Extracurricular Burnout: In Defense of Idle Hands

by

ZACHARY CREW

(Under the Direction of Amy Reschly)

In the face of the increasing amounts of stressors and responsibilities placed on high school students, it is important to examine if a busy schedule is conducive to positive outcomes. The purpose of this study was to examine the effects of student extracurricular participation on levels of student engagement and academic stress. Four hundred sixty students from a suburban high school in the southeastern region of the United States were administered self-report measures to collect data related to these three constructs. Results suggest that the benefits of extracurricular participation may be curvilinear in nature. Implications for practice will be discussed within.

INDEX WORDS: Student Engagement, Extracurricular Activities, Academic Burnout, Curvilinear Regression

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DEDICATION

I would like to dedicate this thesis to my family. They have been an invaluable source of support throughout my education, and I would not be where I am without them. My father has served as a constant inspiration for his perseverance and ability to create positive change. My mother has been an advocate for my education for as long as I've lived, and she is the reason that I even chose to pursue school psychology. My brother has served as a template for the type of person I aspire to be, and I treasure him as one of my closest friends. I'd also like to dedicate this thesis to my fiancée, Candace. She has been my biggest cheerleader throughout my time in graduate school, and she has been unwavering in her support for me over the past three years. I love you all.

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TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER 1

INTRODUCTION

Student participation in extracurricular activities has long been thought to provide a host of benefits, both in terms of academic performance and social-emotional development. There is a considerable amount of research to support this notion; academically, for instance, high levels of participation are linked to lower levels of early dropout a lower likelihood of high school dropout (Mahoney, 1997; Neely & Vaquera, 2017) and higher grades (Fredricks, 2005). In regards to social-emotional adjustment, greater levels of extracurricular involvement have been linked to decreased use of non-alcoholic substances and better social adjustment and positive school identification (Darling, 2005). However, it is important to consider whether extracurricular participation is always good, and if the benefits are linear in nature. Some studies suggest that the benefits are instead curvilinear in nature, wherein higher levels of participation may in fact harm students' academic, social, and emotional wellbeing (Brown et al., 2011; Knifsend-Graham, 2012; Melman et al., 2007). The existence of this "threshold" for positive benefits is commonly referred to as the "Overscheduling Hypothesis".

Defining Extracurricular Activities

The role of extracurricular activities is multi-faceted. Similarly, extracurricular engagement (measured by type of activity or duration of involvement) is linked with outcomes including higher competence, achievement, and perceived value of education (Hughes, Cao, & Kwok, 2016; Im, Hughes, Cao, & Kwok, 2016). Review of the relevant literature reveals that, generally speaking, a majority of studies develop idiosyncratic definitions specific to their purpose rather

than utilize a more universal definition of the construct. For instance, studies prioritizing the role of school-based clubs and activities on student outcomes may define an extracurricular activity as "a non-mandatory activity organized by the school outside of class periods" (Denault & Guay, 2017, p. 97). Other studies, seeking to utilize a more generalized definition, may choose to incorporate non-school activities into their definition.

Even in instances where studies agree on an overarching principle (e.g., two studies define an extracurricular activity as taking place within a school setting), there can still be a considerable amount of variability between definitions. This is often due to discrepancies in scope, and typically revolves around the inclusion or exclusion of certain "genres" of activities from data collection procedures. For example, some conceptualizations of an extracurricular activity may focus solely on student participation in select groups (e.g., dance and cheerleading; Barnett, 2007), whereas other studies may choose to also account for membership in more artistically oriented clubs (e.g., marching band, theater, choir). Some definitions of extracurricular activity expand even further, accounting for student participation in academically adjacent groups (e.g., debate team, Model United Nations). Although these differences may seem fairly minute in nature, they can significantly influence the results. Given this, the lack of a readily available definition for an extracurricular activity warrants caution. With studies utilizing such disparate definitions, it makes it more difficult for scholars to confidently integrate and compare results across studies.

To be clear, this issue is not limited to aspects of educational psychology. A literature review intended to clarify the definitional meaning of "extracurricular activity" (Bartkus et al., 2012) was unable to do so in any meaningful fashion. Researchers found a significant amount of variability between different studies' operationalizations of the term; where one study defined

the construct as “school-sponsored extracurricular activities,” another would define it as “dance and cheerleading.” Beyond this single comparison, the researchers provided the operational definitions of the term among 17 different studies; each study utilized its own, unique definition. Additionally, researchers found it difficult to parse out unifying themes of what constitutes an extracurricular activity when comparing these studies. Even after expanding the amount of literature to analyze, “The results revealed no clear definition. Instead, the meaning of extracurricular was typically assumed to be intuitive and/or explained through the use of descriptors” (Bartkus et al., 2012, p. 695). Although the researchers proposed their own definition, it is primarily relevant to students enrolled in post-secondary schools, and would be minimally useful for research targeting K12 students.

Given the relative lack of clarity related to the term, it is vital that this study explicitly defines its operationalization of the construct. Within the context of the current study, the term “extracurricular activities” refers to two categories of structured, non-curricular groups for adolescents. The first category previously referenced the Denault and Guay (2017, pp. 97) definition, “a non-mandatory activity organized by the school outside of class periods” and encompasses a wide range of non-curricular school activities. The second category extends beyond the school context to include community-based activities that are roughly analogous to their school-based counterparts (e.g., community theater vs. drama club).

The Overscheduling Hypothesis

Extracurricular participation can be an important factor in adolescent development, particularly in terms of academic achievement (Feldman & Matjasko, 2005; Fredricks & Eccles, 2005). However, it is vital to consider whether all forms of participation are inherently positive. Outside of school hours, students have a limited amount of time available to them in which they

must juggle homework, employment, and extracurricular participation. It follows, then, that students overextending themselves with extracurriculars may be inadvertently harming their wellbeing. There is evidence to suggest that the benefits of extracurricular participation are curvilinear in nature, with high levels of participation being associated with less positive – and in some cases negative – outcomes. This is referred to as the "Overscheduling Hypothesis" (Feldman & Matjasko, 2005; Fredricks, 2012).

The detrimental effects from this overscheduling can vary depending on personal and environmental factors; mild overscheduling can prompt students to feel a desire for more free time (Brown et al., 2011), whereas more significantly-burdened students may display an increase in anxiety symptomatology (Melman, 2007). The impact of overscheduling is not inherently limited to a personal or emotional domain, however; overscheduled students may also experience negative effects on their academic performance (Cooper et al., 1999). Beyond these explicitly negative outcomes, some researchers have argued that the purported benefits of extracurricular participation are not as straightforward as earlier studies would suggest (Fredricks & Eccles, 2010; Fredricks, 2012; Marsh & Kleitman, 2002; Randall & Bohnert, 2012). When examining the role of breadth – the range of different extracurricular activities an individual participates in – as it relates to academic outcomes, student participation may well be an example of diminishing returns. Although some participation is indeed related to positive outcomes, the rewards gained from further involvement are likely increasingly marginalized, with highly-involved students demonstrating poorer academic achievement relative to their less-involved peers (Knifsend-Graham, 2012).

Research with (or on) the Overscheduling Hypothesis is not unanimous in its conclusions, however. A number of studies examining the outcomes of highly-scheduled students found little

evidence to support the hypothesis (Cooper et al., 1999; Farb & Matjasko, 2012; Forneris et al., 2015). For instance, a study conducted by Luthar et al. (2006) found that parental attitudes towards achievement, rather than the number of hours spent in extracurriculars, were a far more powerful predictor of maladjustment. When examining for the effects of overscheduling, Luthar et al. found that participation only explained a small (i.e., 2-10%) of the variance across student adjustment outcomes. Even in instances where curvilinear effects are found, results indicate that the effects of overscheduling still tend to be more positive than the effects of no participation at all (Fredricks, 2012; Mahoney et al., 2006; Mahoney & Vest, 2012; Marsh & Kleitman, 2002). Fredricks' (2012) examination, for example, found that a significant portion of students (21%) reported no involvement in any school-based extracurricular activities. Furthermore, students that exhibited extremely high levels of participation (e.g., more than 14 hours of participation per week) still tended to have better outcomes than children who do not participate at all. Similarly, a 2015 study by Forneris and colleagues found that students that participated in a wide range of different extracurricular activities tended to yield the most positive benefits.

The lack of consensus on the Overscheduling Hypothesis is compounded by the general lack of research dedicated to its exploration. Of the existing literature examining the effects of extracurricular activities on student outcomes, relatively few of these studies examine instances of overscheduling. For example: since 1984, more than 18,000 articles have been published in academic journals that relate to extracurricular activities in some manner. Only a small portion of these (n=146) examine any aspect of extracurricular overscheduling, and an even fewer number look at other aspects of students' functioning beyond academic achievement Findings from current research related to the Overscheduling Hypothesis are certainly important to consider, but this disparity highlights the need for more research overall

Within studies examining the Overscheduling Hypothesis, researchers also tend to employ an analysis plan that only encompasses a portion of student performance. The majority of research tends to exclusively on outcome factors related to academic achievement (e.g., Chambers & Schreiber, 2004; Cooper, 1999; Hunt, 2005). Effects of extracurricular engagement are often analyzed only in relation to factors such as GPA and standardized test scores. Although academic outcomes are undoubtedly important to explore, existing research seems to explore this singular dimension in near-exclusivity (Fredricks, 2012; Hughes et al., 2016). Additionally, even when researchers make attempts to measure for aspects of student well-being, it is often measured primarily in terms of externalizing concerns such as substance use or delinquency, with less measurement focused on more internalizing aspects of wellbeing (Barnes et al., 2007; Darling, 2005; Denault et al., 2009). Given this, the present study has taken steps to explore different outcome variables. Rather than focus on typical aspects of academics (e.g., grades), researchers found it prudent to explore outcome factors more closely related to overall student wellbeing. By focusing on student engagement and burnout, the current study aims to gain an understanding on how extracurricular participation can impact students in two dimensions: positive (i.e., higher levels of student engagement) and negative (i.e., higher levels of school burnout). Results can then be used to create a more complete profile of student outcomes by incorporating its findings along with the results from the more academically-focused results found in existing research. Table 1 provides a brief analysis of current research examining the linkages between extracurricular participation and elements of student wellbeing (e.g., depressive symptoms, anxiety symptomatology).

