possible explanations for Black students being potentially more vulnerable to emotional distress as manifested in particularly high stress or low school satisfaction, and the combination of such emotional risk along with early academic struggles.

Regarding associations between SES and type of risk, there were more similarities than differences in risk for emotional problems only between groups of students with various SES levels (rates of emotional risk only ranged from 14.3% to 19.6% across subgroup). Notably, students without a parent(s) who graduated college with a bachelor's degree or higher were almost twice as likely to experience academic risk only as compared to their peers who had 1 or more parent graduate college (15.5% vs. 8.3% of students, respectively) or the combination of academic and emotional risk (16.7% vs. 7.7% of students, respectively), whereas eligibility for FRL was tied to similar rates of academic risk only (10.1% to 14% across groups). Eligibility for FRL was seemingly tied to higher rates of combination risk than peers ineligible for FRL (18.2% vs 7.9%, respectively) In the logistic regression analyses in which SES was examined alongside race, neither FRL nor parent educational level uniquely predicted type of risk. This is inconsistent with the hypotheses of this study in which this researcher expected that students of low family SES would experience greater academic and emotional risk as compared to higher SES peers.

**Differences in Levels of Coping and Engagement**

Another aim of this study was to identify whether students of different demographic characteristics evidence similar levels of coping and engagement that have been found to be associated with success in accelerated coursework. Being that Black students and sometimes lower SES students were identified as at-risk more than White or higher SES students, this researcher felt that it would be helpful to explore which factors of coping and engagement may be more elevated for particular demographic groups. This information would be beneficial whether students were identified as at-risk or not. Of the 28 factors examined, when controlling for other demographic characteristics and using a more stringent alpha level ($p$=.002), there were no observed statistically significant relationships. However, if we were to use a more liberal alpha level (such as p=.05), a few significant relationships emerge. Keeping in mind the possibility of type 1 errors, Black students are particularly likely to cope with stress through positive thinking, turning to family, or seeking temporary diversions through social activities. Black students are also likely to experience parental emotional support as well as hold high personal standards for performance. Further, Hispanic students are also likely to cope using effective coping strategies like positive thinking and turning to spirituality, but also tend to express strong emotions which has the potential to be considered a risk factor as coping through rumination can be associated with worse emotional outcomes (Suldo et al., 2018). Other potential patterns of coping for students eligible for FRL include positive thinking, relaxation, and/or experiencing eustress. Taken together, coping through positive thinking and/or turning to spirituality may serve as potential strengths or values to consider when working with students traditionally underrepresented in AP/IB.

Also, trends in the data challenge the notion that students in AP/IB without a college graduate parent are automatically at-risk for feeling disaffected at school. Instead, with respect to affective engagement first-generation college students reported higher levels of pride in school, satisfaction with AP/IB classes, and positive relations with teachers. With regards to cognitive engagement, it was found that Black students may have higher standards for personal performance, whereas multiracial students may have lower standards than other students. In general, higher levels of engagement are conceptualized as beneficial, thus the relatively high standards expressed by Black students may hold promise as a reliance factor. Again, when considering these resilience factors for the specific subgroups, we must be mindful of potential type 1 errors.

Taken together, these findings represent an initial look at AP and IB students' levels of coping and engagement among demographic characteristics. This research needs to be further explored for the purposes of providing supports aimed at prevention, rather than more reactive supports.

**Target to Address in Action Plans**

One last aim of this study was to identify whether students with different characteristics select the same factors to target for improvement in an action plan. The hope with this question was to identify if there were common resource or risk factors for some groups of students related to coping, engagement, and success in AP/IB coursework. No MAP targets were found to be uniquely preferred to address by students who were in demographic groups historically underrepresented in AP/IB. Instead, most students who took part in MAP meetings (the vast majority of whom were identified for such because they evidenced risk in the academic or emotional domains, or both domains), chose to address either: time and task management

(27.8%), reduce effort on schoolwork (13%), or positive thinking (11.3%) as targets to address in their action plans regardless of race, FRL-eligibility, or parent education.

## Implications for School Professionals and Other Key Stakeholders

The results of this study provide insight into the possibility that some groups of students in accelerated coursework are more likely to evidence early signs for later academic or emotional difficulties than other groups of students. Results also suggest slight differences in methods of coping with stress related to emotional or academic domains. Educators should be mindful that Black students or those of lower SES (eligible for FRL; first generation potential college graduate) may need extra supports to be successful in their respective AP or IB programs. It may be helpful to provide more preventative than reactive supports for these students to reduce the likelihood of dismissal from the program due to academic concerns or reduce the likelihood of dropping out of the program due to emotional stressors. With findings that indicate that Black students are more likely identified for academic or a combination of academic and emotional risk, school professionals may want to provide generalized academic support for these students in accelerated curricula through the form of direct instruction in coping skills, mentoring programs to increase connectedness, study tips, and/or academic interventions. It may also be helpful to offer process groups to allows underrepresented students a safe space to talk about stressors stemming from perceptions of deficit thinking, microaggressions, and social isolation with students who have similar concerns. Given that Black students were not found to be particularly at-risk for an emotional only difficulty as compared to other students, Black students in accelerated coursework may face heightened academic risk in general. This suggests that there may be an academic disadvantage for these students. More information will be needed to determine what specific factors contribute to emotional risk (i.e., trauma, family factors, school

stressors, current life events, school engagement) among students with co-morbid challenges (i.e., risk in both academic and emotional domains). For students identified as eligible for FRL, it is important to consider that these students traditionally face heightened risk in the general education setting as well. Providing these students with similar supports suggested above may help to alleviate the possibility of heightened risk in academic or emotional domains.

