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Student-Athlete Success: An Examination of Parenting, Grit, Academic Success, and Mental Health Outcomes

Jackson Howard
University of Southern Mississippi

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STUDENT-ATHLETE SUCCESS: AN EXAMINATION OF PARENTING, GRIT,
ACADEMIC SUCCESS, AND MENTAL HEALTH OUTCOMES

by

Jackson McCall Howard

A Dissertation
Submitted to the Graduate School,
the College of Education and Human Sciences
and the School of Psychology
at The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

Approved by:

Dr. Bonnie Nicholson, Committee Chair
Dr. Michael Madson
Dr. Emily Yowell
Dr. Richard Mohn

Dr. Bonnie Nicholson
Committee Chair

Dr. Sara Jordan
Director of School

Dr. Karen S. Coats
Dean of the Graduate School

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ABSTRACT

Factors such as poor adjustment, substance misuse, and mental health concerns have been found to be detrimental to college student success. Considering this, researchers have focused on investigating protective factors, which may enhance performance in higher education. Specifically, non-cognitive traits, such as grit, or an ability to maintain determination and passion for long-term goals in the face of adversity, and positive parenting strategies, such as psychological autonomy granting, have been tied to positive outcomes for college students in higher education. Conversely, overparenting behaviors and negative outcomes, such as burnout, have been found to be damaging to student success. Student-athletes are a unique subsection of the college student population due to increased demand to perform both inside and outside of the classroom. Little is known about the extent to which grit and positive parenting will impact burnout, mental health, and academic success for this population. Therefore, the current study tested the following hypotheses: 1) Psychological autonomy granting will be a positive predictor of grit and academic success and also, a negative predictor of mental health outcomes and athlete burnout; 2) Overparenting will be a negative predictor of grit and academic success, as well as positive predictor of athlete burnout and mental health outcomes; 3) Grit will moderate the relationship between overparenting and outcomes of success; and 4) Grit will mediate the relationship between psychological autonomy granting behaviors and measures of success in college. Results of the current study indicated that student-athlete grit is positively associated with academic success, and negatively associated with athlete burnout and mental health outcomes. Further, grit was identified as a mediating factor between overparenting

behaviors and mental health outcomes among college student-athletes in the sample but did not moderate this relationship. Implications related to parenting student-athletes and grit development among college student-athletes are discussed.

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DEDICATION

I would like to dedicate this work to all athletes, coaches, and staff that I competed with, or against, for it is all of you who I am inspired by daily.

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CHAPTER I – INTRODUCTION

Introduction

In recent years, college student mental health has become a more prevalent and potent concern among universities and administrators. In the Collegiate Mental Health Report of 2013, 48.7% of college students sought counseling for mental health concerns, which is more than triple the amount (i.e., 15%) reported in similar surveys completed in 1973 and 1995 (Kraft, 2011; Novotney, 2014). Elevated reports of mental health outcomes (e.g., depression, anxiety) are commonly found to be associated with poor college student outcomes including lower college grade point average (GPA), poor retention, and lower graduation rates (Castaldelli-Maia et al., 2019; Eisenberg, Golberstein, & Hunt, 2009). Within the college student population, student-athletes are uniquely affected by mental health challenges. Given the additional need to balance the demands of performance in their competitive sport, student-athletes face a unique pressure from fans and communities that is not present in the life of the average college student (Broughton & Neyer, 2001; Hagiwara, Iwatsuki, Isogai, Van Raalte, & Brewer, 2017). This pressure to perform and succeed has been found to create an atmosphere that fosters vulnerability to negative health outcomes (Etzel, 2009).

Specifically, student-athletes have been found to report less social support (Miller & Kerr, 2002), as well as higher rates of stress, behavioral issues, and substance use, in comparison to non-collegiate athletes (Sudano, Collins, & Miles, 2017). In addition to being more susceptible to negative mental health outcomes, which can lead to poor academic performance, loss of eligibility, and lower graduation rates (Sudano et al., 2017), student-athletes are also less inclined to seek help for these concerns (Velasco,

2017). Recent research has found that college students are three times more likely to seek out mental health treatment in comparison to their student-athlete counterparts (Velasco, 2017). Furthermore, student-athletes are also at risk to for burnout, or the loss of passion or interest in competitive sport related to mental and physical exhaustion, which has been related to chronic stress, reduced sense of accomplishment, and depersonalization (Raedeke & Smith, 2001). Considering the challenges faced by student-athletes in higher education, the current study aimed to further the literature on protective factors (parenting, grit) that may shield college student-athletes from negative outcomes (i.e., burnout, mental health outcomes, and academic shortcomings) in higher education.

Grit

Grit is defined as the ability to withstand adversity while maintaining passion and perseverance for long-term goals (Duckworth, Peterson, Matthews, & Kelly, 2007). That is, grit is a complex combination of an individual's ability to overcome obstacles and face challenges while also maintaining determination and focus for future objectives (Duckworth, 2016). The construct of grit is split into two facets: 1) Perseverance of effort and 2) Consistency of interest (Duckworth & Quinn, 2009). Perseverance of effort is described as one's ability to maintain intense effort as a mechanism to overcome obstacles and achieve long-term success, while the consistency of interest facet evaluates the duration of devotion and the stamina required to achieve goals in a specific area (Duckworth & Quinn, 2009). Although combined to define the singular construct, the two facets of grit are unique and required, under the grit paradigm, for the achievement of long-term goals (Duckworth, 2016).

Utilizing six unique samples, Duckworth and colleagues (2007) developed a self-report questionnaire which differentiated grit from other commonly associated character traits (e.g., conscientiousness) and also evaluated how the measurement of grit could be applicable to “real world” situations (i.e., predictive ability). Findings indicated that participants with higher grit levels maintained a higher level of education, lower attrition rates, elevated conscientiousness, higher college grade point average (GPA), and increased performance success (e.g., 2005 Scripps Spelling Bee Championships) among the six different samples (Duckworth et al., 2007). Recent research has associated elevated grit levels with success in higher education, such as first-year GPA (Akos & Kretchmar, 2017), sense of belonging (Bowman, Hill, Denson, & Bronkema, 2015), engagement (Hodge, Wright, & Bennett, 2017), and self-regulated learning (Wolters & Hussain, 2015). In addition to being predictive of facets of academic success in higher education, recent research has also confirmed grit as predictive nonacademic outcomes as well.

Eskreis-Winkler and colleagues (2014) aimed to further understand the limitations to where grit could be effective and, to what extent grit could assist individuals achieve long-term success in various domains. Specifically, researchers found that diverse samples (i.e., sales associates, West Point cadets, high school students, and spouses) with higher grit levels also maintained higher retention rates related to their specific outcome (e.g., staying married; Eskreis-Winkler et al., 2014). Additionally, grit has been found to be related to elevated levels of happiness, positive affect, autonomy, competence, life satisfaction as well as lower levels of depression and substance use (Guerrero, Dudovitz, Chung, Dosanjh, & Wong, 2016; Jin & Kim, 2017; Singh & Jai, 2008). Grit, along with

gratitude, was also found to be a predictor of lowering suicidal ideation over time, by enhancing meaning in life (Kleiman, Adams, Kashdan, & Riskind, 2013).

While grit, a character trait seeded in passion, perseverance, and goal-directed behavior, has been associated with student academic success as well as other positive outcomes in the college environment (Duckworth & Quinn, 2009), little research has examined grit in relation to college student-athletes. Thus, the current study expanded grit research by not only investigating college student grit in traditional arenas (e.g., academic success), but also in novel areas, such as with mental health outcomes (i.e., depression, stress, and anxiety), with a unique sample of student-athletes. Additionally, the current study also investigated potential predisposing factors related to the development of grit among student-athletes.