Examination of extracurricular activities as it relates to students' levels of engagement and burnout is an area of considerable importance, as it allows for researchers to better understand

the effects of extracurricular participation on more subjective aspects of student wellbeing. Student engagement is increasingly viewed as a meta-construct that represents students'

Table 1

Studies Examining Aspects of Student Wellbeing

Study	Sample	Dependent Variables	Independent Variables	Analysis Method	Wellbeing Findings
Brown et al. (2011)	*N* = 882 9-13 year olds	• Desire for More Free Time • Activity-related stress	• Hours of Screen Time • Hours Spent on Homework	• Multivariate Logistic Regression	Children who chose their own activities experienced more activity-related stress than those who shared decisions with parents. Single greatest predictor of activity-related stress was the reported number of hours spent on homework.
Darling (2005)	*N* = 3761 CA high school students	• Substance Use • Depressive Symptoms • Academic Performance and Orientation • Academic aspirations	• Current activity participation • Cumulative participation • # hours/week of participation • Life events stress		Participation did not tend to have significant effects on depressive symptoms. More time spent in activities was associated with more positive attitudes towards school.
Denault & Guay (2017)	*N* = 279 7-10th graders	• Perception of leaders' autonomy support in the ECA • Intrinsic and identified regulations in the ECA context • Intrinsic and identified regulations in the school context	• Participation in extracurricular activities	• Confirmatory factor analysis • Serial Multiple Mediation	The more students perceived autonomy support from their activity leader, the more they reported intrinsic and identified regulations towards their activity. This was also associated with identified regulation within the school context as well.
Forneris et al. (2015)	*N* = 239 9-12 grade	• Developmental asset development • School engagement	• Extracurricular activity participation	• 2x4 between-groups MANCOVA • 2x4 between-groups ANCOVA	Youth view higher levels of participation as opportunity to acquire more external and internal developmental assets. Youth that participated in extracurriculars reported higher levels of school engagement than students that did not participate.

Fredricks & Eccles (2010)	Maryland Adolescent Development in Context Study (MADICS) *N* = 912-1075 (data collected in waves, with varying numbers of participants) 8th grade – 1 year post high school	• Academic adjustment • Family involvement • Alcohol and drug use • Psychological adjustment • Civic engagement	• Organized activity participation	• Multivariate regression	Breadth of participation was negatively related to parents' reports of their children's internalizing and externalizing behaviors in 11th grade. There was no relation between the breadth of activities and youth reports on depression and self-esteem.
Fredricks & Eccles (2006)	MADICS *N* = 912-1075 (data collected in waves, with varying numbers of participants) 8th grade – 1 year post high school	• Academic adjustment • Psychological adjustment • Alcohol and drug use • Civic engagement	• Extracurricular participation	• ANCOVA	Breadth of participation was associated with positive academic, psychological, and behavioral outcomes.
Knifsend (2020)	*N* = 298 University students	• Belonging • Loneliness • Social anxiety	• Activity intensity	• Hierarchical regression	High levels of involvement were associated with the lowest levels of loneliness and anxiety, contrary to the Overscheduling Hypothesis.
Luthar et al. (2006)	New England Study of Suburban Youth (NESSY) *N* = 314 8th graders	• Internalizing symptoms (depression & anxiety) • Delinquency • Substance abuse • School grades • Teacher-rated classroom bx	• Parental criticism • High achievement expectations • Parental emphasis on personal character or achievements • After-school adult supervision • Dinner with parents	• Cross-sectional analysis • MANOVA	Little evidence for negative effects of high levels of participation. Academic hours related to high problems in all self-reported domains. Civic hours related to less internalizing symptoms.

			• Hours spent in sports, art-theater, academic, and civic activities • Reasons for participation		
Mahoney et al. (2006)	Child Development Supplement of the Panel Study for Income Dynamics (PSID) *N* = 2125 15-18 year olds	• Global self-esteem • Emotional well-being • Alcohol use • Cigarette use • Eat melas with parents • Parent-adolescent discussions	• Organized activity participation	• Cross-sectional analysis	Participation is positively associated with a variety of indicators of positive development. As the amount of participation increases, the benefits increase up to a point and then level off at high levels of participation. Limited empirical support for the Overscheduling Hypothesis.
Mahoney & Vest (2012)	PSID *N* = 1115	• Smoking • Alcohol use • Antisocial behaviors • Psychological adjustment • Civic engagement • Educational attainment	• Organized activity participation	• Linear regression	Intensity was unrelated to indicators of problematic adjustment (e.g., psychological distress, substance use, and antisocial behavior).
Melman et al. (2007)	Family and Adolescent Study *N* = 600 8-11th graders	• Anxiety • Depression • Somatization	• Hours per week in structured activity outside of school • Total number of structured activities outside of school	• Longitudinal analysis • Linear multiple regression • Correlational analysis	Higher levels of participation were associated with higher self-reported levels of anxiety.
Randall & Bohnert (2012)	*N* = 150 9th-10th graders	• Loneliness • Depressive symptoms • Perceived social competence	• Organized activity involvement	• Stepwise multiple regression	Activity involvement was associated with lower levels of loneliness and depressive symptoms. Activity involvement benefits level off at approximately 5-7 hours per week, with diminishing returns for adolescents participating in more than 10 hours per week.

thoughts, feelings, and behavior at school; it is thought to offer a way to look into the complexity of their school experiences (Fredricks et al., 2004). Additionally, student engagement has been associated with proximal and distal outcomes of interest (Reschly & Christenson, 2012, 2022).

Student Engagement

Student engagement is the investment and effort that students expend on school and school-related activities (Reschly & Christenson, 2012). Typically, this overarching definition of student engagement is segmented into three domains: cognitive engagement, affective engagement, and behavioral engagement (Fredricks, Blumenfeld, & Paris, 2004; Fredricks, Reschly & Christenson, 2019). *Cognitive* engagement is typically conceptualized as an individual's psychological investment in learning. Related to this is the extent to which an individual is willing to go beyond set requirements and preference for challenge (Connell & Wellborn, 1991; Newmann et al., 1992). *Affective* engagement – sometimes referred to as *emotional* engagement – is generally intended to represent a student's emotional reactions to learning and school. Although emotional reactions can certainly encompass a wide range of thoughts and feelings, hallmarks of high *affective* engagement are high levels of interest in schoolwork and academic material, as well as a positive regard for school attendance and school personnel. Additionally, *affective* engagement is often operationalized in terms of students' perceptions of belonging within the school environment, as well as through the quality of relationships they have with teachers and peers. *Behavioral* engagement, relative to the other two domains, lacks an overarching, singular definition. An earlier examination of definitions for student engagement, conducted by Fredricks, Blumenfeld, and Paris, described three different definitions. The first definition measures behavioral engagement by examining positive student

conduct (e.g., following the rules, adhering to classroom norms) against the presence of negative conduct (e.g. skipping school). The second definition is more focused on student participation in academic tasks and classroom discussion; under this conceptualization, a student with high behavioral engagement would show high levels of effort, concentration, and contribution in their classroom. The third definition defines behavioral engagement through a wider lens; in addition to examining student participation in academic work, this latter definition also examines student participation in non-academic, school-related activities (e.g., athletics, school governance). More recent definitions of behavioral engagement define it through the observable behaviors required in the learning process such as attentiveness, preparedness, attendance, and assignment completion (Appleton et al., 2008; Lovelace et al, 2014).

Historically, while there is a general agreement that student engagement is a multidimensional construct, there has been some debate on whether to conceptualize student engagement as a two-factor, three-factor, or four-factor model (Appleton et al, 2008; Reschly & Christenson, 2012). Earlier studies of student engagement, for instance, typically operated off of Finn's 1989 Participation-Identification model. This two-factor model was comprised of only behavioral and affective engagement, and did not emphasize the role of cognitive engagement. Three-factor models typically share similar notions of behavioral and affective engagement, but incorporate the additional domain of cognitive engagement. One four-factor model of student engagement, such as that proposed by Appleton and colleagues (Appleton, Christenson, Kim, & Reschly, 2006) incorporates an additional domain of academic engagement. Under such a model, behavioral engagement remains relatively static; it is still defined by readily observable student behaviors, such as attendance, class participation, and instances of delinquency. Academic engagement, while sharing a similar focus on observable factors, is more focused on elements

directly related to schoolwork. Researchers utilizing a four-factor model of engagement may determine a student's academic engagement by examining time on task, grades, and assignment completion, for example. This additional divide between behavioral and academic engagement is typically done to better align school-based interventions with engagement subtypes (Appleton et al., 2006).