While race and ethnicity do not necessarily predict levels of coping and engagement while controlling for the other, some groups are more likely to report greater or lower levels of certain factors. These associations can serve as a guide for identifying strengths and values for particular students. For example, Black students tend to report higher levels of turning to spirituality as a coping style, and higher personal standards for performance as a form of cognitive engagement. Multiracial students are likely to have lower personal standard for performance than other students and may thus appear to be less cognitively engaged. It is important to note that research has demonstrated more variance within racial groups than between racial groups. With this in mind, school professionals should be mindful that these are correlational, not causal, and each individual student is different. These may act as a guide when working with these students and help to identify appropriate supports. Speaking with students and understanding how these coping mechanisms fit in with their goals and values will be important when encouraging use of such coping skills. For example, a Black student may turn to spirituality in a variety of ways including reading the Bible, reading daily devotionals, and/or prayer journaling among other potential strategies. Furthermore, students who are potential first-generation college students may capitalize on their strong social bonds as week through greater affective engagement (i.e., pride in school, satisfaction with classes, relationships with AP/IB teachers) to preventatively reduce perceptions of stress in the program.

The results of this study also indicate that there are no specific factors that racial or SES groups of students are likely to gravitate toward when creating self-directed change plans. Educators may use this information as a guide to determine which factors to focus on when gaining buy-in for students, as interest in coping with stress through proactive methods (time and task management; positive thinking) and reducing use of ineffective coping (reducing effort on schoolwork) are evident across students. Being that over 50% of students identified as at-risk chose one of three targets to address in action plans, it may be helpful to focus on time and task management, appropriate ways of reducing effort on schoolwork to avoid burnout, and increase positive thinking for all students within accelerated curricula. This can be achieved early in the school year, preferably ninth grade, so that students will have time to further develop and practice these skills. This can be presented to students universally as ways to increase overall coping skills and engagement within their courses.

## Limitations

One limitation of this study is the lack of generalizability to other areas in the United States. All participants in the dataset available for analysis were students in three high schools in one southeastern state. As such, findings cannot be extended to populations outside of this geographic region. There may have been situational factors specific to location that influenced the results of this study.

Another limitation of this study is that most, but not all, students who were identified as at-risk participated in the Tier 2 intervention, but some students (14 of 135 students) declined MAP and/or did not obtain parent consent to participate. As such, the sample sizes may have been impacted. Students who participated in MAP were allowed to choose from available targets, choose their own target that was not listed, or choose to terminate the session and not

participate in the intervention at all. A lack of full participation by the target sample can skew the results of this study for certain MAP targets since there were relatively small sample sizes for each factor. It is also possible that students chose targets that they felt would be easy to address in an action plan rather than a factor that they felt would be more appropriate.

One final limitation of this study is that this study is a secondary data analysis. With this type of study, this researcher was unable to collect additional data that may have been helpful to examine, such as why the student self-selected or were placed in AP/IB classes. As previously mentioned, criteria for enrolling in AP/IB courses is not stringent and can vary from site to site, even within a district. Some students may have entered their ninth-grade year with varying levels of coping skills and motivation to engage, but such factors could not be examined in the existing dataset.

## Summary and Future Directions

Results of this study indicated that while students eligible for FRL are more likely to be identified as at-risk in any capacity than students ineligible for FRL, Black students are also more likely to be identified as having an academic risk or a combination of an academic and emotional risk than White peers. It is important for school professionals to keep this in mind when planning instruction for these students. It may be helpful to provide preventative services, rather than reactive, for these students to minimize risk and promote retention in accelerated coursework in the form of counseling groups to increase school connectedness, academic interventions, and explicit instruction in coping with stress.

Educators working with students who are historically underrepresented in AP/IB may want to be sensitive for natural strengths in coping styles, such as tendencies to manage stress through turning to spirituality (Black students) or through positive thinking strategies (Hispanic

students). It is also likely that first-generation college students experience greater levels of affective engagement in AP/IB programs. Recognizing these strengths in discussions can help reinforce methods of managing stress that have advantageous associations with outcomes, and also help minority students to feel respected and valued by educators who value their personal history. When working with individual students to create action plans to address an area in need of development, educators might keep in mind that this study found that students' choice of action plan target was not tied to their demographic characteristics. This suggests that school professionals should approach students with an open mind for individuality toward goals and expect many students to express an interest in honing skills in time and tasks management, positive thinking, and limiting temptations to reduce effort on schoolwork.

More research is needed with larger populations and in other geographic areas to determine whether the results obtained are specific to the region studied in a southeastern state. Further, a larger sample size may help to identify more nuanced patterns with action plan targets as the sample included in this study was not large enough for analysis based on action plan target chosen. Future research should also aim to identify more detailed information regarding differences in academic and emotional functioning by demographic group.

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APPENDIX A: IRB APPROVAL NOTIFICATION LETTER


RESEARCH INTEGRITY AND COMPLIANCE
Institutional Review Boards, FWA No. 00001669
12901 Bruce B. Downs Blvd., MDC035 • Tampa, FL 33612-4799
(813) 974-5638 • FAX (813) 974-7091

7/15/2015

Shannon Suldo, Ph.D.
Educational and Psychological Studies
4202 East Fowler Ave., EDU 105 Tampa,
FL 33620

RE: **Expedited Approval for Initial Review**
IRB#: Pro00022787
Title: Facilitating Academic Success and Emotional Well-Being Among High School Students in Accelerated Curricula

**Study Approval Period: 7/14/2015 to 7/14/2016**
Dear Dr. Suldo:

On 7/14/2015, the Institutional Review Board (IRB) reviewed and **APPROVED** the above application and all documents contained within, including those outlined below.
**Approved Item(s):**
**Protocol Document(s):**
Augmented Narrative for Goal 2 IES grant

**Consent/Assent Document(s)*:**
Honors Student Consent_Year 1_Student Focus Groups_FINAL.pdf
Parent Consent_Year 1_Student Focus Groups_FINAL.pdf
Parent-Teacher-Admin Consent_Year 1_FINAL.pdf
SMH Provider Consent_Year 1_FINAL.pdf
Student Assent_Year 1_Student Focus Groups_FINAL.pdf

*Please use only the official IRB stamped informed consent/assent document(s) found under the "Attachments" tab. Please note, these consent/assent document(s) are only valid during the approval period indicated at the top of the form(s).
It was the determination of the IRB that your study qualified for expedited review which includes activities that (1) present no more than minimal risk to human subjects, and (2) involve only procedures listed in one or more of the categories outlined below. The IRB may review research through the expedited review procedure authorized by 45CFR46.110 and 21 CFR 56.110. The research proposed in this study is categorized under the following expedited review category:

(5) Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis).