Parenting

Researchers posit significant social/cultural differences between previous generations of emerging adults, such as being married at age 21, and current generations of emerging adults, such as not bearing children until late twenties, as a main reason for the increased role of parents later in life (Arnett, 2015). Although traditionally identified as crucial for child and adolescent development (Dornbusch et al., 1987; Gray & Steinberg, 1999), authoritative parenting strategies have recently become more frequently connected to success in emerging adulthood (Hickman et al., 2000; Turner et al., 2009). Considering this, parenting strategies and behaviors have been explored more recently in order to further understand the unique role of parents with young adults as they move into adulthood (Hickman et al., 2000; Padilla-Walker & Nelson, 2012).

Specifically, authoritative parenting behaviors have been identified as an important predictor of positive characteristics in college students, like kindness and self-worth (Nelson, Padilla-Walker, Christensen, Evans, & Carroll, 2011), grit (Howard et al., 2019), and academic self-determination (Turner et al., 2009), which has been found to translate into success in higher education (Duckworth & Quinn, 2009; Nelson et al., 2011; Turner et al., 2009). Specifically, psychological autonomy granting behaviors have been identified as a crucial element in the college adjustment process (Strage & Brandt, 1999). However, little research exists on the connection between psychological autonomy granting behaviors and grit in college students (Howard et al., 2019).

Psychological Autonomy Granting

Steinberg, Lamborn, Darling, Mounts, and Dornbusch (1994) identified the psychological autonomy granting dimension of authoritative parenting as the ability of a parent to grant independence to their child in thought and action. Psychological autonomy granting behaviors have been found to be predictive of positive outcomes in higher education (Ratelle et al., 2005; Soenens & Vansteenkiste, 2005; Steinberg et al., 1989; Steinberg et al., 1992; Strage & Brandt, 1999). Strage and Brandt (1999) found that regardless of living situation, parent education level, and time spent in college, psychological autonomy granting behaviors were positively associated with overall GPA as well as participants' mastery orientation, or an individual's confidence, persistence, task involvement, and rapport with professors, toward their college experience. Similarly, Ratelle and colleagues (2005) found parental autonomy support to predict student persistence in their respective academic program, when considering participants' feelings of competence and autonomy. Soenens and Vansteenkiste (2005) also confirmed

the significant predictive relationship between autonomy supportive parenting behaviors and levels of academic self-determination in two high school student samples two studies. Finally, Gray and Steinberg (1999) found that psychological granting parenting behaviors positively predicted academic competence and psychosocial development and negatively predicted internal distress and psychosocial development in a sample of high school students. It seems there is support for the premise that young adults are positively influenced by parenting behaviors associated with autonomy-granting. Unfortunately, there is an increase in the incidence of over-involvement, or the reduction in autonomy-granting behaviors, in parents of young adults (Odenweller et al., 2014).

Overparenting

Overparenting, defined as an excessive investment in a child's well-being, is characterized by parental over-involvement and restriction of autonomy (Padilla-Walker & Nelson, 2012). Overparenting has been associated with negative outcomes for college students in higher education. Specifically, students that have experienced elevated levels of overparenting were also more likely to report lower levels of well-being (i.e., autonomy, purpose in life, self-acceptance, personal growth, environmental mastery, and positive relations with others; Lemoyne & Buchanan, 2011), less peer attachment and lower self-efficacy (Reed, Duncan, Lucier-Greer, Fixelle, & Ferraro, 2016; van Ingen et al., 2015) and poorer academic success (Howard et al., 2019). These investigations of overparenting in higher education further establish that over-involvement can be detrimental to adjustment and academic success in higher education.

Relationships between overparenting behaviors and non-academic outcomes has also been established in the literature. Specifically, overparenting, has been linked to

negative mental health outcomes (LeMoyne & Buchanan, 2011; Odenweller et al., 2014; Schriffin et al., 2014), poor autonomy development (Padilla-Walker & Nelson, 2012), lower life satisfaction (Segrin et al., 2012), and lower self-worth (Nelson, Padilla-Walker, & Nielson, 2015) in college student samples. In addition, recent findings have also connected overparenting behaviors to lower levels of distress tolerance (i.e., ability to handle stress in the environment) and higher levels of narcissism in multiple samples of emerging adults (Perez, 2017; Winner & Nicholson, 2018). Only one study has established overparenting as a negative predictor of grit level in a sample of college students (Howard et al., 2019). Thus, in line with the purpose of the current study, overparenting was investigated as a predictor of grit and facets of success in college (e.g., mental health outcomes, burnout).

Parenting Student-Athletes

The importance of parental involvement in youth athlete development has been firmly established in the literature (Côté, 1999; Holt, Tamminen, Black, Mandigo, & Fox, 2008; Knight, Dorsch, Osai, Haderlie, & Sellars, 2016; Stein, Raedeke, & Glenn, 1999; Trussell & Shaw, 2012). Specifically, researchers state that the cultural component of sports (i.e., parental investment in and encouragement of sport involvement) is crucial for the development of the parent and athlete relationship (Knight & Holt, 2014; Wheeler & Green, 2014).

Holt et al. (2008) qualitatively investigated parenting behaviors among children involved in sport. Results of the study reveal that parents who supported the autonomy and involvement of their children in decision making processes were able to effectively understand the mood of, and communicate with, their children in comparison to

controlling parents (i.e., restricted autonomy) who reported more closed-off communication patterns and less sensitivity to their child's emotional experience (Holt et al., 2008). Similarly, Knight and Holt (2014) collected data on parenting practices in youth athletes (i.e., tennis players) to understand appropriate parenting involvement related to youth sport. Researchers found that parents who were able to bi-directionally communicate goals, understand their child's ideal emotional climate, and engage in enhancing parenting behaviors (e.g., foster independence, hold children accountable for behavior) were seen as more effectively involved in their child's competitive sport experience (Knight & Holt, 2014).

Furthermore, Dorsch, Dotterer, Lowe, and Lyons (2016) investigated relationships between parental involvement and supportive behaviors and academic self-efficacy, athletic satisfaction, well-being, and feelings of individuation in two diverse sample of NCAA college student-athletes. Researchers found that parental athletic engagement negatively predicted student-athlete mental health outcomes (i.e., depression) and, parental athletic and academic engagement significantly predicted self-efficacy and satisfaction with athletics in the student-athlete samples (Dorsch et al., 2016). In addition, authors of the study found that over-involved parenting behaviors negatively predicted athletes' emotional independence and functional independence. These results suggest a connection between positive parenting and student-athlete adjustment as well as a potential relationship between negative outcomes for student-athletes who have experienced excessive involvement during development (Dorsch et al., 2016). Further, although not typically studied in relation to sports, parenting behaviors

still appear to also be a major contributor to their motivation, self-esteem, and well-being during performance (Gagne, 2003).

While parenting strategies of youth athletes are well founded, research focusing on the impact of such styles and behaviors on student-athletes in higher education are not as well understood. Similar to research mentioned previously (e.g., Turner et al., 2009; Steinberg et al., 1992), parenting practices have been found to have lasting effects on college student performance as well as other outcomes (e.g., mastery orientation) in higher education (Strage & Brandt, 1999). Despite student-athletes facing the same developmental challenges as non-athlete students on college campuses, they maintain a unique experience throughout childhood, adolescence, and emerging adulthood associated to their competitive sport (Côté, 1999; Etzel, 2009). This unique experience can typically involve elevated peer expectations and high pressure to perform, which can put student-athletes at-risk to negative outcomes inside and outside of their sport (Etzel, 2009). Considering this unique experience, the current study investigated grit and parenting practices as predictors of academic success and emotional distress (i.e., stress, anxiety, and depression) among college student-athletes.