Other four-factor models choose to incorporate the concept of *agentic* engagement as opposed to academic engagement. This domain represents "students' constructive contribution into the flow of the instruction they receive" (Reeve &Tseng, 2011). Although similar to the concept of academic engagement, agentic engagement is more focused on active, outward expressions of a student's investment in learning. Markers of agentic engagement include offering input, asking a question, and soliciting additional learning opportunities (Reeve & Tseng, 2011).

The current study's theoretical framework utilizes a three-factor conceptualization of student engagement, in which overall engagement can be divided into the domains of cognitive, affective, and behavioral engagement.

Academic Burnout

Burnout, and the research associated with the construct, has often been conceptualized through a work-oriented lens. Within the workplace, burnout is typically seen as a psychological syndrome that emerges as a prolonged response to chronic interpersonal stressors related to aspects of one's occupation (Salmela-Aro, 2008; Maslach & Leiter, 2016). Within this overarching framework, burnout is typically examined through three dimensions: overwhelming exhaustion, feelings of cynicism and detachment from the job, and a sense of ineffectiveness and lack of accomplishment (Maslach & Leiter, 2016; Salmela-Aro & Upadyaya, 2020). Although

there is a considerable amount of literature examining the impact of workplace burnout on employee outcomes, the study of burnout as it relates to academic attainment is a relatively new focus. Extensions of this construct into academics have typically focused on college-aged students, though there have been attempts to measure the effects of academic burnout on high school students; theoretical frameworks for these academically-oriented studies draw significantly from existing burnout research and typically liken students to employees, and schools to places of work (Salmela-Aro & Tynkkynen, 2012).

The construct of academic burnout is typically very similar to workplace burnout. Popular definitions, such as that proposed by Salmela-Aro, are virtually identical to Maslach and Leiter's conceptualization, albeit with an academic focus. Similarities between definitions are most evident when examining the three dimensions associated with academic burnout. Exhaustion is still a key component of burnout, though it is now examined as a result of school-related work. Cynicism is also examined, though the target of an individual's cynicism has shifted from the workplace to the school. Finally, feelings of inadequacy towards school-related accomplishments mirror the work-oriented examination of feelings of ineffectiveness within the workplace (Salmela-Aro et al., 2008). Academic burnout can have significant ramifications for students, both in terms of academic development and developmental outcomes. Academically, high levels of burnout are linked to higher likelihood of dropout (Bask & Salmela-Aro, 2013), as well as lower levels of academic performance (May, Bauer, & Fincham, 2015).

Within the scope of the current study, it is important to understand the effects of extracurricular participation on student academic burnout. Research suggests student engagement and burnout are separate in their presentation. Similar to the dual-factor model of mental health (Smith et al., 2020; Suldo et al., 2008;) wherein a student may be low or high in ill-being and

well-being, students may simultaneously be low or high in engagement and burnout (Kljajic et al., 2017; Salmela-Aro & Upadyaya, 2020). Recent research has operationalized three different student profiles – engaged, stressed, and burned out – that each correspond to different levels of engagement and burnout. Each of the three profiles have been shown to be differentially associated with student outcomes. For instance, students identified as "engaged" tended to have higher levels of social engagement and higher feelings of belonging to the school environment relative to the other two groups. Students within the "stressed" group were characterized by particularly high feelings of inadequacy, and students identified as "burned out" reported higher levels of loneliness compared to the other two groups (Salmela-Aro & Upadyaya, 2020). These differential engagement and burnout profiles remain relatively consistent even in the face of significant life events, such as the COVID-19 pandemic (Salmela-Aro et al., 2021). Given that burnout is independently associated with student academic and emotional outcomes, it may be insufficient to only examine the effects of burnout as they relate to engagement.

CHAPTER 2

CURRENT STUDY

The purpose of the current study is to investigate the relationship between extracurricular activity involvement as it relates to both student engagement and academic burnout. Results are examined in terms of both intensity of student participation and breadth of student participation in order to understand if there are differential outcomes between the two. Prior research has determined a strong positive relationship between student engagement and academic outcomes. Prior research also suggests a negative relationship between academic burnout and academic outcomes. Specifically, this study explored the following questions:

1) Extracurricular participation and student engagement:
    a) Is there a relationship between the number of hours a student participates in extracurricular activities and their level of student engagement? If so, is the relationship curvilinear?
    b) Is there a relationship between the number of different extracurricular activities a student participates in and their level of student engagement? If so, is the relationship curvilinear?
2) Extracurricular participation and academic burnout:
    a) Is there a relationship between the number of hours a student participates in extracurricular activities and their level of academic burnout? If so, is the relationship curvilinear?

b) Is there a relationship between the number of hours a student participates in extracurricular activities and their level of academic burnout? If so, is the relationship curvilinear?

3) If the effects of extracurricular participation are curvilinear, can the "threshold" for positive effects be identified on a curve? Relatedly, are the thresholds for student engagement and academic burnout the same, or do they occur at different points?

Method

Participants

Data from this study were drawn from survey data collected from a suburban high school in the Southeastern United States during the spring semester of the 2019-2020 school year. Data collection began just before the COVID-19 pandemic and was halted abruptly, resulting in an attenuated sample from the school. Participants consisted of high school students ranging from grades 9-12.

Demographic data were collected directly from the school. After removing students with missing or partial data *(N* = 716), the total sample size of data collection consisted of 460 students. In the sample, 46% of students were male and 54% were female; 66.7% of students sampled identified as Black; 13.7% identified as White, 5.4% identified as Hispanic, and 3.3% identified as Asian. Approximately 11% of those sampled identified as Multiracial. One respondent (.2%) identified as an Indigenous American. Compared to the demographics of the high school, Black and Multiracial students were oversampled, with the proportions of Black and Multiracial students within the sample being significantly larger than that of the school average (See Table 1) White students were under-sampled relative to the school average. Among participants, 7% (*N* = 32) were eligible for special education services; 12.8% (*N* = 59) were

receiving accommodations via a 504 Plan; 32.8% (*N* = 151) of students within the sample group were enrolled in IB courses. See Table 2 for a comprehensive presentation of study and school demographics. School-wide demographics data were drawn from the Georgia Governor's Office of Student Achievement (GOSA) for the 2019-2020 school year.

Section 504 Plans are formalized plans that schools construct in order to provide extra support for students with disabilities. These plans are related to Section 504 of the Rehabilitation Act of 1973, and are not considered to be within the domain of special education services; students with these plans are not inherently eligible for provision of special education services under the Individuals with Disabilities Education Act (IDEA). Therefore, it was important to collect relevant 504 data to ensure that the study was not improperly combining classifications.

The International Baccalaureate (IB) Program is an academic program that allows students to engage in more demanding coursework. Relative to the general programming for public schools, IB courses are typically regarded as more difficult and time-intensive. At the high school level, students can engage in two forms of the program. For grades 9 and 10, students are eligible for participation in the IB Middle Years Programme. For grades 11 and 12, students are eligible for participation in the IB Diploma Programme. The programs differ slightly from one another in terms of academic focus and core content, but are otherwise similar in regard to general academic rigor (*About the IB*, n.d.).

Table 2

Sample Demographics Compared to School Demographics

Baseline characteristic	Sample Demographics		District Demographics	
	N	*%*	*N*	*%*
Gender				
Female	247	54	747	48
Male	213	46	810	52

Grade Level				
Ninth	172	37.4	455	29
Tenth	188	40.9	418	27
Eleventh	90	19.6	357	23
Twelfth	10	2.2	317	20
Race/Ethnicity				
White	63	13.7	934	60
Black	307	66.7	389	25
Hispanic	25	5.4	93	6
Asian/Pacific Islander	15	3.3	62	4
Indigenous	1	.2	--*	0
Multiracial	49	10.7	93	6
504 Eligibility				
Eligible	59	12.8	n/a	n/a
Ineligible	401	87.2	n/a	n/a
SPED Eligibility				
Eligible	32	7	146	9.4
Ineligible	428	93	1411	90.6
IB Enrollment				
Eligible	151	32.8	n/a	n/a
Ineligible	309	67.2	n/a	n/a

***** GOSA does not report demographics data on groups consisting of 10 or less students.

Measures

Student Engagement Instrument

The Student Engagement Instrument (SEI) is a 35-item self-report measure of student engagement. More specifically, this instrument was developed to gain insight into students' cognitive and affective engagement. The instrument contains six total subscales across the two dimensions of cognitive and affective engagement. Affective engagement scores are determined by measuring for Teacher-Student Relationships, Peer Support for Learning, and Family Support for Learning. Cognitive engagement is represented by the subscales for Control and Relevance of Schoolwork, Future Aspiration and Goals, and Intrinsic Motivation. SEI survey item response

choices are based upon a 5-point Likert-like scale (i.e., “1” indicates “strongly disagree”, “2” indicates “disagree”, “3” indicates “undecided”, “4” indicates “agree”, and “5” indicates “strongly agree”). Students are asked to rank their level of agreement to different statements about school (e.g., “I enjoy talking to the teachers here.”; “What I’m learning in my classes will be important in my future.”). The SEI was originally validated on ninth-grade students (N=1,931) in a diverse, urban school district in the upper Midwest (Appleton et al., 2006). Later validation studies utilized a more diverse sample of grades, ranging from grades 6-12 (Betts et al., 2010; Lovelace et al., 2014).