(6) Collection of data from voice, video, digital, or image recordings made for research purposes.

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

This research involving children was approved under the minimal risk category 45 CFR 46.404: Research not involving greater than minimal risk.
As the principal investigator of this study, it is your responsibility to conduct this study in accordance with IRB policies and procedures and as approved by the IRB. Any changes to the approved research must be submitted to the IRB for review and approval via an amendment. Additionally, all unanticipated problems must be reported to the USF IRB within five (5) calendar days.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

Kristen Salomon, Ph.D., Vice Chairperson
USF Institutional Review Board

# APPENDIX B: PARENT CONSENT FORM

Dear Parent or Guardian:

This letter tells you about a research study that will be done at your child's school by professors and graduate students from the University of South Florida (USF). Our goal in doing the study is to evaluate the Advancing Coping and Engagement (ACE) program. The ACE program is a classroom curriculum designed to teach students evidence-based strategies for managing stress from their rigorous courses. The ACE program is intended to improve emotional well-being and academic outcomes among students in Advanced Placement (AP) or International Baccalaureate (IB) courses.

- ✓ Who We Are: We are USF Professors Shannon Suldo and Elizabeth Shaunessy-Dedrick. Our research team includes graduate students, school psychologists, and other professors in the USF College of Education. We are doing the study in cooperation with district and school administrators to ensure the study provides information that will be helpful to students, teachers, families, and administrators.
- ✓ Why We are Requesting Your Child's Participation: This study is part of a project entitled, "Supporting High School Students in College-Level Classes." Your child is being asked to participate because he or she is in an AP or IB class.
- ✓ Why Your Child Should Participate: Schools need evidence-based programs to help high school students navigate the academic rigor of college-level courses. To address this need we are evaluating the ACE program. The ACE program was developed to build all AP and IB students' coping skills and strong connections to their school. We are also evaluating the usefulness of brief, one-on-one supports (coaching meetings) that are offered in the second half of the school year to students who may have challenges managing their academic demands. The information that we collect from students will be used to improve our intervention materials. This process will ensure the program is highly usable with future AP and IB students. The evaluation will determine the program's impact on students' emotional and academic well-being. Such information helps ensure educators select programs with evidence of promise on student outcomes. Neither you nor your child will be paid for your child's participation in the study. However, all students who participate by completing a packet of surveys on personal well-being, or provide feedback to coaching meetings, will receive a $10 gift card on each occasion. Also, all students who return this completed form (whether or not you grant your child permission to participate) will be entered in a drawing for a $50 gift card.
- ✓ What Participation Requires: Participating schools will be randomly assigned to one of two groups: *intervention* and *control*. Schools in the *intervention* group will receive support through USF during the 2017-18 school year to deliver the ACE program to select classes of 9th grade AP/IB students. Mid-way through the year, *intervention* schools will examine students' emotional and academic status through a screening. During this screening, students will complete a short survey with questions about their current level of stress and feelings about school. It will take students about 5 minutes to complete that survey. Students' ratings will be considered along with data from students' school records (first semester course grades and attendance), and teacher nominations of students who have shown signs of academic or emotional challenges. Extra support will be offered to students whose screening data indicates signs of challenges with managing academic demands. That support involves 1-2 meetings with an ACE coach. ACE coaches are from the USF research team, and are not district staff. Within each 30-60 minute meeting, students describe their values, goals, and strengths, connecting the targets in the classwide ACE program to their future goals.

  Students in the *intervention* schools who have your permission to participate in the evaluation of these supports will be asked to provide feedback on the content of the ACE program and, if applicable, the brief coaching meetings. At the end of each weekly presentation in the classwide ACE program, and at the end of each coaching meeting, participants in this study will be asked questions about the value and quality of ACE program materials through the completion of brief rating scales about the content and activities. It will take about 5 minutes to complete the brief forms, on each occasion. All discussions during individual meetings with ACE coach will be audio recorded and de-identified (all names removed from audiofiles) for research and training. Consenting for your child to participate in this project also indicates your consent for your child to be audio recorded.

  Schools in the *control* group will receive the ACE program training and intervention materials for use during the 2018-19 school year. Students in both the *intervention* and *control* groups will be asked to complete a packet of surveys with questions about their ways of coping with academic stress, feelings about school, and emotional well-being (happiness as well as symptoms of emotional or behavioral problems). Surveys also ask about students' demographic features, including two questions about parents' educational attainment. Survey packets will be given near the beginning and end of the school year. Completion of the survey packet is estimated to take about 45 minutes on each occasion. All activities will be during regular school hours and scheduled to be minimally disruptive to your child's academic course schedule. In total, participation will take no more than 2 hours for students in *control* group schools or 2-3 hours for students in *intervention* group schools during the 2017-18 school year.

  A final part of participation involves a confidential review of your child's school records. School/district employees will provide the USF team with your child's: demographic details including race/ethnicity, eligibility for free or reduced-price lunch, identification as an English Language Learner or a student with an exceptionality; district student ID numbers; achievement and in-school behavior during 2017-18 (attendance and discipline history [number

of office referrals], class performance [grades earned in each course], scores on end-of-course AP and IB exams).