Athlete Burnout

Although not just present in athletics (e.g., teacher burnout; Duckworth, Quinn, & Seligman, 2009), athlete burnout was examined as an outcome in the current study (Raedeke & Smith, 2001). Specifically, athlete burnout, or “psychological syndrome of emotional/physical exhaustion, reduced sense of accomplishment, and sport devaluation” (p. 283; Raedeke & Smith, 2001), is established in the literature as an important consequence of sport participation (Fender, 1989; Lonsdale, Hodge, & Rose, 2009).

Considering the demands of competitive sport, collegiate student-athletes are at risk for burnout (Dubuc-Charbonneau & Durand-Bush, 2015). Specifically, athlete burnout can be understood as a combination of chronic stress, reduced sense of accomplishment, and depersonalization (Raedeke & Smith, 2001). Research suggests that burnout occurs due to extended, and intense, periods of stress and strain that can compound negativity and difficulty in the experience of the athlete (Lonsdale et al., 2009; Raedeke & Smith, 2001). Specifically, athletes experiencing burnout are suffering from chronic stress, and the inability to cope (i.e., lack of internal and external resources) with this high level of stress (Raedeke & Smith, 2004).

While the concept of burnout can be identified and defined within a more general group of negative mental health outcomes (i.e., anxiety, stress, depression), the outcomes related to burnout remain distinct due to the unique facets which burnout impacts individuals (e.g., emotional exhaustion, cynicism, negative self-evaluation; Morse et al., 2012). In addition, specifically related to athlete burnout, consequences of burning out (e.g., quitting sports team, losing scholarship, dropping out of school) may indeed be as severe as seen in collegiate athletes with mental health problems. Furthermore, stressors that contribute to student-athlete burnout are not limited to athletics. Specifically, stressors that hinder an athlete's ability to withstand burnout have been identified in personal, social, and professional domains (Raedeke & Smith, 2004).

Although researchers have successfully identified an athlete's chronic stress and coping ability as the main precursors to burnout, other risk-related or protective factors have not been as readily identified in the prevention, or escalation, of athlete burnout. However, considering the impact of parenting strategies on other important college

student-athlete outcomes (e.g., self-efficacy; Dorsch et al., 2016), it follows that parenting behaviors may significantly impact a student-athlete's ability to cope with symptoms of chronic stress. Specifically, because authoritative parenting strategies have been associated with positive protective factors related to coping and lower levels of emotional distress, such as self-worth, self-efficacy, and grit, it follows that these parenting behaviors may negatively predict burnout (Howard et al., 2019; Nelson et al., 2015), indicating that higher levels of positive parenting would be associated with lower levels of burnout. In addition, it follows that overparenting behaviors, which have been connected with increased distress and low-self efficacy (LeMoyne & Buchanan, 2011; Reed et al., 2016), may positively predict athlete burnout level, indicating that increased over-involvement in a student-athlete's life may be associated with higher levels of student-athlete burnout. Therefore, the current study aimed to expand upon previous research by investigating novel predictors (parenting, grit) of athlete burnout.

The Present Study

The increased incidence of mental health complications among college students has maintained the attention of university communities more in recent years than ever before (Novotey, 2014). Within these college student populations, student-athletes experience a unique struggle that may promote heightened vulnerability to negative mental health outcomes (Etzel & Watson, 2007) and burnout (Raedeke & Smith, 2001) as well as challenges with academic success (Comeaux & Harrison, 2011). However, student-athletes are less likely to seek out assistance with psychological problems in comparison to typical college students (Castaldelli-Maia et al., 2019). The current study aimed to add to the research related to college student-athlete wellness by investigating

protective factors, such as parenting and grit that may help student-athletes succeed in college. The following research questions were examined to further understand these relationships:

- Question 1: Will overparenting behaviors, psychological autonomy granting behaviors, and grit predict academic success, athlete burnout, and mental health outcomes (i.e., depression, anxiety, and stress) among college student-athletes?
- Question 2: Will grit moderate the relationship between overparenting and academic success, athlete burnout, and mental health outcomes among college student-athletes?
- Question 3: Will grit mediate the relationship between psychological autonomy granting behaviors and academic success, athlete burnout, and mental health outcomes among college student-athletes?

Furthermore, because the construct of grit is understood as a combination of two latent variables (i.e., consistency of interest, perseverance of effort), we included additional exploratory research questions examining the subscales of grit separately (Duckworth & Quinn, 2009):

- Question 4: Will perseverance of effort and consistency of interest independently predict academic success, athlete burnout, and mental health outcomes among college student athletes?
- Question 5: Will perseverance of effort moderate the relationship between overparenting and academic success, athlete burnout, and mental health outcomes among college student athletes?

- Question 6: Will consistency of interest moderate the relationship between overparenting and academic success, athlete burnout, and mental health outcomes among college student athletes?
- Question 7: Will perseverance of effort mediate the relationship between psychological autonomy granting behaviors and academic success, athlete burnout, and mental health outcomes among college student athletes?
- Question 8: Will consistency of interest mediate the relationship between psychological autonomy granting behaviors and academic success, burnout, and mental health outcomes among college student athletes?

First, considering the recent literature supporting authoritative parenting strategies and positive outcomes among student-athletes (e.g., Dorsch et al., 2016), researchers hypothesized that psychological autonomy granting would positively predict grit and academic success and negatively predict mental health outcomes and athlete burnout in the current sample. In addition, in line with previous research that supports overparenting as a negative predictor of positive outcomes among young adults (e.g., Nelson et al., 2015), it was predicted that overparenting would negatively predict grit and academic success and positively predict athlete burnout and mental health outcomes. Second, it was also anticipated that grit would moderate the relationship between overparenting and the aforementioned outcomes of success, buffering the negative impact of overparenting onto academic success, mental health outcomes, and athlete burnout. Third, considering previous findings (i.e., Howard et al., 2019) that have supported grit as a mediator between parenting behaviors and college student outcomes, it was anticipated that grit would mediate the relationship between psychological autonomy granting behaviors and

measures of success in college with a sample of student-athletes. In other words, it was hypothesized that psychological autonomy granting would predict grit, and, in turn, grit would predict the three outcomes of success in a sample of college student-athletes.

In addition, congruent with previous research on the grit subscales (e.g., Bowman et al., 2015), we hypothesized that perseverance of effort would moderate the relationship between overparenting and outcomes of college student-athlete success, although we did not expect consistency of interest to moderate this relationship. In addition, we hypothesized that perseverance of effort would mediate the relationship between psychological autonomy granting behaviors and outcomes of student-athlete success, while we expected consistency of interest to not be a significant mediator in this relationship.

CHAPTER II - METHOD

Participants

Data was collected from 250 student-athletes from two, public, NCAA Division – I universities and one, private, NCAA Division – II college located in the southeastern United States. Participants were between the ages of 18 – 25 and identified as either an undergraduate or graduate student-athlete at their respective institutions of higher learning. Participants ranged from 18 to 23 years of age ($M = 19.27$, $SD = 1.33$) with more females (63.4%; $n = 128$) than males (36.6%; $n = 74$). The majority of the sample identified as Caucasian (57.9%; $n = 117$), while a large portion of the sample identified as African American (27.2%; $n = 55$). Freshman (42.6%; $n = 86$) were the highest represented group in the sample, followed by juniors (23.3%; $n = 47$), sophomores (16.3%; $n = 33$), and seniors (14.9%; $n = 30$). In addition, participants in the sample identified their mother (66.3%; $n = 134$) as their primary caregiver more than other family member, while a large number of participants identified their father (27.2%; $n = 55$) as their primary caregiver. Additional detail related to demographic information can be found in Table 1.