In regards to the SEI, the reliability of each of the six factors – Teacher-Student Relationships (0.88), Control and Relevance of School Work (0.80), Peer Support for Learning (0.82), Future Aspirations and Goals (0.78), Family Support for Learning (0.76), and Extrinsic Motivation (0.72) – all fell within the acceptable range (Appleton et al, 2006). Betts et al. (2010) also found similar levels of internal consistency for the six-factor model of the SEI (α = 0.70 – 0.80). Additionally, alphas within the present study reflected a similar level of reliability: internal consistency for each of the six factors was well within the acceptable range (α = 0.77 – 0.89). CFA was used to examine the validity of various models of the SEI (e.g., four-factor, five-factor, six-factor). Analysis determined that the six-factor model – the form used in the present study – to be the best model (Appleton et al., 2006). The pilot study recognized several areas of statistical support; items within each factor of the SEI were found to have little cross-loading, suggesting that each factor was able to measure a distinct aspect of cognitive or psychological engagement. Relatedly, researchers determined that each of the six factors was able to adequately measure an aspect of cognitive or psychological engagement without sharing significant overlap with other factors. Finally, SEI factors were found to be positively associated

with various academic indicators (e.g., GPA, reading and math scores), and negatively associated with behavioral factors such as school suspension (Appleton et al., 2006). Additionally, a later study found evidence of predictive validity; SEI self-ratings in ninth grade consistently predicted dropout and on-time graduation, even when controlling for demographic characteristics (Lovelace et al., 2014).

School Burnout Inventory

The School Burnout Inventory (SBI) is a 9-item self-report measure of student academic burnout (Salmela-Aro et al., 2009). More specifically, the instrument is designed to measure three first-order factors of academic burnout: Exhaustion at School, Cynicism Toward the Meaning of School, and Sense of Inadequacy at School. Summed scores from each of the three domains are then used to composite an overall School Burnout score. Within the scales, higher scores indicate higher levels of burnout. SBI survey items response choices are based upon a 6-point Likert-type scale ranging from 1 (“completely disagree”) to 6 (“strongly agree”).

The SBI was originally validated on Finnish adolescents who had recently begun attending post-comprehensive school (N=1418). “Post-comprehensive” included both students attending upper-secondary high schools and students attending vocational schools (i.e., ages 15-19). Gender demographics were evenly split among boys and girls. The median age of participants was 16 years (Salmela-Aro et. al, 2009). However, the instrument has since been validated for usage in multiple countries and across various age groups; these studies have found similar support for the reliability and validity of the instrument (Carmona-Halty et al., 2021; Hoferichter et al., 2022; Walburg et al., 2015).

As it relates to the SBI, the Cronbach’s alpha scores for Exhaustion at School (0.80), Cynicism Toward the Meaning of School (0.80), and Sense of Inadequacy at School (0.67) all

fell within the acceptable range, as did the Cronbach's alpha for the SBI Total Score (0.88) (Salmela-Aro et al., 2009). Within the present study, alpha scores fell within acceptable ranges for each of the three dimensions (i.e., 0.79, 0.83, and 0.6, respectively). Researchers found evidence of concurrent validity that the SBI was significantly related to other related constructs (e.g., depressive symptoms, academic achievement, school engagement). Analysis found that depressive symptoms were associated with each of the three aspects of school burnout as constructed in the SBI. In regards to depressive symptoms, for example, the more depressive symptoms an individual reported, the higher their level of school burnout (Salmela-Aro et al., 2009). In regards to the relatively lower reliability of the Sense of Inadequacy at School scale, it should be noted that the scale itself consists of only two items; reliability tends to be lower in scales with fewer items. However, the alpha score for the scale is still well within the acceptable limit for the present study.

Extracurricular Activities

Researchers designed a customized questionnaire for the purposes of the study at hand. Three questions were intended to gather data related to student extracurricular participation. One item was intended to discern student involvement in school-sponsored extracurriculars; students were provided a list of extracurriculars and asked to indicate the total number that they either intended to engage in or were currently engaging in. Option choices encompassed a wide range of possible school activities, including sports teams (varsity or intramural), arts-oriented groups (e.g., band, drama, dance, etc.), and academically-adjacent groups (e.g., foreign language club, student council, etc.). Another item was designed to gather data related to student participation in activities that, while not school sponsored, were nonetheless similar in nature. Choices for this item encompassed a similar number of extracurricular domains (i.e., sports, arts). These two

items were used to gain insight into the breadth of student participation in extracurricular activities. The third item asked students to estimate the total amount of time that they spent participating in extracurriculars (e.g., asking students "During a typical ***weekday*** during the school year how many hours do you spend participating in extracurricular activities (school and outside activities together; e.g., sports teams, clubs, band, student government), and was intended to serve as a measure of the intensity of student participation in extracurriculars. Students were given 7 total options to choose from, with each option representing a separate estimation of time (e.g., 0 = "No Time"; 1 = "Less than ½ hour"; 2 = "1/2 to 1 hour"; 3 = "1 to 2 hours"; 4 = "2 to 3 hours"; 5 = "4 to 5 hours"; 6 = "6 or more"). All extracurricular activities measured in this study are listed in Table 2.

Table 3

Description of Extracurricular Activities

Extracurricular Activity Category	Extracurricular Activity
Sports	School Varsity Sports
	Intramural sports
	Organized sports supervised by an adult
Arts	Band or Orchestra
	Chorus or Choir
	Drama Club
	Art, Theater, or Drama
	Dance
Academic Clubs	Academic Honors Society
	Vocational Education Club
	College Preparation Camp
	Math Club
	Science Club
	History Club
	Foreign Language Club
	Other Subject Matter Club
	Science Fairs

Spirit	Cheerleading Student Newspaper Student Yearbook Student Council
Other	Computer Club Debate or Speech Team Religious Organization Scouting

Procedures

Data were collected by the school district via secure online surveys as part of an ongoing school improvement and evaluation project. Only the de-identified data were shared with researchers for the purpose of this study. Due to the sudden onset of the COVID-19 pandemic, significant amounts of student data were unable to be completed in their entirety. Due to the logistical challenges associated with completing missing sets of data, researchers opted to exclude responses with missing variables and instead focus on fully-completed questionnaire data.

Data Analysis

Polynomial Regression was used to determine the relationship between extracurricular participation and student engagement. Polynomial regressions investigated the first, second, and third research questions. While linear regression allows for testing an increasing and decreasing linear relationship, polynomial regression allows for a test of a curved model. Given the hypothesized curvilinear nature of the relationships between extracurricular participation with both student engagement and academic burnout, researchers believed polynomial regression to

be more appropriate. Overall, four polynomial regressions were conducted; the following quadratic formula examined the nature of the curved relationships:

$$y_i = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{1i}^2 + \epsilon_i$$

In this formula, y_i is the dependent variable. β_0 is the "constant" or the intercept. It is also the number when *x* equals zero. β_1 is the average effect of an increase of one unit of *x* on the dependent variable. X_{1i} is the value of the independent variable. ϵ_i is the error term, or the variability in the dependent variable for individual values of the independent variable. $\beta_2 x_{1i}^2$ is the measure of a curve in the equation. Notice that β_2 is the average effect of the independent variable on the dependent variable. The curvature exists with x_{1i}^2 which is the independent variable squared. If β_2 is significant, then a curvilinear relationship does exist. If β_2 is not significant, then the curvilinear relationship may not exist. If β_2 is significant, then we look at the direction of the curve. If β_2 is positive, the curve is convex (U-shaped). If β_2 is negative, the curve is concave (an upside-down U).

In two of the four polynomial regressions conducted, student engagement served as the dependent variable (y_i). In one regression, engagement was regressed onto the total amount of time students participated in extracurricular activities ($\beta_1 x_{1i}$). In the second, engagement was regressed onto the total number of extracurricular activities students participated in. For the remaining two regressions, academic burnout served as the dependent variable, but the equations were otherwise unchanged.

Student engagement, as represented by the total score on the SEI, was regressed onto the total amount of time students participated in extracurricular activity. Student engagement was also regressed onto the total number of extracurricular activities in which students participated.

In order to examine the effects of participation of academic burnout, researchers used polynomial regression in a similar manner. Academic burnout, as represented by the total score on the SBI, was regressed onto the total amount of time students participated in extracurricular activities. Burnout was also regressed onto the total number of activities in which students participated.

Results

Descriptives

The means and standard deviations for each measure by grade level may be found in Table 4. The average number of activities was 3.09 for 9th grade, 3.53 for 10th grade, 4.48 for 11th grade, and 5.9 for 12th grade. Generally speaking, participation tended to increase as students progressed through school, though it should be noted that 12th grade results were gathered from a small number of students (N = 10). Given this, trends may not be completely generalizable to the average high school student, at least as they progress to their senior year. SEI domains score trends tended to vary; for example, while students' ratings of the Control and Relevance of Schoolwork tended to decrease as the progressed through school, their Intrinsic Motivation showed a consistent increase. In contrast, SBI domain scores showed a relatively uniform trend. As students progressed through school, they demonstrated higher levels of exhaustion, cynicism, and feelings of inadequacy.

Polynomial Regression

Two histograms were created to examine both the breadth of student extracurricular participation – represented by the total number of activities students indicated involvement in – and the intensity of this participation – represented by the total number of hours per week that student reported spending in extracurriculars. Data are depicted in Figures 1 and 2.