- ✓ Confidentiality of Your Child's Responses: This research is considered to be minimal risk. That means that the risks associated with this study are the same as what your child faces every day. There are no known additional risks to those who take part in this study. Your child will receive no benefits by participating in this research study. 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, the USF Institutional Review Board and its staff, and other individuals acting on behalf of USF may inspect the records from this research project, but we will not share your child's individual responses with school system personnel or anyone other than us and our research assistants. Your child's responses during some program activities will be digitally audio recorded, and then assigned a code number to protect the confidentiality of his or her statements. Only we will have access to the locked file cabinet stored at USF that will contain all records linking code numbers to participants' names. All records from the study will be destroyed in five years. Your child's specific responses will not be shared with school staff. However, if your child indicates that he or she intends to harm him or herself or someone else, or if your child's responses on surveys or comments during meetings with an ACE coach indicate extreme emotional distress, we will contact district mental health staff. Those individuals will follow district procedures for ensuring the safety of your child and others and following-up with parents and guardians about concerns for student well-being.
- ✓ 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. Your child has the right to withdraw his/her assent or discontinue participation at any time without penalty. Any decision to participate, not to participate, or to withdraw participation at any point during the study will in no way affect your child's student status, his or her grades, or your relationship with your high school, school district, USF, or any other party. Your child does not have to participate in any part of this research. You or your child have the right to inspect the survey instruments before they are administered, if a request is made within a reasonable amount of time. The surveys and directions for administering them will be available at your school prior to the survey administration. Within the intervention schools, the mid-year screening of student academic and emotional status will not occur without prior parent notification. That notification form will describe the screening process, and provide instructions for how to contact the school to opt out your child from the screening if so desired by you or your child.
- ✓ What We'll Do With Your Child's Responses: We plan to use the information from students to further develop and improve, and determine the effectiveness of, intervention materials intended to support AP and IB students. Results from data collected during 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-Dedrick). 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 Office of Research Integrity and Compliance at the University of South Florida at 813-974-5638, and refer to eIRB # 22787.
- ✓ Want Your Child to Participate? To permit your child to participate in this study, complete the consent form below (titled "Consent to Take Part in this Research Study"). Have your child return the green paper with the completed form to his or her designated teacher. Keep the other copy of this letter (printed on gold paper) for your records.

Sincerely,

| | |
|---|---|
| Shannon Suldo (Professor, School Psychology) | Elizabeth Shaunessy-Dedrick (Professor, Gifted Education) |
| Department of Educational & Psychological Studies | Department of Teaching and Learning |

**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 taking part in the study | Grade level of child | High school |

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

***(Portion for USF to Complete): 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 C: STUDENT ASSENT FORM

Dear Student:

You are being asked to take part in a research study. This study is part of a larger project we are conducting. The goal of the project is to evaluate the Advancing Coping and Engagement (ACE) program. The ACE program is a classroom curriculum that teaches students ways to manage stress from classes. ACE is for students in Advanced Placement (AP) or International Baccalaureate (IB) classes. This program aims to improve students' academic and emotional well-being.

- ✓ Who We Are: We are USF Professors Shannon Suldo and Elizabeth Shaunessy-Dedrick. Our research team includes graduate students and school psychologists in the USF College of Education. We are doing the study with leaders in your school. That way, the study will provide information that will be helpful to students, teachers, families, and school leaders.
- ✓ Why We're Asking You to Take Part in the Study: This study is part of a project titled, "Supporting High School Students in College-Level Classes." You are being asked to take part because you are a student in an AP or IB class.
- ✓ Why You Should Take Part in the Study: Schools need effective ways to help high school students manage the demands of college-level courses. To address this need we are evaluating the ACE program. The ACE program was created to build all AP and IB students' coping skills and strong connections to their school. We are also examining the usefulness of extra support—coaching meetings—offered to students who may have challenges managing their academic demands. We will use the information that we collect from students to improve our materials. The evaluation will determine the program's impact on students' emotional and academic well-being. Please note you will not be paid for taking part in the study. However, all students who participate by completing a packet of surveys on personal well-being will receive a $10 gift card on each occasion. Also, students in *intervention* schools who provide feedback on coaching meetings will receive a $10 gift card on each occasion. All students who return this completed form (whether or not you participate) will be entered in a drawing for a $50 gift card.
- ✓ What Will Happen During This Study: There are four main parts to this research study: (1) program evaluation, (2) ACE program feedback (3) mid-year screening, and (4) extra support for some students.
  - ***Program Evaluation:*** Schools will be randomly assigned to one of two groups: *intervention* or *control*. Students in both groups will be asked to complete a survey packet asking about how they cope with academic stress, feelings about school, and emotional well-being. Emotional well-being includes questions about students' happiness and current symptoms of mental and psychological problems. Students will also be asked to share their demographic information. Survey packets will be given near the beginning and end of the school year, and will take about 45 minutes to complete each time. All activities will be during regular school hours. They will be scheduled to be minimally disruptive to your academic day. You have the right to inspect the evaluation surveys before they are administered, if a request is made within a reasonable period of time. The surveys and directions for administering the surveys will be available at your school within a reasonable period of time prior to the evaluation administration. Participation in this study also involves a confidential review of your school records. This includes demographics such as, race/ethnicity, eligibility for free or reduced-price lunch, identification as an English Language Learner or a student with an exceptionality; district student ID numbers; grades and end-of-course exam scores, attendance, and discipline history during 2017-18.
  - ***Weekly ACE Program Feedback:*** Schools assigned to the *intervention* group will receive support through USF during the 2017-18 school year. During the fall semester, USF ACE team members along with one of your teachers, will work together to deliver the ACE program to select classes of 9th grade AP/IB students. Students receiving the ACE Program will be asked to provide feedback on the curriculum content at the end of each weekly presentation through brief rating scales. Completion of these questions will take about 5 minutes on each occasion. Schools placed into the *control* group will receive the ACE program training and intervention materials for use during the 2018-19 school year.
  - ***Mid-Year Screening:*** In the *intervention* group schools, the USF team will examine students' emotional and academic status through a screening done mid-way through the year. The USF team will look at students first semester grades, and ask teachers which students may need extra help. Students will complete a short 5-minute survey with questions about their stress and feelings about school. You have the right to inspect the screening instruments to be used before the brief survey is administered. The surveys and directions for administering the surveys will be available at your school within a reasonable period of time prior to the screening.
  - ***Extra Support:*** Extra support will be offered to students whose screening data indicate signs of challenges with managing academic demands. That support involves 1-2 meetings with an ACE coach. ACE coaches are from

the USF research team, and are not district staff. Within each 30-60 minute meeting, students describe their values, strengths, and goals, and plan strategies to achieve their future goals. At the end of each meeting, students will be asked to provide feedback on the meeting content and usefulness, through completing brief rating scales. Completion of these questions will take about 5 minutes on each occasion.