Table 1 *Participant Demographic Characteristics (N = 202)*

<i>Demographic</i>	<i>N</i>	<i>%</i>	<i>Demographic</i>	<i>N</i>	<i>%</i>
Gender			Socioeconomic Status		
Male	74	36.6%	\$0 - \$24,999	20	9.9%
Female	128	63.4%	\$25,000 - \$49,999	20	9.9%
Other	0	0%	\$50,000 - \$74,999	34	16.8%
Racial Identity			\$75,000 - \$99,999	30	14.9%
African American	55	27.2%	\$100,000 - \$124,999	26	12.9%
Asian American	5	2.5%	\$125,000 - \$149,999	14	6.9%
Caucasian/White	117	57.9%	\$150,000+	46	22.8%
Other	10	5%	Parental Involvement (scale 1-10; 10 = very involved)		
College Status			10	132	65.3%
Freshman	86	42.6%	9	20	9.9%
Sophomore	33	16.3%	8	21	10.3%
Junior	47	23.3%	1 – 7	18	9%
Senior	30	14.9%	Satisfaction with Parental Involvement (scale 1-10; 10 = completely satisfied)		
Other	6	3%	10	147	72.8%
Living Situation			9	21	10.4%
Off Campus (with parents)	11	5.4%	8	8	4%
Off Campus (without parents; with roommates)	69	34.2%	1 – 7	15	7.5%

Table 1 Continued

Off Campus (without parents; without roommates)	9	4.5%	Primary Caregiver		
On Campus (with roommates)	101	50%	Mother	134	66.3%
On Campus (without roommates)	11	5.4%	Father	55	27.2%
			Other	4	2%

Measures

Demographic Questionnaire. Information regarding participants' age, gender, college status, race, ethnicity, estimated family income, and "primary caregiver" were collected from the participants. Primary caregivers were determined by asking each participant to endorse who has provided the most support in their life (e.g., "Grandfather or other male family member (e.g., uncle)"). In addition, participants were asked to rate the amount of parental involvement on a scale of 1 (less) to 10 (more; "1" = not involved at all to "10" = very involved) as well as their satisfaction with the parental relationship on a scale from 1 (completely unsatisfied) to 10 (completed unsatisfied). See Appendix B for demographic questions.

Grit Short Scale (GRIT-S). Participants' grit level was measured by the 8-item, revised grit scale (Grit-S; Duckworth & Quinn, 2009). In addition, the scale evaluates two latent constructs of grit: Perseverance of effort (4-items) and consistency of interest (4-items). Participants will rate each item on a 5-point Likert scale, where (1) = "not like me at all" and (5) = "very much like me." Items evaluating grit include "I finish whatever I begin" and "Setbacks don't discourage me." The grit score is calculated by dividing the total score on the 8-item scale by eight (Duckworth & Quinn, 2009). Higher scores indicate higher level of grit. The Grit-S has demonstrated acceptable reliability in the literature ($\alpha = .82$, Duckworth & Quinn, 2009; $\alpha = .77$, Eskreis-Winkler et al., 2014). In addition, the subscales of consistency of interest ($\alpha = .79$; Ivy League undergraduate sample) and perseverance of effort ($\alpha = .78$; Ivy League undergraduate sample) have also demonstrated acceptable reliability for the current exploratory analyses (Duckworth & Quinn, 2009). In the current study, the GRIT-S demonstrated acceptable reliability ($\alpha =$

.74), while the two subscales of grit, perseverance of effort (GRIT-P; $\alpha = .66$) and consistency of interest (GRIT-C; $\alpha = .68$) demonstrated lower reliability.

Parenting Style Index (PSI). Participants' parenting behaviors were evaluated retrospectively with the Parenting Style Index (PSI; Steinberg et al., 1992). The scales included 26 items that evaluate facets of perceived parenting behaviors including psychological autonomy granting, acceptance/involvement, and strictness/supervision. For the current analysis, the psychological autonomy granting subscale (PSI-PAG) was used to evaluate participants' perceived autonomy granting behaviors. Participants responded to the 9-item questionnaire using a 4-point Likert scale, ranging from (1) = "strongly disagree" to (4) = "strongly agree". Items on this scale included "My parents told me that their ideas were correct and that I should not question them" and "My parents wouldn't let me do things with them when I did something they didn't like." Higher scores indicated higher presence of perceived psychological autonomy granting behaviors. Specifically, considering the PSI-PAG subscale, previous research has also found acceptable reliability with the scale ($\alpha = .78$; Howard et al., 2019). The PSI-PAG demonstrated acceptable reliability ($\alpha = .75$) in the current sample.

Helicopter Parenting Instrument (HPI). Participants' report of overparenting behaviors was measured using the Helicopter Parenting Instrument (HPI; Odenweller et al., 2014). The 15-item scale evaluated the perceived overparenting behaviors on a Likert scale, ranging from (1) = "very strongly disagree" to (7) = "very strongly agree". Items from the HPI included "My parent considers oneself a bad parent when he or she does not step in and 'save' me from difficulty" and "My parent insists that I keep him or her informed of my daily activities." Higher scores on the HPI indicated higher levels of

perceived overparenting behaviors. The HPI has displayed acceptable internal consistency in the literature ($\alpha = 0.78$; Odenweller et al., 2014) and in the current sample ($\alpha = .78$).

Academic Success Inventory for College Students (ASICS). Participants' academic success was evaluated using the Academic Success Inventory for College Students (ASICS; Prevatt et al., 2011). The 50-item measure investigated 10 facets of collegiate academic success (e.g., perceived instructor efficacy, current motivation to perform). ASICS items, such as "I felt confident I could understand even the most difficult material in this class" and "I am certain about what occupation I want after I graduate", are rated on a Likert scale, ranging from (1) = "strongly disagree" to (7) = "strongly agree". Higher scores on the ASICS measure indicated a higher level of perceived academic success in college. For the purposes of the current study, the ASICS total score was used as a comprehensive measure of academic success. This was compiled as an aggregate score, similar to of previous research (Howard et al., 2019; Welles, 2010). The total score for the ASICS scale has also shown acceptable internal consistency ($\alpha = .93$, Howard et al., 2019; .92, Welles, 2010). The ASICS total score demonstrated excellent reliability ($\alpha = .90$) in the current sample.

Athlete Burnout Questionnaire (ABQ). Participants' level of athletic burnout was evaluated with the Athlete Burnout Questionnaire (Raedeke & Smith, 2001). The 15-item measure evaluated three facets of athletic burnout (i.e., reduced sense of accomplishment, emotional/physical exhaustion, and devaluation). ABQ items are rated on a Likert-type scale, ranging from (1) = "almost never" to (5) = "almost always". Items include "I'm accomplishing many worthwhile things in [sport]" and "I am exhausted by the mental

and physical demands of [sport].” Elevated scores on the ABQ indicate higher feelings of burnout among participants. Previous research has established the ABQ as a valid and reliable ($\alpha = .91$; Raedeke & Smith, 2004) construct (e.g., Lonsdale et al., 2009). The ABQ demonstrated excellent reliability ($\alpha = .92$) in the current sample.