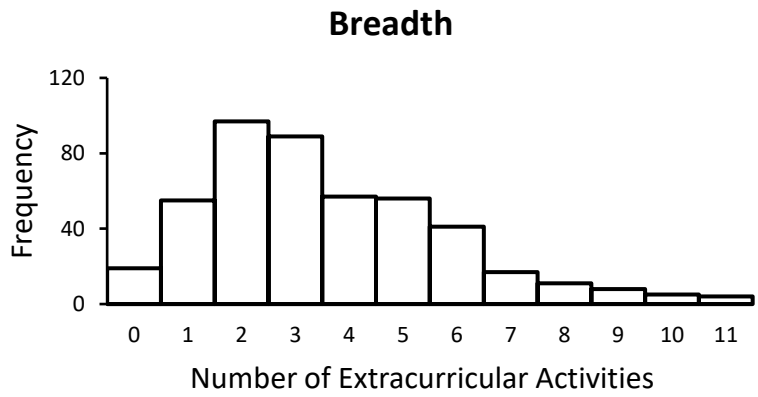

Figure 1. Histogram of Extracurricular Breadth

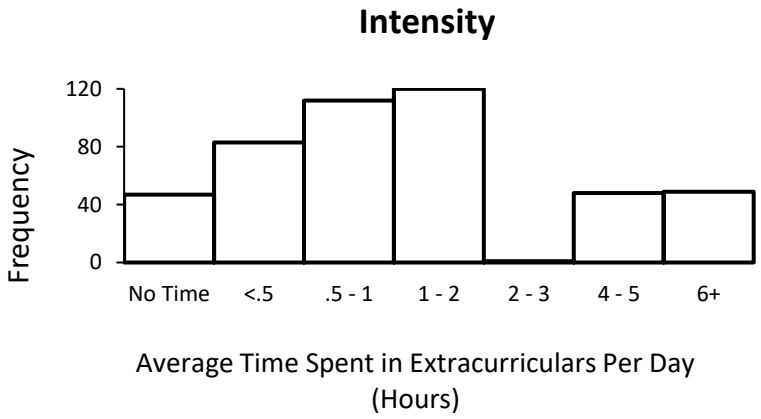

Figure 2. Histogram of Extracurricular Intensity

Four different polynomial regression models were created to examine the effects of extracurricular participation on student engagement and academic burnout. Rather than examine the role of extracurricular participation as a singular construct, researchers opted to differentiate between the total number of hours students engaged in extracurricular activities and the total amount of extracurricular activities in which students participated. This was done to better understand the roles of breadth and intensity and it relates to student engagement and academic burnout.

Within these models, the construct of student engagement was represented by the SEI Total score. Academic burnout was represented by the sum of means of each of the three SBI variables. The intensity of student participation was represented by self-report data gathered from the customized questionnaire. The breadth of student participation was represented by the total number of activities students indicated participation in on the custom questionnaire.

Within the first model, student engagement was regressed onto the total amount of time that students participated in extracurricular activities. This model was intended to examine the relationship between the intensity of a student's participation and their ratings of their own level of engagement. Ultimately, this regression revealed a significant polynomial relationship between the two factors. For students who participated in less than one hour of extracurricular activities per weekday, their average SEI Total score was 3.62 (β_0). Scores increased by 0.14 (β_1) points for each additional hour of participation. However, the polynomial relationship was -0.02 (β_2), indicating that the relationship between the total intensity of participation and student engagement was concave. All of the estimates were significant ($p < 0.01$).

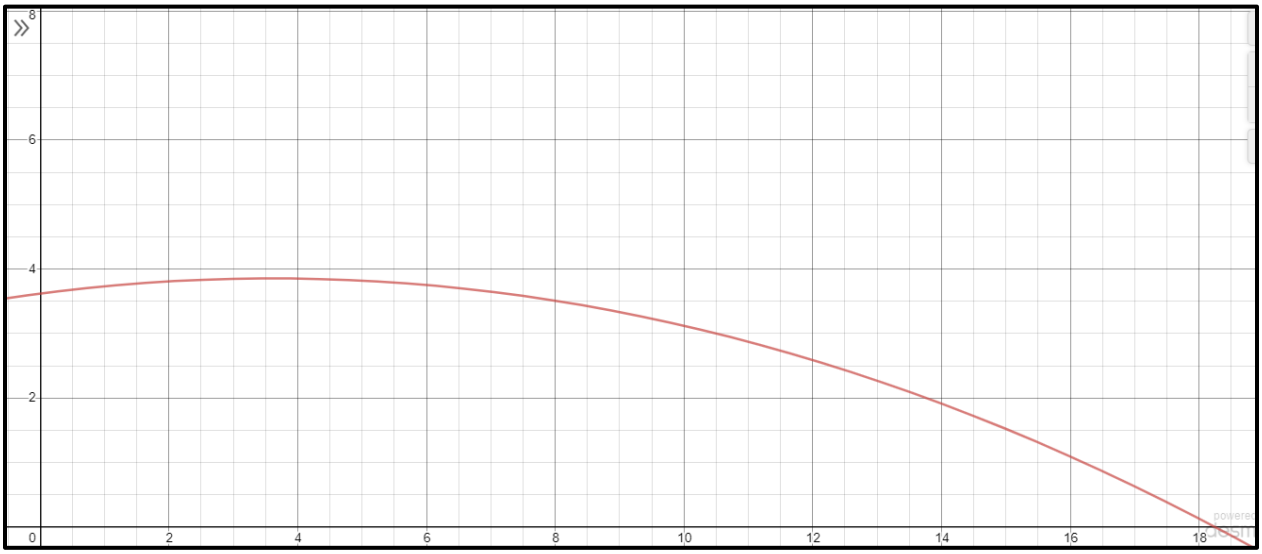

Figure 3. Intensity and Student Engagement.

Figure 3 graphs the relationship between intensity of participation and student engagement. Based on these data, the threshold at which student engagement begins to decline was past 4 hours of participation per week. More intense participation demonstrates diminishing returns, with students reporting 8 hours of participation per week demonstrating similar levels of engagement to students that do not participate in extracurriculars. Students engaging in more than 8 hours of extracurricular participation per week show increasingly negative appraisals of their engagement.

Within the second model, student engagement was regressed onto the total number of activities that students participated in. This was done to examine the role of breadth of participation specifically. Regression did not discover a significant relationship between the two factors. For students who did not participate in any extracurricular activities, their average SEI Total score was 3.68. For each additional extracurricular students participated in, scores increased by .09 points. The figure does not demonstrate any form of curvature. Figure 4 graphs the relationship between breadth and student engagement.

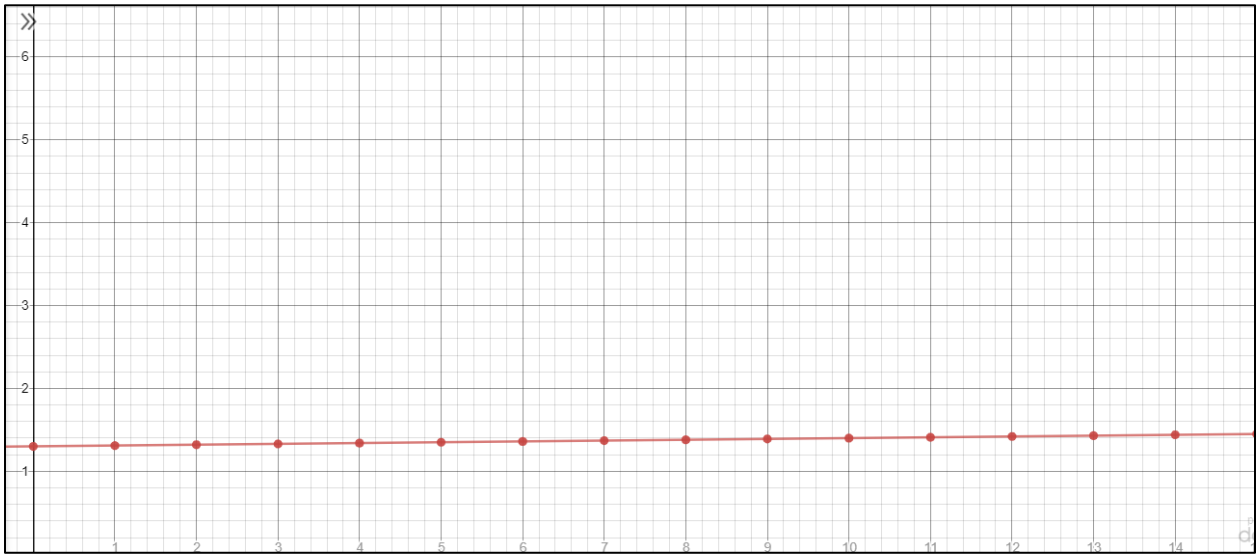

Figure 4. Breadth and Student Engagement.

To examine the relationship between intensity of participation and student burnout, academic burnout was regressed onto the total amount of time that students participated in extracurricular activities. Regression did not discover a significant relationship between the two factors. For students who participated in less than one hour of extracurricular activities per weekday, their average SBI Total score was 3.92 (β_0). Scores changed by -0.18 (β_1) points for each additional hour of participation. However, the polynomial relationship was 0.03 (β_2), indicating that the relationship between the total intensity of participation and academic burnout was convex.