In total, participation in research on the ACE program will take no more than 2 hours (*control* group) to 2 to 3 hours (*intervention* group) of your time during the 2017-18 year.

- ✓ Confidentiality of Your Responses: This research is considered to be minimal risk. That means that the risks associated with this study are the same as what you face every day. There are no known additional risks to those who take part in this study. You will receive no benefits by participating in this research study. Your 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, the USF Institutional Review Board and its staff, and other individuals acting on behalf of USF may inspect the records from this research project. But, we will not share your individual responses with school system personnel or anyone other than us and our research assistants. Your responses during some program activities will be audio recorded, and then assigned a code number to protect the confidentiality of his or her statements. Only we will have access to the locked file cabinet stored at USF that will contain all records linking code numbers to participants' names. All records from the study will be destroyed in five years. Although your specific responses will not be shared with school staff, if you indicate that you intend to harm yourself or someone else, or if your responses on surveys or comments during meetings with an ACE coach indicate extreme emotional distress, we will contact district mental health counselors to ensure your safety as well as others' safety.
- ✓ Please Note: Your involvement in this research study is completely voluntary. By signing this form, you are agreeing to take part. 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 grades or your relationship with your high school, USF, or anyone else. You do not have to participate in this study.
- ✓ What We'll Do With Your Responses: We plan to use the information from this study to further develop and improve materials for a program created to promote academic success and emotional well-being among AP and IB students. 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 personally identify you.
- ✓ Questions? If you have any questions about this study, please raise your hand now or ask us at any time. You may contact us later at (813) 974-2223 (Dr. Suldo) or (813) 974-7007 (Dr. Shaunessy-Dedrick). 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 Office of Research Integrity and Compliance at the University of South Florida at 813-974-5638. Refer to eIRB # 22787.

Sincerely,

| | |
|---|---|
| Shannon Suldo, Ph.D. | Elizabeth Shaunessy-Dedrick, Ph.D. |
| Professor of School Psychology | Professor of Gifted Education |
| Department of Educational and Psychological Studies | Department of Teaching and Learning |

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**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 |

***(Portion for USF to Complete):*** **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 | Date |

APPENDIX D: MID-YEAR UNIVERSAL SCREENER

**Student Self-Report Administration Instructions**

**Purpose:** To gather information on student emotional well-being, we are asking 9th grade students taking AP/IB classes to complete this brief survey. Students' responses on this survey will help us determine who would benefit most from taking part in the Motivation, Assessment, and Planning (MAP) program.

**Directions to students:**

- Distribute the survey to the students and read aloud these instructions:
- *Hello! Today we will be asking you to take part of a brief survey which asks you about your current level of stress and satisfaction with school.*
- *At the top of your page, clearly print the name of your teacher and class period.*
- *Please respond to the following questions honestly, keeping in mind that your responses are private. The only people who will see your overall scores (not what you said on individual items) are the important educators and staff at school (including your teacher). We will use this information to identify students who will be offered an individual one-on-one coaching session to map your road to success in your AP/IB classes.*
- *If you have a question about any of the words in the items, please raise your hand and I will come help you. Please do not skip any items.*
- (Optional): *If you do not want to take part in the survey, you do not need to complete any items, and a research team member will collect your blank survey.*
- *When you are finished answering all the questions you can raise your hand and I will come around to collect your paper.* (Check to make sure students, if they assented to the screening by beginning to complete the form, answered all 16 items, with only 1 response per item).

**ACE Program Check-In**

Name: _____ Code #_____ School: _____
Teacher: _____ Period: _____ Date: _____

We would like to know what thoughts about life you've had during the past several weeks. Think about how you spend each day and night, and then think about how your life has been during most of this time. The statements below are about your satisfaction with life at school in particular. For each statement, circle a number from (**1**) to (**6**) where (**1**) indicates you **strongly disagree** with the statement and (**6**) indicates you **strongly agree** with the statement.

| | **Strongly Disagree** | **Moderately Disagree** | **Mildly Disagree** | **Moderately Agree** | **Mostly Agree** | **Strongly Agree** |
|---|---|---|---|---|---|---|
| 1. I feel bad at school | 1 | 2 | 3 | 4 | 5 | 6 |
| 2. I learn a lot at school | 1 | 2 | 3 | 4 | 5 | 6 |
| 3. There are many things about school I don't like | 1 | 2 | 3 | 4 | 5 | 6 |
| 4. I wish I didn't have to go to school | 1 | 2 | 3 | 4 | 5 | 6 |
| 5. I look forward to going to school | 1 | 2 | 3 | 4 | 5 | 6 |
| 6. I like being in school | 1 | 2 | 3 | 4 | 5 | 6 |
| 7. School is interesting | 1 | 2 | 3 | 4 | 5 | 6 |
| 8. I enjoy school activities | 1 | 2 | 3 | 4 | 5 | 6 |

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.

| ***In the last month, how often have you…*** | **Never** | **Almost never** | **Some-times** | **Fairly often** | **Very often** |
|---|---|---|---|---|---|
| 9. …been upset because of something that happened unexpectedly? | 1 | 2 | 3 | 4 | 5 |
| 10. …felt that you were unable to control the important things in your life? | 1 | 2 | 3 | 4 | 5 |
| 11. …felt nervous and "stressed"? | 1 | 2 | 3 | 4 | 5 |
| 12. …found that you could not cope with all the things that you had to do? | 1 | 2 | 3 | 4 | 5 |
| 13. …been angered because of things that happened that were outside of your control? | 1 | 2 | 3 | 4 | 5 |
| 14. …felt difficulties were piling up so high that you could not overcome them? | 1 | 2 | 3 | 4 | 5 |

The next questions ask you about the grades you earned during the first semester of 9th grade.