Depression Anxiety Stress Scales (DASS). Participants’ mental health outcomes were evaluated by the Depression Anxiety Stress Scales (Lovibond & Lovibond, 1995). The 21-item measure evaluated levels of depression, anxiety, and stress in participants over the past week. DASS items, such as “I couldn’t seem to experience any positive feeling at all” and “I felt like I had nothing to look forward to”, are rated on a Likert-type rating scale, ranging from (0) = “Did not apply to me at all” and (3) = “Applied to me very much, or most of the time”. Elevated scores on the DASS indicated an elevation in the participant’s emotional distress. In addition, a total score for the DASS has also been accepted in the literature as an indicator of comprehensive emotional distress, as evidenced by first-order factor loadings of depression (.89), anxiety (.94), and stress (.93), respectively (Winner, 2016). Thus, the DASS total score was used in the current study (Winner, 2016). The total score of the DASS, demonstrated excellent reliability ($\alpha = .96$) in the current sample.

Procedure

The present study was approved by the IRB at the University of Southern Mississippi (see Appendix C). Data were collected from student-athletes in-person and online through a secure database (Qualtrics). For the in-person data collection, student-athletes were politely asked complete the survey at the end of their yearly physical and medical evaluation. Prior to completing the questionnaires, the student-athletes were

asked to complete the informed consent form (see Appendix A). Athletes who did not consent to participate, did not complete the survey and returned the survey back to the primary researcher.

To increase the sample, data was collected from student-athlete participants hosted by Qualtrics (online survey system), which provided participants an electronic link to complete the survey. Prior to receiving the survey, participants were asked to complete an informed consent form (see Appendix A). Participants who did not consent to complete the survey were directed to the end of the study and thanked for their time. Moreover, two quality assurance checks were once again included in the survey and the questionnaires were counterbalanced. Participants spent approximately 25 minutes completing the survey.

The two quality assurance check items (i.e., such as “Please Mark Strongly Agree”) were included in the survey to maintain accuracy of responses. Participants who answered incorrectly to both quality assurance check items were removed from the study ($n = 37$), while participants who answered correctly to 1 of the 2 quality assurance checks were retained ($n = 27$). In addition, due to incomplete responses (i.e., participants did not complete 75% of the survey), 11 participants were removed from the current sample. Responses from the remaining participants ($N = 202$) were used in the current analysis. Of note, missing data was handled utilizing the linear trend at point function in SPSS (version 25; IBM).

CHAPTER III - RESULTS

Preliminary Analyses

Means, standard deviations, and correlations for overparenting behaviors (HPI), psychological autonomy granting behaviors (PSI-PAG), grit total score (GRIT-S), perseverance of effort (subscale; GRIT-P), consistency of interest (subscale; GRIT-C), academic success (ASICS), athlete burnout (ABQ), and mental health outcomes (DASS) can be found in Table 3. Of note, student-athletes in this sample endorsed high ratings for both parental involvement ($M = 9.30$, $SD = 1.33$) and satisfaction with their involvement ($M = 9.42$, $SD = 1.46$).

Considering previous research with similar variables (e.g., Dorsch et al., 2016) and the high percentage of female athletes participating in the study, we considered whether gender would need to be included as a potential covariate. Mean differences between study variables were examined using ANOVA in SPSS (version 25; IBM). Significant differences between gender (male, female) were identified in mental health outcomes ($F(1, 200) = 23.467$, $p < .001$), grit ($F(1, 200) = 13.792$, $p < .001$), consistency of interest ($F(1, 200) = 7.049$, $p = .009$), perseverance of effort ($F(1, 200) = 12.587$, $p < .001$), and athlete burnout ($F(1, 200) = 10.736$, $p = .001$). Correlational relationships, means, and standard deviations were also further explored (see Table 2). Given these differences, we examined gender as a covariate in each of the analyses described below. There were no changes to the models when gender was included, so findings below do not include gender as a covariate.

Table 2 Means, Standard Deviations, and Correlations for All Study Variables by Gender

	1	2	3	4	5	6	7	8	Mean (W)	SD (W)
1. GRIT-S	---	.819**	.768**	.434**	-.280**	.147	-.403**	-.314**	3.51	0.53
2. GRIT-C	.892**	---	.263**	.308**	-.284**	.156	-.290**	-.156	3.31	0.71
3. GRIT-P	.857**	.531**	---	.387**	-.155	.074	-.355**	-.355**	3.73	0.63
4. ASICS	.439**	.340**	.435**	---	-.037	.027	-.254**	-.252**	656.85	77.98
5. HPI	-.130	-.202	-.014	-.129	---	-.486**	.312**	.109	53.49	11.57
6. PSI-PAG	.292*	.236*	.277*	.091	-.365**	---	-.217*	-.184*	25.37	5.03
7. DASS-21	-.288*	-.306**	-.192	-.112	-.037	-.070	---	.565**	13.76	13.82
8. ABQ	-.562**	-.512**	-.531**	-.345**	.223*	-.243*	.212	---	33.92	11.64
<i>Mean (M)</i>	3.83	3.59	4.06	666.75	52.37	24.79	5.37	28.74		
<i>SD (M)</i>	0.63	0.76	0.67	75.75	10.26	3.97	7.27	9.28		

Note. Men's ($N = 74$) means, standard deviations, and correlations are listed in the bottom left quadrant; Women's ($N = 128$) means, standard deviations, and correlations are listed in the top right quadrant.

Note. * = $p < .05$; ** = $p < .01$.

Note. ASICS = Total Score of Academic Success in College Students; GRIT-S = Grit Short Scale; PSI-PAG = Parenting Style Index Psychological Autonomy Granting Scale; HPI = Helicopter Parenting Inventory; DASS-21 = Depression, Anxiety, Stress Scale; ABQ = Athlete Burnout Questionnaire; GRIT-C = Grit, Consistency of Interest Subscale; GRIT-P = Grit, Perseverance of Effort Subscale.

Correlational analyses were examined to further understand the relationships between the variables of interest. Grit scores were positively associated with academic success and psychological autonomy granting behaviors. Grit was negatively associated with overparenting behaviors, mental health outcomes, and athlete burnout. Additionally, psychological autonomy granting behaviors were negatively associated with mental health outcomes and athlete burnout. Conversely, overparenting behaviors were positively related to mental health outcomes and athlete burnout. Of note, mental health outcomes and athlete burnout were significantly positively related. Relationships between the grit subscales (consistency of interest and perseverance of effort) were also explored. Perseverance of effort was negatively associated with mental health outcomes, overparenting behaviors, and athlete burnout. Perseverance of effort was positively associated with academic success and psychological autonomy granting behaviors. Consistency of interest was negatively associated with mental health outcomes, overparenting behaviors, and athlete burnout. Consistency of interest was also positively associated with academic success and psychological autonomy granting behaviors (see Table 3).

Table 3 Means, Standard Deviations, Alpha Coefficients, and Correlations for All Study Variables

	1	2	3	4	5	6	7	8
1. GRIT-S	---							
2. GRIT-C	.854**	---						
3. GRIT-P	.816**	.397**	---					
4. ASICS	.435**	.325**	.407**	---				
5. HPI	-.227**	-.258**	-.114	-.070	---			
6. PSI-PAG	.172*	.166*	.120	.042	-.446**	---		
7. DASS-21	-.403**	-.320**	-.355**	-.223**	.251**	-.157*	---	
8. ABQ	-.429**	-.301**	-.423**	-.286**	.149*	-.180*	.524**	---
<i>Mean</i>	3.63	3.41	3.86	660.48	53.08	25.15	10.69	32.02
<i>SD</i>	0.59	0.74	0.67	77.13	11.09	4.66	4.67	11.09
<i>α</i>	.74	.68	.66	.92	.78	.75	.96	.92

Note. * = $p < .05$; ** = $p < .01$.

Note. ASICS = Total Score of Academic Success in College Students; GRIT-S = Grit Short Scale; PSI-PAG = Parenting Style Index Psychological Autonomy Granting Scale; HPI = Helicopter Parenting Inventory; DASS-21 = Depression, Anxiety, Stress Scale; ABQ = Athlete Burnout Questionnaire; GRIT-C = Grit, Consistency of Interest Subscale; GRIT-P = Grit, Perseverance of Effort Subscale.