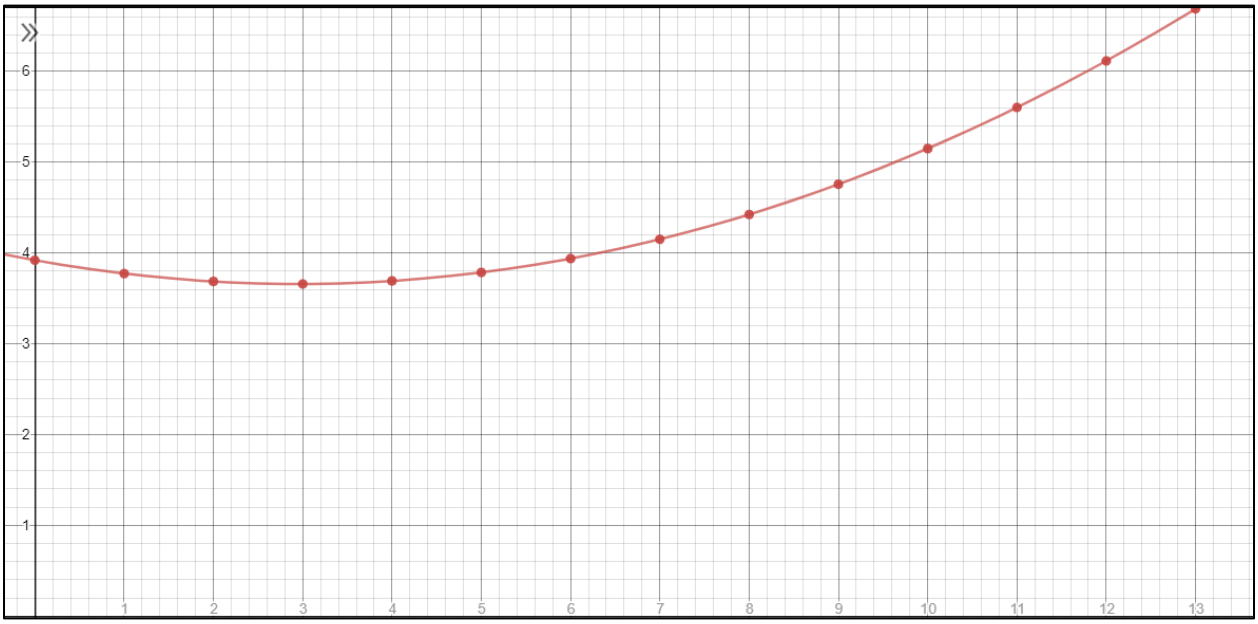

Figure 5. Intensity and Academic Burnout.

Figure 5 graphs the relationship between intensity and academic burnout. Based on these data, the threshold at which academic burnout begins to increase was past roughly 3 hours of participation per week. Similar to the relationship between student engagement, perceptions of academic burnout showcase diminishing returns up to roughly 6 hours of participation per week. Students participating in 6 hours of extracurriculars per week report similar levels of burnout to

students who do not engage in extracurricular activities. Students that report higher levels of involvement demonstrate increasing levels of academic burnout.

To examine the effects of breadth of participation on student perceptions of burnout, academic burnout was regressed onto the total number of activities that students participated in. Regression did not discover a significant relationship between the two factors. Figure 6 graphs the relationship between breadth and academic burnout.

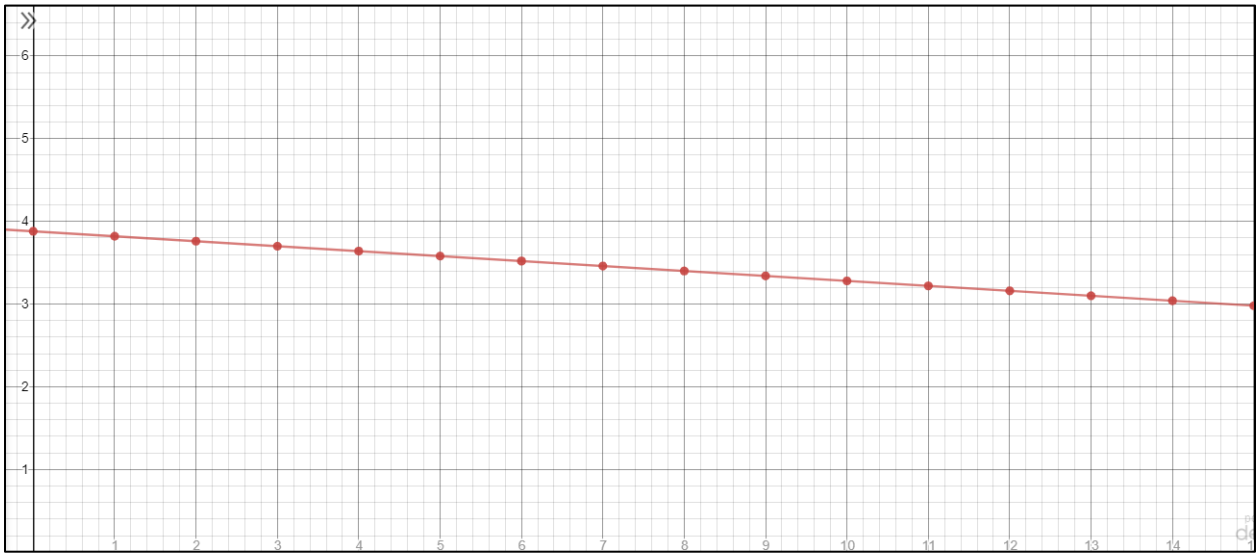

Figure 6. Breadth and Academic Burnout.

Table 4

Descriptive Statistics

Variable and Grade	*M*	*SD*
Number of School Activities		
9th	1.42	1.19
10th	1.81	1.52
11th	2.38	1.9
12th	3.30	1.83
Number of Outside School Activities		
9th Grade	1.67	1.3
10th Grade	1.72	1.23
11th Grade	2.1	1.5
12th Grade	2.6	1.9

Hours Spent in Extracurriculars per Weekday		
9th Grade	2.58	1.77
10th Grade	2.67	1.83
11th Grade	2.59	1.66
12th Grade	2.90	1.79
SEI Dimensions		
Teacher Support For Learning		
9th Grade	3.6	.59
10th Grade	3.59	.67
11th Grade	3.52	.67
12th Grade	3.59	.64
Peer Support for Learning		
9th Grade	4	.53
10th Grade	4.02	.56
11th Grade	3.88	.65
12th Grade	4	.58
Family Support for Learning		
9th Grade	4.36	.54
10th Grade	4.39	.56
11th Grade	4.29	.51
12th Grade	3.93	.55
Control and Relevance of Schoolwork		
9th Grade	3.46	.67
10th Grade	3.36	.72
11th Grade	3.23	.66
12th Grade	3.22	.79
Future Aspiration and Goals		
9th Grade	4.26	.59
10th Grade	4.27	.64
11th Grade	4.15	.60
12th Grade	4.42	.70
Intrinsic Motivation		
9th Grade	3.92	.77
10th Grade	4.04	.73
11th Grade	4.03	.67
12th Grade	4.35	.58
SEI Total Scores		

9th Grade	3.84	.46
10th Grade	3.81	.48
11th Grade	3.72	.47
12th Grade	3.94	.48
SBI Dimensions		
Exhaustion		
9th Grade	3.52	1.01
10th Grade	3.76	1.18
11th Grade	3.81	1.04
12th Grade	4.3	1.06
Cynicism		
9th Grade	3.82	1.13
10th Grade	3.85	1.29
11th Grade	4.06	1.23
12th Grade	4.3	1.13
Inadequacy		
9th Grade	3.54	1.19
10th Grade	3.61	1.28
11th Grade	4.02	1.09
12th Grade	4.8	.95

CHAPTER 3

DISCUSSION

The purpose of this study was to investigate the relationship between extracurricular activity participation, student engagement, and academic burnout. Student engagement is the investment and effort that students expend on school and school-related activities (Reschly & Christenson, 2012). Within this overarching construct, scholars typically identify three domains: cognitive engagement, affective engagement, and behavioral engagement (Fredricks, Blumenfeld, & Paris, 2004).

Academic burnout is conceptualized as a psychological response to school-related stressors, and is typically examined through three domains: chronic exhaustion from school-related work, cynicism towards the meaning of school, and feelings of inadequacy toward school-related accomplishments (Salmela-Aro et al., 2008). High levels of burnout are associated with a host of negative outcomes for students, such as higher likelihood of dropout or lower levels of academic achievement (Bask & Salmela-Aro, 2013; May, Bauer, & Fincham, 2015). In addition to the physiological and emotional ramifications associated with exhaustion and feelings of cynicism and inadequacy, students that demonstrate high levels of burnout tend to perform worse academically and are often at greater risk of dropping out of school (Bask & Salmela-Aro, 2013; May, Bauer, & Fincham, 2015).

Extracurricular participation, within the context of this study, was conceptualized fairly broadly in order to account for the diverse set of activities that today's students can choose to participate in. More specifically, this study chose to gather data on both activities within the

bounds of the school system, as well as related activities that take place outside of school. For activities that take place within the bounds of a school system, extracurricular activities were defined as activities, facilitated by school personnel, that fall outside the realm of the normal curriculum of a school. This definition was used to account as best as possible for the wide variety of activities that students may engage in (e.g., sports, dance, history club, student yearbook). However, steps were also taken to measure for student participation in activities that fall outside the realm of the school. In these instances, extracurriculars were conceptualized as activities not facilitated by school personnel that excluded employment. This second definition was utilized to account for student participation in activities that, while not strictly related to school, nonetheless required a consistent time commitment. Although extracurricular participation is commonly associated with positive student outcomes (Darling, 2005), it is possible that there may be a threshold for these positive benefits; this threshold is represented in the "Overscheduling Hypothesis" (Feldman & Matjasko, 2005).

The "Overscheduling Hypothesis" posits that the benefits of extracurricular participation are curvilinear in nature. Although there are considerable benefits to mild and moderate levels of participation, students that exhibit high levels of participation begin to negatively impact their own wellbeing. This is typically thought to be due to the time commitments associated with these activities; past a certain point, it is very easy for students to struggle to effectively juggle all of their commitments in the limited free time available to them (Brown et al., 2011; Fredricks, 2012; Knifsend-Graham, 2012; Randall & Bohnert, 2012). The current study examined the Overscheduling Hypothesis as it relates to both student engagement and academic burnout; it was anticipated that, past a certain level of participation, students would demonstrate decreasing levels of engagement and increasing levels of burnout.