15. What was your unweighted GPA from last semester (e.g., 3.25)? ___._____
16. What grade did you earn in IB Biology [or AP Human Geography]? _____

APPENDIX E: STUDENT DEMOGRAPHIC SELF-REPORT SURVEY

Fall 2017 School: _____ Version: 
Code #:_____

1. Birthdate: _____ (month) - _____ (day) - _____ (year)

2. My age is: # $ % ^

3. My gender is: _ Male ☐ Female

4. In middle school, were you:

a. in an IB school (MYP)? _ No ☐ Yes Which school?_____

b. in a magnet program? _ No ☐ Yes Which program?_____

c. in Honors/advanced classes? _ No ☐ Yes

5. Are you of Hispanic, Latino, or Spanish origin?

✔ No, not of Hispanic, Latino, or Spanish origin

Yes, Puerto Rican
Yes, Cuban
Yes, Mexican, Mexican American, Chicano
Yes, another Hispanic, Latino, or Spanish origin (*specify)*:_____

6. My race/ethnic identity is: (*circle all that apply*)

White
Black or African American
Asian
American Indian/Alaska Native
Native Hawaiian or Other Pacific Islander
Other (*specify)*:_____

7. My parents are:

Married
Divorced
Separated
Never married
Never married but living together
Widowed

8. Which adult(s) do you live with most of the time?

Mother and Father
Mother only
Father only
Father and Step-mother (or partner)
Grandparent(s)
Other relative (*please specify*):
_____
Mother and Step-father (or partner)
Other (*please specify*):
_____

9. My father's highest education level is:

- 8th grade or less
- Some high school, did not complete
- High school diploma/GED
- Some college, did not complete
- College/university degree
- Master's degree
- Doctoral level degree (Ph.D, M.D.) or other degree beyond Master's level

10. My mother's highest education level is:

- 8th grade or less
- Some high school, did not complete
- High school diploma/GED
- Some college, did not complete
- College/university degree
- Master's degree
- Doctoral level degree (Ph.D, M.D.) or other degree beyond Master's level