Primary Analyses

We examined parenting behaviors and grit as predictors of outcomes of success in college student-athletes to answer research questions one and four (see Figure 1). These relationships were examined using structured equation modeling via *M-Plus* (version 8.3) software (Muthen & Muthen, 2012). First, overparenting was found to be a statistically significant predictor of grit ($\beta = -.187$, $SE = .079$, $p < .05$) and mental health outcomes ($\beta = .226$, $SE = .090$, $p < .05$), but not athlete burnout ($\beta = .009$, $SE = .083$, $p > .05$) or academic success ($\beta = .019$, $SE = .081$, $p > .05$) among college student-athletes. This finding partially supports our initial hypothesis that overparenting would significantly predict all outcomes of success in our sample. Psychological autonomy granting behaviors were not a significant predictor of grit ($\beta = .089$, $SE = .075$, $p > .05$), academic success ($\beta = -.025$, $SE = .070$, $p > .05$), athlete burnout ($\beta = -.106$, $SE = .077$, $p > .05$), or mental health outcomes ($\beta = -.024$, $SE = .078$, $p > .05$) among college student-athletes in our sample, which rejects our initial hypothesis. In addition, grit was found to be statistically significant a predictor of academic success ($\beta = .443$, $SE = .054$, $p < .01$), mental health outcomes ($\beta = -.363$, $SE = .066$, $p < .01$), and athlete burnout ($\beta = -.409$, $SE = .066$, $p < .01$). This finding supports our initial hypothesis that grit would predict the various outcomes of success among college student-athletes in our sample. Participants' level of grit and parenting behaviors, taken together, explained 19% ($p < .01$) of academic success scores, 19.6% ($p < .01$) of athlete burnout scores, and 19% ($p < .01$) of mental health outcome scores in the current sample, which supports our initial hypothesis (see Figure 1).

In addition, overparenting behaviors were found to be statistically significant predictor of the grit subscales of consistency of interest ($\beta = -.230$, $SE = .084$, $p < .01$), but not perseverance of effort ($\beta = -.075$, $SE = .085$, $p > .05$), which partially supports our initial hypothesis (see Figure 2). Psychological autonomy granting behaviors were not a significant predictor of consistency of interest ($\beta = .063$, $SE = .073$, $p > .05$) and perseverance of effort ($\beta = .086$, $SE = .079$, $p > .05$), which did not support our hypothesis. Furthermore, perseverance of effort was found to be statistically significant a predictor of academic success ($\beta = .340$, $SE = .079$, $p < .01$), mental health outcomes ($\beta = -.272$, $SE = .079$, $p < .01$), and athlete burnout ($\beta = -.359$, $SE = .077$, $p < .01$) among college student-athletes, which confirms our initial hypothesis related to the perseverance of effort subscale. Consistency of interest was found to be a statistically significant predictor of academic success ($\beta = .199$, $SE = .079$, $p < .05$), but not of athlete burnout ($\beta = -.137$, $SE = .077$, $p = .073$) or mental health outcomes ($\beta = -.167$, $SE = .087$, $p = .056$) among college student-athletes, which partially supports our initial hypothesis related to the subscale. Participants' scores on perseverance of effort, consistency of interest, overparenting, and psychological autonomy granting behaviors explained 15.8% ($p < .01$) of academic success scores, 18.4% ($p < .01$) of athlete burnout scores, and 16.7% ($p < .01$) of mental health outcomes scores in the current sample (see Figure 2).

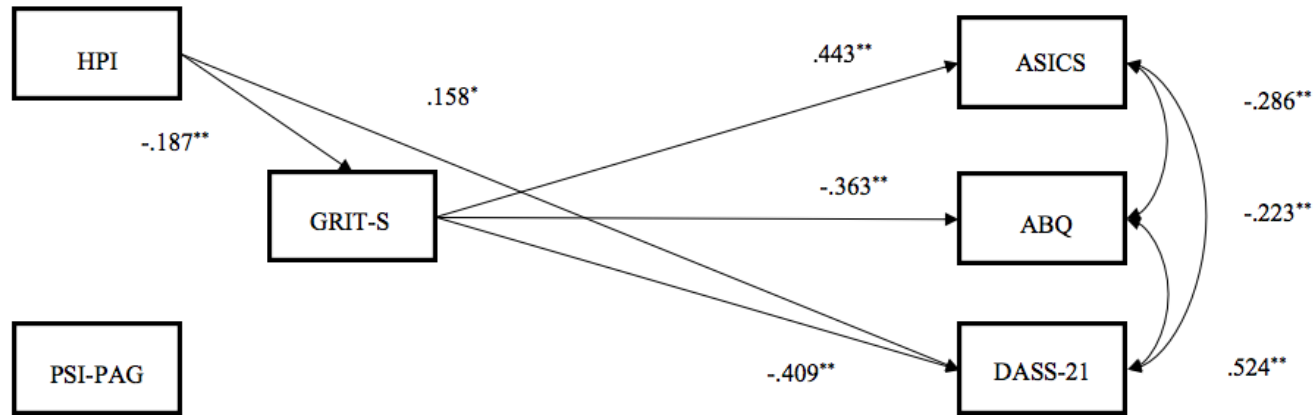


Figure 1. *Structured equation model (mediation) with the standardized estimates.*

Note. HPI = Helicopter Parenting Inventory; PSI-PAG = Parenting Style Index - Psychological Autonomy Granting Behaviors; ASICS = Academic Success Total Score; Grit-S = Grit Short Scale; DASS-21 = Depression Anxiety Stress Scale; ABQ = Athlete Burnout Questionnaire.

Note. $p < .05 = *$, $p < .01 = **$.

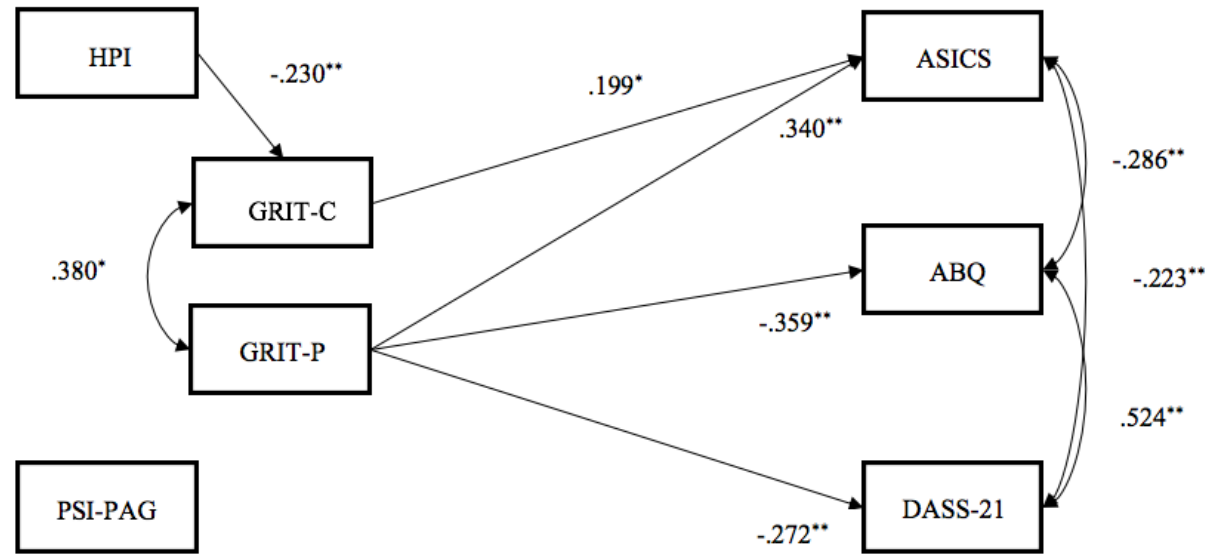


Figure 2. *Structured equation model (mediation) with the standardized estimates including the subscales of grit.*

Note. HPI = Helicopter Parenting Inventory; PSI-PAG = Parenting Style Index - Psychological Autonomy Granting Behaviors; ASICS = Academic Success Total Score; GRIT-P = Grit, perseverance of effort subscale; GRIT-C = Grit, consistency of effort subscale; DASS-21 = Depression Anxiety Stress Scale; ABQ = Athlete Burnout Questionnaire.