For this study, students from a suburban high school in the southeast United States were administered a combination of self-report measures designed to collect information on extracurricular participation, and conceptualizations of school engagement and academic burnout. Students were administered two validated measures: the Student Engagement Instrument (SEI) and the School Burnout Inventory (SBI). Students also completed a custom questionnaire designed to collect information on extracurricular participation.

The specific relationship between extracurricular activity participation and student engagement was investigated using polynomial regression. Extracurricular activity was analyzed both in terms of the breadth of a student's participation (i.e., the total number of different activities they participated in) as well as the intensity of a student's participation (i.e., the total time commitment of all activities). Results did not find a significant relationship between the breadth of a student's extracurricular participation and levels of student engagement or academic burnout. There do not appear to be any significantly negative ramifications associated with students participating in a diverse set of activities. However, results did find a concave curvilinear relationship between the intensity of students' participation and their self-reported levels of student engagement. Students within the study showed higher levels of engagement at mild to moderate levels of participation (e.g., up to six hours of participation per week). Past this point, gains to student engagement are minimal, with students exceeding more than eight hours of participation in a week demonstrating decreasing levels of engagement.

The relationship between extracurricular participation and academic burnout was also investigated using polynomial regression. Again, extracurricular participation was bifurcated in terms of intensity and breadth. Results did not find a significant relationship between the breadth

of students' activities and their self-reported levels of burnout. Similarly, intensity of participation was not significantly related to academic burnout.

While breadth is not significantly related to engagement or burnout, results show that the intensity of a student's participation is significantly related to engagement. Overall, results support the Overscheduling Hypothesis; at low to moderate levels of participation, students show higher levels of engagement. However, studying findings differ from other studies in that the threshold for these positive benefits in reached far sooner. Whereas previous studies often cite the presentation of the threshold at roughly 14 hours of participation per week (Fredricks, 2012), the current study finds that threshold tend to appear between 6-8 hours of participation in a week. It is possible that this is due to the current study examining aspects of student wellbeing instead of raw academic achievement. Given that the threshold for curvilinear effects in the current study is considerably lower than in prior research, it may suggest that overscheduling negatively impacts one's affective state, which in turn contribute to later declines in achievement.

Findings from this study may be able to inform school personnel in scheduling practices for students. As it relates to extracurricular activities, students perhaps should be encouraged to diversify their participation while remaining mindful of their overall time commitments. Diversification of activities may provide additional benefits to students by allowing increased opportunities for friendship and skill development. However, this is not to say that students should be encouraged to take part in as many different activities as possible. Participation in any extracurricular tends to have at least some time commitment associated with it, and there will obviously be an upper limit to the total number of groups that a student can reasonably take part in. Engaging in multiple time-intensive activities may lend itself towards more negative outcomes due to the role of participation intensity as it relates to engagement and burnout.

To be clear, students participating in extracurricular activities past the “optimum” levels found in the polynomial regression should not be immediate causes for concern. While results show that participation is a matter of diminishing returns, students engaging demonstrating slightly higher levels of intensity are not immediately subject to negative outcomes. For example, consider the results related to the intensity of a student’s participation. Although regression results indicate that students maximize the benefits to their engagement levels at 4 hours of participation per week, students can effectively double this intensity before it becomes detrimental to their engagement. Therefore, students should not be automatically discouraged from devoting greater amounts of time to extracurriculars; while they may not maximize their gains in terms of engagement, there are a host of other benefits that the student may experience from this increased participation (i.e., fostering of future interest, friendship formation, etc.).

Limitations and Future Directions

The present study has several important limitations. Foremost, data collection procedures were interrupted by the COVID-19 pandemic; while many participants were able to complete their questionnaires, a considerable amount of data was unable to be gathered from students due to the cessation of in-person school attendance during the spring semester of the 2019-2020 school year. Thus, the present data is not as robust as intended and may lack some generalizability.

Beyond the logistical complications of the study, it is important to understand that data collection took place within a school that participates in the International Baccalaureate (IB) Program. The International Baccalaureate Program provides students the opportunity to enroll in more academically-demanding classes during their four years in high school. Students involved in IB-based curriculum may experience higher workloads than students that are enrolled in

standard classes. This increased workload may contribute to IB students demonstrating lower levels of student engagement and higher levels of academic burnout at similar levels of extracurricular participation as compared to non-IB students. Although the present study took steps to account for IB enrollment – finding that roughly 1 in 3 students (N=151; 32.8%) participated in the program – the polynomial regression used within the study did not account for possible differences in curvilinear effects between IB and non-IB students. Additionally, the study did not include items intended to further examine students' enrollment levels. While it is common for students to fully enroll into IB Programs, students who choose not to are still eligible to take individual courses within the IB Program – these students are considered "Course Candidates". The questionnaire items do not differentiate between students that are fully enrolled in the IB Program and those who attend as Course Candidates.

Additionally, the present study's generalizability is limited by the demographics of participants. Relative to public school enrollment data, the study's demographics overrepresent Black (66.7% within-study vs. 25% school-wide) and Multiracial (10.7% vs. 6%) students, while underrepresenting White (13.7% vs. 60%) students. A similar trend in representation appears when comparing study demographics to district-level enrollment data relative to Black, White, and Multiracial students. Relatedly, the present study also has disproportionality in terms of grade-level sampling. The data collected overrepresents both 9^{th} (37.4% vs 29%) and 10^{th} (40.9% vs. 27%) students while significantly underrepresenting 12^{th} (2.2% vs. 20%) grade students.

It is important to note that the measures within the study do not account for student employment status. It is not uncommon for high school students – particularly upperclassmen – to find employment opportunities outside of school hours. Work-related stress – combined with academic and extracurricular stressors – could potentially result in some respondents indicating

high levels of burnout – and low levels of engagement – at relatively low levels of extracurricular participation. This has the potential to skew findings, and may contribute to the early presentation of the threshold for curvilinear effects.

The lack of clarity regarding the operationalization of extracurricular activities presents challenges to the generalizability of results. While the current study provides its own operationalization, it is likely that it differs in the operationalizations of others studies. These differences – whether large or small in nature – make it difficult to accurately compare results between studies. To be clear, this limitation is not unique to the present study; the relative lack of a unifying definition affects research across all domains. Researchers would do well to develop a general consensus of the construct when exploring the effects of extracurricular participation. Future research devoted to adequately defining the term would be of significant benefit to multiple areas of study.

Future studies may also find it worthwhile to differentiate extracurricular participation in terms of "type" (e.g., sports, arts, social, etc.). Understanding the role of different extracurricular groups as it relates to student outcomes can allow researchers to better inform school professionals and students in terms of healthy scheduling practice. Segmentation of extracurricular types could also allow researchers to parse out the influence of a student's breadth of participation on their educational outcomes. For instance, it is possible that students participating in two sports may demonstrate, on average, a different "threshold" (i.e. rate of curvilinearity) from students who demonstrate more diverse participation practices (i.e. membership in one sport group and one performing arts group).

Future studies will benefit significantly from broader data collection measures. Future efforts are unlikely to affected by a similar public health crisis, which will aid research in terms

of adequate representation and access to larger pools of participants. However, it is quite likely that the COVID-19 pandemic will have significant societal and developmental ramifications for today's students. Efforts to collect data from current students will also allow researchers to examine any differences that may exist between pre- and post-pandemic students. It may also be advantageous to attempt data collection across multiple school systems, in order to control for the influence of school affluence on the effects of extracurricular participation. Additionally, it is important to consider the impact that a longitudinal design may have on guiding future research. Students do not exist in a vacuum, and it is vital to understand how their levels of engagement and burnout fluctuate over time, and how those fluctuations may be impacted by their participation in extracurricular activities. Researchers may even choose to examine the effects that participation in terms of career choices or post-secondary attendance and performance.

REFERENCES

About the IB. (n.d.). International Baccalaureate®. Retrieved February 2, 2022, from https://www.ibo.org/about-the-ib/

Appleton, J. J., Christenson, S. L., Kim, D., & Reschly, A. L. (2006). Measuring cognitive and psychological engagement: Validation of the student engagement instrument. *Journal of School Psychology*, *44*(5), 427–445. https://doi.org/10.1016/j.jsp.2006.04.002

Appleton, J. J., Christenson, S. L., & Furlong, M. J. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools*, *45*(5), 369–386. https://doi.org/10.1002/pits.20303

Barnett, L. (2007). "Winners" and "losers": The effects of being allowed or denied entry into competitive extracurricular activities. *Journal of Leisure Research*. 39 316-341.

Bartkus, K. R., Nemelka, B., Nemelka, M., & Gardner, P. (2012). Clarifying the meaning of extracurricular activity: a literature review of definitions. *American Journal of Business Education (AJBE)*, *5*(6), 693–704. https://doi.org/10.19030/ajbe.v5i6.7391

Bask, M., & Salmela-Aro, K. (2013). Burned out to drop out: Exploring the relationship between school burnout and school dropout. *European Journal of Psychology and Education*, 28, pp. 511-528.

Betts, J., Appleton, J.J., Reschly, A.L., Christenson, S.L., & Huebner, E.S. (2010?) "A study of the reliability and construct validity of the Student Engagement Instrument across multiple grades," *School Psychology Quarterly*, *25*, 2010, pp. 84–93.