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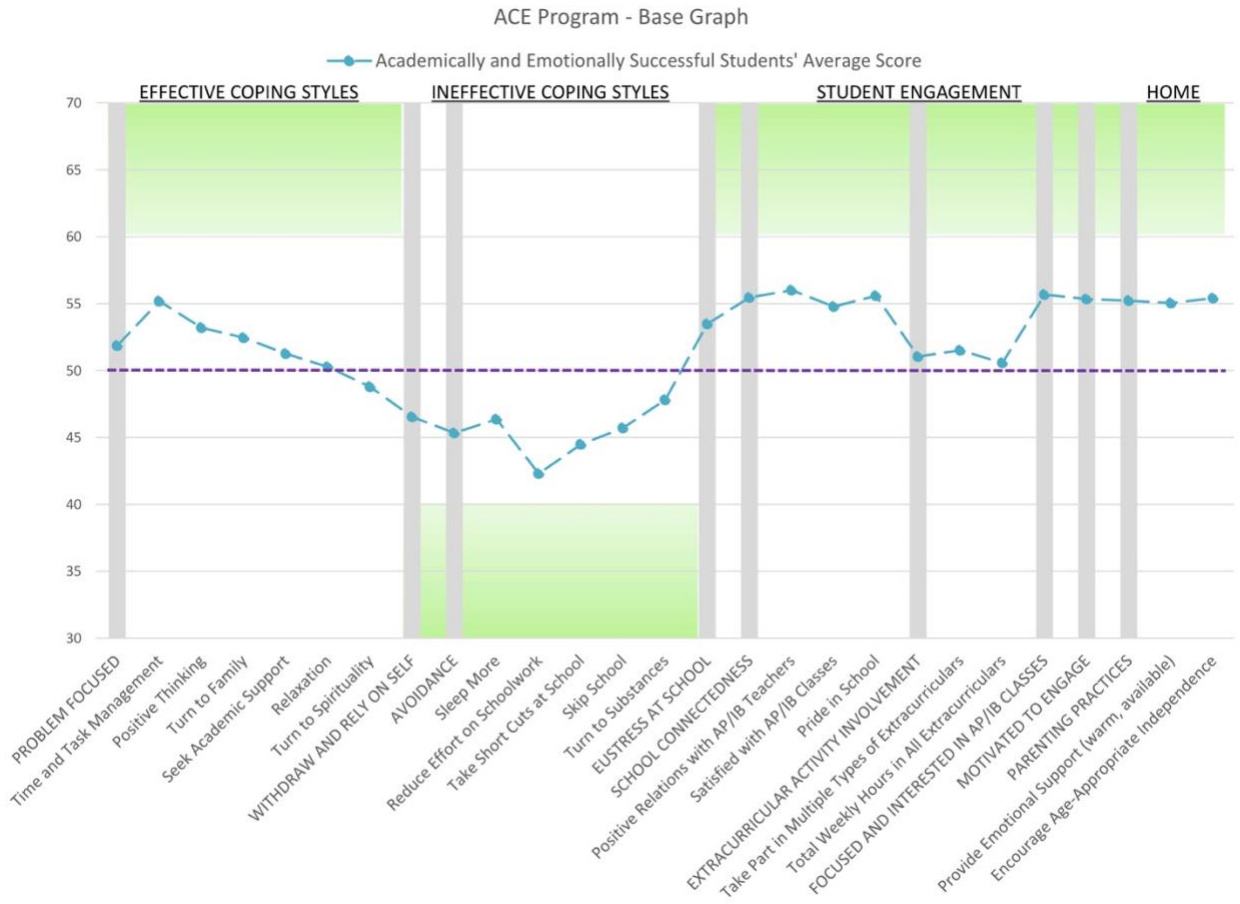
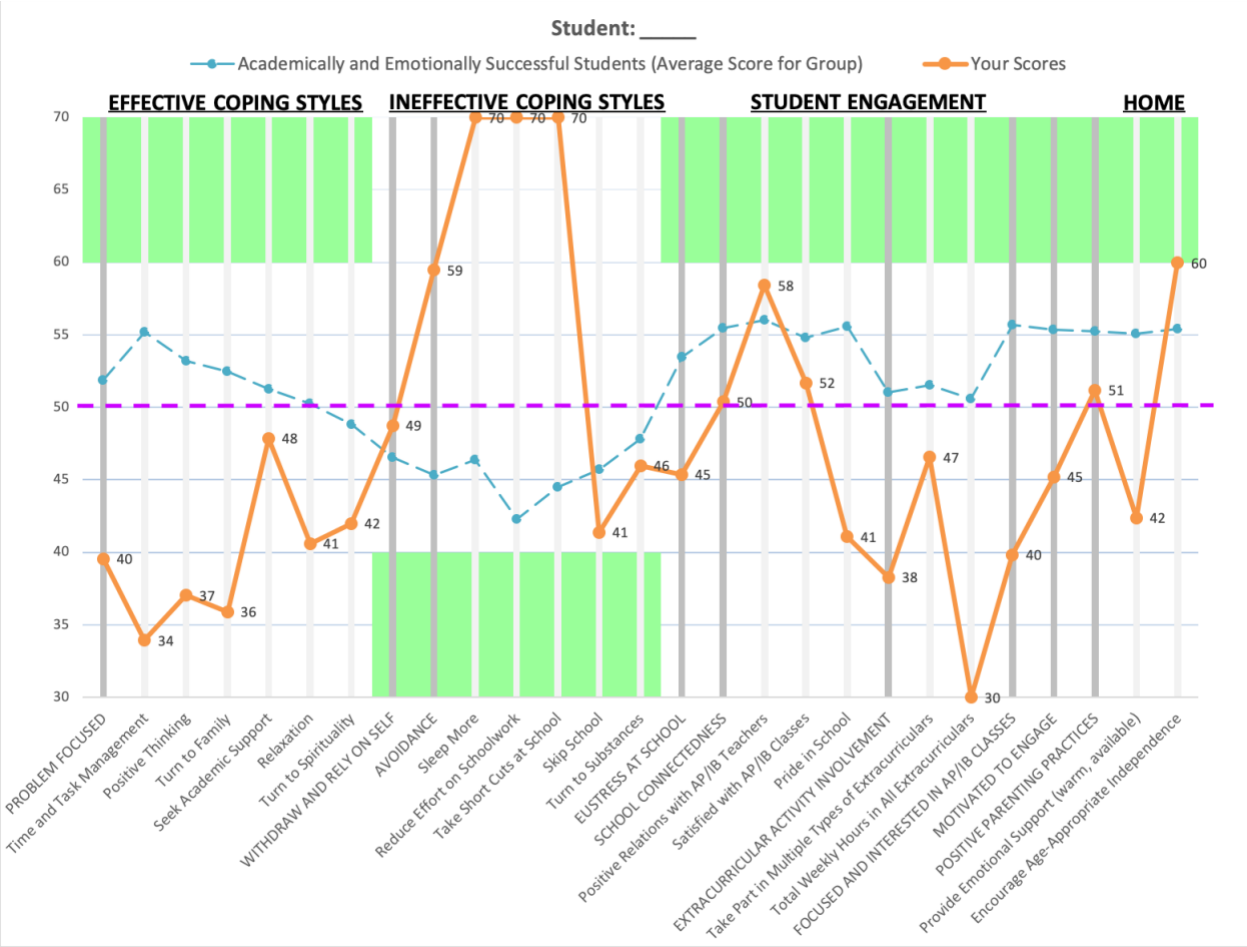
| **PRACTICE ITEM #1**<br>*Think about the current school year. When you are (or have been)* ***faced with school-related challenges or stress****, how often do you:* | **Never** | **Rarely** | **Some-times** | **Freque-ntly** | **Almost Always** |
|---|---|---|---|---|---|
| 1. Stay after school for tutoring | ☐ | ☐ | ◂ | ▸ | ▲ |

| **PRACTICE ITEM #2**<br>*Statement*: | **Strongly Disagree** | **Disagree** | **Neither Agree Nor Disagree** | **Agree** | **Strongly Agree** |
|---|---|---|---|---|---|
| 1. I like being in school. | ☐ | ☐ | ◂ | ▸ | ▲ |

APPENDIX F: STUDENT PRE-MAP ASSESSMENT BASE GRAPH



APPENDIX G: SAMPLE STUDENT PRE-MAP ASSESSMENT INDIVIDUAL GRAPH



APPENDIX H: MAP MEETING ONE STUDENT SUCCESS PLANNING GUIDE

*Student:* _____ *USF Coach:* _____
*School:* _____ *Date:* _____

# Motivation, Assessment, and Planning (MAP) Meetings: Student Success Planning Guide

## Meeting 1

**MAP AGENDA**

1. Get to know more about your personal values, strengths, and goals.
2. Review your survey results and how they compare to other AP/IB students.
3. Develop a plan to help you meet your goals.