Note. $p < .05 = *$, $p < .01 = **$.

Moderation

Hypotheses two, five, and six examined the moderating relationship of grit between overparenting behaviors and outcomes of student-athlete success in higher education (see Figure 3). *Mplus* was utilized to further understand these relationships (version 8.3; Muthen & Muthen, 2012). Results of the moderation analysis indicated that GRIT was initially identified as a significant moderator in the relationship between overparenting and academic success among college student-athletes ($\beta = -.148$, $SE = .069$, $p < .05$). That is, when GRIT interacted with overparenting, a significant change within the relationship between overparenting and academic success occurred. However, after post-hoc analyses were run to further understand the nature of this moderating relationship, it could not be determined *where* grit moderated this relationship. Specifically, participants' grit level did not differentially impact the relationship between overparenting and academic success: Low grit ($x < 3.375$; $\beta = .066$, $SE = .262$, $p > .05$), Moderate grit ($x < 3.999$; $\beta = -.170$, $SE = .147$, $p > .05$), and High grit ($x > 4.00$; $\beta = -.145$, $SE = .335$, $p > .05$). Therefore, a significant moderation between overparenting and academic success was not identified. Of note, grit was also not identified as a moderator in the relationships between overparenting and athlete burnout ($\beta = .059$, $SE = .070$, $p > .05$.) and overparenting and mental health outcomes ($\beta = -.082$, $SE = .069$, $p > .05$.) in this sample of college student-athletes (Figure 3). Considering the aforementioned exploratory research questions, perseverance of effort and consistency of interest were also examined as moderators (see Figure 4) between overparenting and outcomes of student-athlete success in higher education with *Mplus* (version 8.3; Muthen & Muthen, 2012). Results of the moderation analysis indicated that perseverance of effort

was not a significant moderator in the model. That is, perseverance of effort did not interact with overparenting to differentially predict athlete burnout ($\beta = -.006$, $SE = .079$, $p > .05$), academic success ($\beta = .053$, $SE = .079$, $p > .05$), or mental health outcomes ($\beta = -.072$, $SE = .079$, $p > .05$) in our sample of college student-athletes, which rejects our initial hypothesis. In addition, results of the moderation analyses also indicated that consistency of interest was not a significant moderator in the model, which confirms our initial hypothesis. Although consistency of interest was significantly predicted by overparenting, the two variables, when interacted, did not significantly predict any of the outcomes measured. Specifically, consistency of interest did not moderate the relationships between overparenting and athlete burnout ($\beta = .047$, $SE = .072$, $p > .05$), overparenting and academic success ($\beta = -.097$, $SE = .071$, $p > .05$), and overparenting and mental health outcomes ($\beta = .021$, $SE = .072$, $p > .05$) in our sample of college student-athletes.

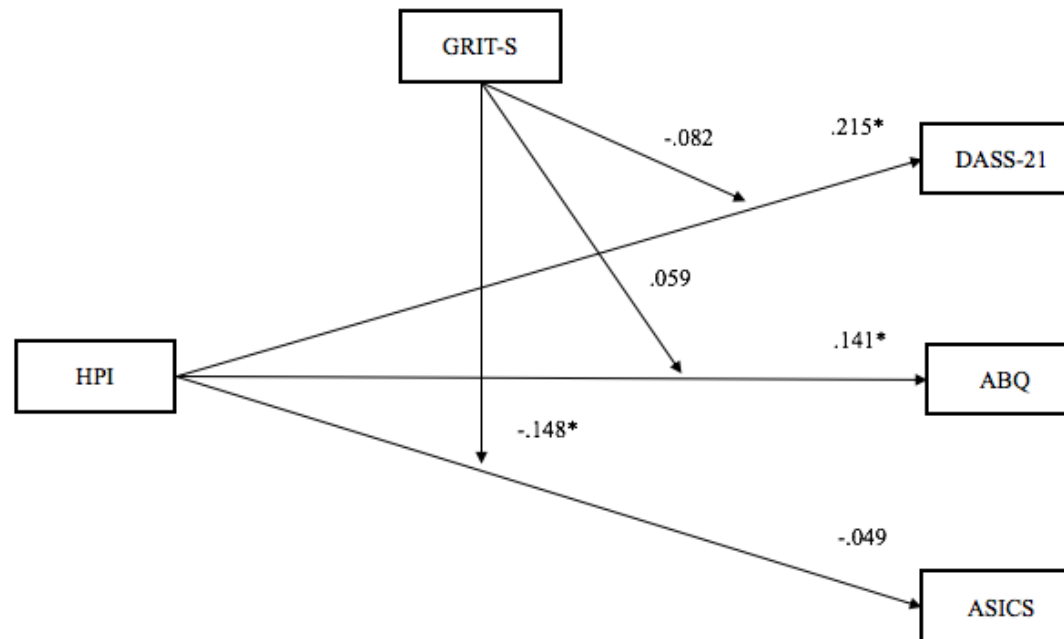


Figure 3. *Structured equation model (moderation) with the standardized estimates.*

Note. HPI = Helicopter Parenting Inventory; PSI-PAG = Parenting Style Index - Psychological Autonomy Granting Behaviors; ASICS = Academic Success Total Score; GRIT-P = Grit, perseverance of effort subscale; GRIT-C = Grit, consistency of effort subscale; DASS-21 = Depression Anxiety Stress Scale; ABQ = Athlete Burnout Questionnaire.

Note. $p < .05 = *$, $p < .01 = **$.

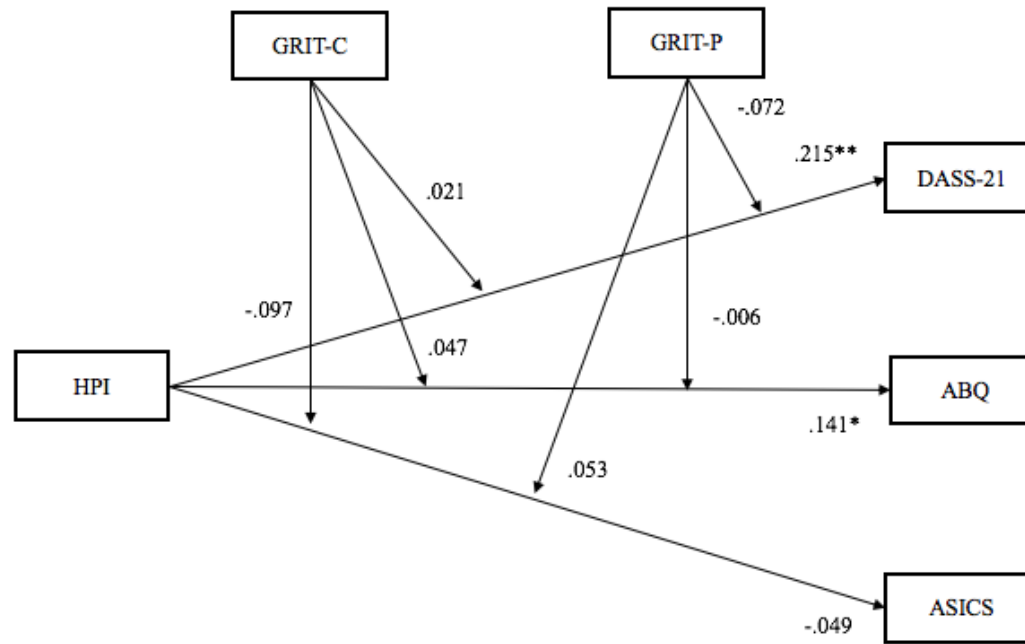


Figure 4. *Structured equation model (moderation) with standardized estimates including the subscales of grit.*