Chambers, E. A., & Schreiber, J. B. (2004). Girls' academic achievement: Varying associations of extracurricular activities. *Gender and Education, 16,* 327-346.

Christenson, S.L., Reschly, A.L., & Wylie, C. (Eds.). (2012). *Handbook of research on student engagement.* New York, NY: Springer.

Connell, J. P., & Wellborn, J. G. (1991). Competence, autonomy, and relatedness: A motivational analysis of self-system processes. In M. Gunnar & L. A. Sroufe (Eds.), *Minnesota Symposium on Child Psychology* (Vol. 23). Chicago: University of Chicago Press.

Cooper, H., Valentine, J. C., Nye, B., & Lindsay, J. J. (1999). Relationships between five after-school activities and academic achievement. *Journal of Educational Psychology*, *91*(2), 369–378. https://doi.org/10.1037/0022-0663.91.2.369

Darling, N. (2005). Participation in extracurricular activities and adolescent adjustment: Cross-sectional and longitudinal findings. *Journal of Youth and Adolescence, 34(5),* 493-505.

Denault, A. S., Poulin, F., & Pederson, S. (2009). Intensity of participation in organized activities during the adolescent years: Multiple associations with youth outcomes. *Journal of Youth and Adolescence, 38,* 1199-1213.

Denault, A. S., & Guay, F. (2017). Motivation towards extracurricular activities and motivation at school: A test of the generalization effect hypothesis. *Journal of Adolescence*, *54*, 94–103. https://doi.org/10.1016/j.adolescence.2016.11.013

Feldman, A.F., & Matjasko, J.L. (2005). The tole of school-based extracurricular activities in adolescent development: A comprehensive review and future directions. *Review of Educational Research, 75(2),* 159-210.

Finn, J.D. (1989). Withdrawing from school. *Review of Educational Research, 59(2),* 117-142. doi: 10.3102/00346543059002117

Finn, J.D. & Zimmer, K.S. (2012). Student engagement: What is it? Why does it matter? In Christenson et al. (Eds.), *Handbook of Research on Student Engagement* (97-130). Switzerland: Springer.

Forneris, T., Camiré, M., & Williamson, R. (2015). Extracurricular Activity Participation and the Acquisition of Developmental Assets: Differences Between Involved and Noninvolved Canadian High School Students. *Applied Developmental Science, 19*(1), 47–55. https://doi.org/10.1080/10888691.2014.980580

Fredricks, J.A. (2012). Extracurricular participation and academic outcomes: Testing the over-scheduling hypothesis. *Journal of Youth and Adolescence, 41,* 295-306. doi: 10.1007/s10964-011-9704-0

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*(1), 59-109.

Fredricks, J. A. & Eccles, J. S. (2005). Developmental benefits of extracurricular involvement: Do peer characteristics mediate the link between activities and youth outcomes? *Journal of Youth and Adolescence, 34*(6), 507-520. doi: 10.1007/a10964-005-8933-5

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2018). *Multivariate Data Analysis* (8th ed.). Cengage Learning, EMEA.

Hughes, J. N., Cao, Q., & Kwok, O.-M. (2016). Indirect Effects of Extracurricular Participation on Academic Adjustment Via Perceived Friends' Prosocial Norms. *Journal of Youth and Adolescence*, *45*(11), 2260–2277. https://doi.org/10.1007/s10964-016-0508-0

Hunt, H. (2005). The effect of extracurricular activities in the educational process: Influence on academic outcomes. *Sociological Spectrum, 25*, 417-445.

Im, M. H., Hughes, J. N., Cao, Q., & Kwok, O. (2016). Effects of extracurricular participation during middle school on academic motivation and achievement at Grade 9. *American Educational Research Journal*, *53*(5), 1343–1375. https://doi.org/10.3102/0002831216667479

Knifsend, C. A., & Graham, S. (2011). Too much of a good thing? How breadth of extracurricular participation relates to school-related affect and academic outcomes during adolescence. *Journal of Youth and Adolescence, 41*, 379-389. doi:10.1007/s10964-011-9737-4

Lovelace, M. D., Reschly, A. L., Appleton, J. J., & Lutz, M. E. (2014). Concurrent and Predictive Validity of the Student Engagement Instrument. *Journal of Psychoeducational Assessment*, *32*(6), 509–520. https://doi.org/10.1177/0734282914527548

Luthar, S. S., Shoum, K. A., & Brown, P. J. (2006). Extracurricular Involvement among Affluent Youth: A Scapegoat fo. *Developmental Psychology*, *42*(3), 583–597.

Mahoney, J. L., & Cairns, R. B. (1997). Do extracurricular activities protect against early school dropout? *Developmental Psychology*, *33*(2), 241-253. doi:10.1037/0012-1649.33.2.241

Mahoney, J., Harris, A., & Eccles, J. (2006). Organized Activity Participation, Positive Youth Development, and the Over-Scheduling Hypothesis. *SRCD Social Policy Report*, *20*, 1–31. https://doi.org/10.1002/j.2379-3988.2006.tb00049.x

Mahoney, J. L., & Vest, A. E. (2012). The Over-Scheduling Hypothesis Revisited: Intensity of Organized Activity Participation During Adolescence and Young Adult Outcomes.

Journal of Research on Adolescence: The Official Journal of the Society for Research on Adolescence, *22*(3), 409–418. https://doi.org/10.1111/j.1532-7795.2012.00808.x

Marsh, H., & Kleitman, S. (2002). Extracurricular School Activities: The Good, the Bad, and the Nonlinear. *Harvard Educational Review*, *72*, 464-514. https://doi.org/10.17763/haer.72.4.051388703v7v7736

May, R., Bauer, K., & Fincham, F. (2015). *School burnout: Diminished academic and cognitive performance | Elsevier Enhanced Reader*. https://doi.org/10.1016/j.lindif.2015.07.015

Melman, S., Little, S., & Akin-Little, A. (2007). Adolescent Overscheduling: The Relationship Between Levels of Participation in Scheduled Activities and Self-Reported Clinical Symptomology. *The High School Journal*, *90*, 18–30. https://doi.org/10.1353/hsj.2007.0011

Neely, S. R., & Vaquera, E. (2017). Making It Count: Breadth and Intensity of Extracurricular Engagement and High School Dropout. *Sociological Perspectives*, *60*(6), 1039–1062. https://doi.org/10.1177/0731121417700114

Newmann, F., Wehlage, G. G., & Lamborn, S. D. (1992). The significance of sources of student engagement. In F. Newmann (Ed.), *Student engagement and achievement in American secondary schools* (pp. 11-39) New York: Teachers College Press.

Randall, E. T., & Bohnert, A. M. (2012). Understanding threshold effects of organized activity involvement in adolescents: Sex and family income as moderators. *Journal of Adolescence*, *35*(1), 107–118. https://doi.org/10.1016/j.adolescence.2011.05.004

Reeve, J., & Tseng, M. (2011). Agency as a fourth aspect of student engagement during learning activities. *Contemporary Educational Psychology, 36, 257-267.*

Reschly, A. L., & Christenson, S. L. (2012). Jingle, jangle, and conceptual haziness: Evolution and future directions of the engagement construct. In S. L. Christenson, A. L. Reschly, &

C. Wylie (Eds.), Handbook of Research on Student Engagement (pp. 3-19). New York, NY: Springer.

Salmela-Aro, K., Kiuru, N., Pietikäinen, M., & Jokela, J. (2008). Does School Matter? *European Psychologist*, *13*(1), 12–23. https://doi.org/10.1027/1016-9040.13.1.12

Salemelo-Aro, K., Kiuru, N., Leskinen, E., & Nurmi, J. (2009). School burnout inventory (SBI): Reliability and validity. *European Journal of Psychological Assessment, 25*(1), 48–57. https://doi.org/10.1027/1015-5759.25.1.48

Salmela-Aro, K., & Tynkkynen, L. (2012). Gendered pathways in school burnout among adolescents. *Journal of Adolescence*, *35*(4), 929–939. https://doi.org/10.1016/j.adolescence.2012.01.001

Salmela-Aro, K., & Upadyaya, K. (2020). School engagement and school burnout profiles during high school – The role of socio-emotional skills. *European Journal of Developmental Psychology*, *17*(6), 943–964. https://doi.org/10.1080/17405629.2020.1785860

Salmela-Aro, K., Upadyaya, K., Vinni-Laakso, J., & Hietajärvi, L. (2021). Adolescents' Longitudinal School Engagement and Burnout Before and During COVID-19—The Role of Socio-Emotional Skills. *Journal of Research on Adolescence*, *31*(3), 796–807. https://doi.org/10.1111/jora.12654

Smith, N. D., Suldo, S., Hearon, B., & Ferron, J. (2020). *An Application of the Dual-Factor Model of Mental Health in Elementary School Children: Examining Academic Engagement and Social Outcomes*.

Suldo, S., Shaffer-Hudkins, E., Michalowski, J., Farmer, J., Riley, K., Friedrich, A., Dixon, J., Metellus, N., & Merrifield, H. (2008). Looking Beyond Psychopathology: The Dual-Factor

Model of Mental Health in Youth. *School Psychology Review*, *37*. https://doi.org/10.1080/02796015.2008.12087908

Tuominen-Soini, H., & Salmela-Aro, K. (2013). Schoolwork engagement and burnout among Finnish high school students and young adults: Profiles, progressions, and educational outcomes. *Developmental Psychology*. http://dx.doi.org/10.1037/a0033898