*How well am I doing in each area below, factors related to academic and emotional success?*

| Factor/Target | Compared to Other AP/IB Students | | |
|---|---|---|---|
| **COPING WITH SCHOOL-RELATED STRESS** | | | |
| *Using Problem-Focus Coping Styles?* | | | |
| Time and Task Management | Lower | Same | Higher |
| Positive Thinking | Lower | Same | Higher |
| Turn to Family | Lower | Same | Higher |
| Seek Academic Support | Lower | Same | Higher |
| Relaxation | Lower | Same | Higher |
| Turn to Spirituality | Lower | Same | Higher |
| *Limiting Use of Withdrawal and Rely on Self Coping Style?* | Higher | Same | Lower |
| *Limiting Use of Avoidance Coping Styles?* | | | |
| Withdraw and Rely on Self | Higher | Same | Lower |
| Sleep More to Avoid Stressors | Higher | Same | Lower |
| Reduce Effort on Schoolwork | Higher | Same | Lower |
| Take Short Cuts at School | Higher | Same | Lower |
| Skip School | Higher | Same | Lower |
| Turn to Substances | Higher | Same | Lower |
| *Experiencing Eustress at School (Feel Motivated by Demands)?* | Lower | Same | Higher |
| **STUDENT ENGAGEMENT** | | | |
| *Feel Connected to School and AP/IB Program?* | | | |
| Positive Relations with AP/IB Teachers | Lower | Same | Higher |
| Satisfied with AP/IB Courses/Program | Lower | Same | Higher |
| Pride in School | Lower | Same | Higher |
| *Involved in Extracurricular Activities?* | | | |
| Take Part in Multiple Types of Extracurriculars | Lower | Same | Higher |
| Healthy # of Total Weekly Hours in All Extracurriculars | Lower | Same | Higher |
| *Focused on Schoolwork and Interested in AP/IB Classes?* (high personal standards; persist towards goals; strategies to reach goals) | Lower | Same | Higher |
| *Motivated to Engage in AP/IB Coursework?* (confident in academic abilities; feel in control & absorbed during class) | Lower | Same | Higher |
| **HOME** | | | |
| *Parents Provide Emotional Support (warm, available)?* | Lower | Same | Higher |
| *Parents Encourage Age-Appropriate Independence?* | Lower | Same | Higher |

**Values, Strengths, and Goals**

| ***Areas of Importance*** |
|---|
| 1. |
| 2. |
| 3. |

| ***Values*** | |
|---|---|
| 1. | 4. |
| 2. | 5. |
| 3. | |

| ***Character Strengths*** from VIA classification: | |
|---|---|
| 1. | 4. |
| 2. | 5. |
| 3. | |

| ***Goals*** for later high school or post-high school plans: |
|---|
| 1. |
| 2. |
| 3. |

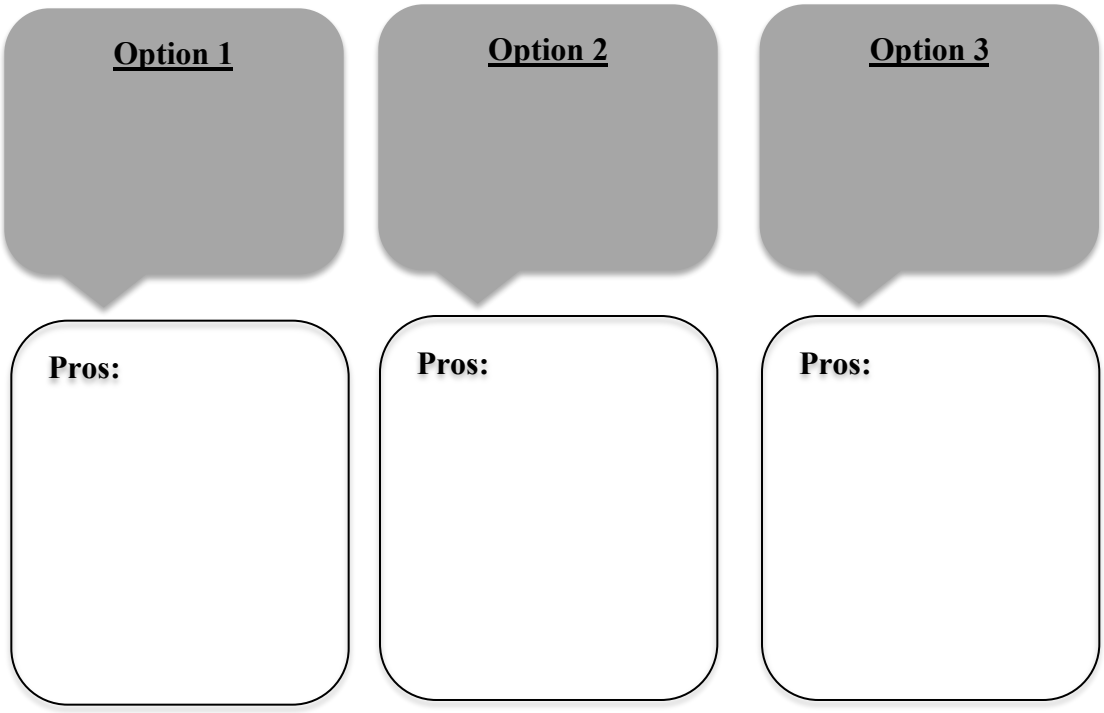
***Notes:***

**Problem-Solving Process in Action**

**Step 1: Recognize Factors that can be Improved Upon**

**Step 2: Determine the Potential Benefits of Addressing those Factors**

**Step 3: Develop Alternative Solutions and Evaluate Possible Benefits**




**Step 4: Select the Best Solution and Try It Out**

**Step 5: Evaluate the Outcome; Savor Successes**

**Action Plan**

**Target**: I want to maintain/improve/decrease:

**Goal:**

| Steps | Action Steps | By (Date) |
|---|---|---|
| 1. | | |
| 2. | | |
| 3. | | |
| Additional Steps | | |

**Sticking to My Plan**

How will I keep myself accountable to this plan?

With whom can I share my progress? How and when?

**Anticipating Bumps in the Road**

| Potential Barriers | Solutions |
|---|---|
| | |

I, _____, plan to carry out the planned steps and activities I worked on today with my ACE Program Coach, _____.

I (would *or* would not) like to receive a reminder copy of the action plan(s) I created today, in ____ week(s).

I (would *or* would not) like to meet with the ACE Program Coach again, in ____ week(s).

_____ _____
Signature of Student Date

_____ _____
Signature of ACE Program Coach Date

APPENDIX I: CONSORT DIAGRAM

*CONSORT Diagram for 2017-2018 Evaluation of ACE Program in 15 AP and IB Programs from 14 High Schools in 3 Districts*