Note. HPI = Helicopter Parenting Inventory; PSI-PAG = Parenting Style Index - Psychological Autonomy Granting Behaviors; ASICS = Academic Success Total Score; GRIT-P = Grit, perseverance of effort subscale; GRIT-C = Grit, consistency of effort subscale; DASS-21 = Depression Anxiety Stress Scale; ABQ = Athlete Burnout Questionnaire.

Note. $p < .05 = *$, $p < .01 = **$.

Mediation

Next, to test hypotheses three, seven, and eight, we examined the mediating role of grit between psychological autonomy granting and outcomes of collegiate success in student-athletes (see Figure 1). Because psychological autonomy granting did not significantly predict academic success, athlete burnout, or mental health outcomes, grit was not identified as a mediator between these variables (see Baron & Kenny, 1986). Specifically, grit did not mediate the relationships between psychological autonomy granting and mental health outcomes ($\beta = -.024$, $SE = .071$, $p > .05$), athlete burnout ($\beta = -.106$, $SE = .070$, $p > .05$), and academic success ($\beta = -.025$, $SE = .071$, $p > .05$) in our sample of student-athletes, which rejects our initial hypothesis.

As noted in previous research (e.g., Howard et al., 2019), the parenting variables in the current study were considered as independent variables in the same SEM. Thus, additional findings related to overparenting, grit, and outcomes of success were found. We identified one significant mediation (see Figure 1) of grit between overparenting and mental health outcomes in *Mplus* (version 8.3; Muthen & Muthen, 2012). With grit as a mediator, the estimated direct effect between overparenting and mental health outcomes was significant, $\beta = .158$, $SE = .071$, 95% CI = [0.047, 0.393]. However, when considering grit as the mediator, the predictive relationship between overparenting and mental health outcomes decreased significantly, $\beta = 0.068$, $SE = 0.30$, 95% CI = [0.010, 0.144]. This result suggests that grit partially mediates the relationship between overparenting and mental health outcomes. In addition, with the use of bootstrapping, we were able to identify whether or not this mediation maintained through 10,000 sampling distributions (Preacher & Hayes, 2008). Results indicated that the mediation between

overparenting, grit, and mental health outcomes ($\beta = 0.068$, 95% CI = [0.011, 0.144]) all maintained at the 95% confidence interval and thus, may be interpreted as a result that did not occur by random chance.

Additionally, to test our exploratory research questions, we further investigated the subscales of grit (see Figure 2). While perseverance of effort significantly predicted all three outcomes of student-athlete success, perseverance of effort did not mediate the relationship between psychological autonomy granting and mental health outcomes ($\beta = -.023$, SE = .025, $p > .05$), athlete burnout ($\beta = -.031$, SE = .031, $p > .05$), and academic success ($\beta = .029$, SE = .030, $p > .05$), which rejected our initial hypothesis. Of note, when considering perseverance of effort as the mediator, the predictive relationship between overparenting and mental health outcomes decreased significantly, $\beta = 0.020$, SE = 0.25, 95% CI = [-0.035, 0.082]. However, due to inconsistent confidence intervals, we were unable to establish a mediation model between overparenting, perseverance of effort, and mental health outcomes in our sample of student-athletes.

Further, we examined the mediating role of consistency of interest between parenting behaviors and outcomes of collegiate success in student-athletes (see Figure 2). consistency of interest did not mediate the relationship between psychological autonomy granting and mental health outcomes ($\beta = -.011$, SE = .014, $p > .05$), athlete burnout ($\beta = -.009$, SE = .012, $p > .05$), or academic success ($\beta = .013$, SE = .016, $p > .05$), which was congruent with our initial hypothesis. Although we were able to establish overparenting as a significant predictor of consistency of interest ($\beta = -.230$, SE = .084, $p < .01$) and consistency of interest as a significant predictor of academic success ($\beta = .199$, SE =

.079, $p < .05$) among student-athletes, overparenting was not identified as a significant predictor of academic success. Thus, consistency of interest was not established as a mediator between overparenting and academic success among college student-athletes, $\beta = -.047$, $SE = .028$, $95\% \text{ CI} = [-0.123, -0.007]$, which is congruent with our initial hypotheses.

CHAPTER IV – DISCUSSION

Discussion

The purpose of the current study was to further examine predisposing factors of grit, as well as outcomes related to wellness and success in a sample of NCAA Division – I and Division – II college athletes. Specifically, we aimed to understand predictors of grit in college student-athletes, as well as diverse outcomes (athlete burnout, mental health outcomes, academic success) related to grit. First, we sought to understand the relationships between overparenting behaviors, psychological autonomy granting parenting behaviors, grit, academic success, athlete burnout, and mental health outcomes among college student-athletes.

Similar to previous research in college student samples (Duckworth & Quinn, 2009; Howard et al., 2019), grit was positively related to total academic success and psychological autonomy granting parenting behaviors, and negatively related to mental health outcomes, athlete burnout, and overparenting behaviors. Grit was also found to be a significant predictor of academic success, athlete burnout, and mental health outcomes in the current sample, suggesting that student-athletes who reported higher grit levels also reported lower mental health outcomes and athlete burnout, as well as higher academic success in comparison to their counterparts who did not. Noticeably, mental health outcomes and athlete burnout shared a significant positive relationship in the current study. This confirms previous findings (Raedeke & Smith, 2001) that these two variables share many factors in common. In addition, it is worth noting that overparenting and academic success did not share a significant relationship in the current sample. This is incongruent with our hypotheses and unlike what has been found in the literature related

to the two variables (e.g., Howard et al., 2019). This finding could be a result of the unique sample and the interactions between these variables in the current student-athlete sample. That is, it may be the case the student-athletes are not negatively impacted by overparenting behaviors in terms of their academic outcomes because they willingly accept the excessive assistance from their parents. This is also supported by high parental involvement and high satisfaction with parental involvement reported by the student-athletes in this study.

Additionally, the subscales of grit, perseverance of effort and consistency of interest, were also evaluated in terms of their relationships with other constructs examined in this study. Consistency of interest demonstrated a significant positive relationship with academic success and psychological autonomy granting parenting behaviors, as well as negative relationships with overparenting behaviors, mental health outcomes, and athlete burnout among student-athletes. In addition, perseverance of effort demonstrated a significant positive relationship with academic success, and significant negative relationships with mental health outcomes and athlete burnout. These significant relationships support previous research (e.g., Akos & Kretchmar, 2017) and initial hypotheses which posited grit is an advantageous trait for college student-athletes in multiple domains of their collegiate experience (i.e., mental wellness, athletic performance, academic success).

Analyses also revealed overparenting as a significant negative predictor of grit and significant positive predictor of mental health outcomes among student-athletes in the current sample. Similar to Dorsch et al. (2016), this finding suggests that student-athletes who report elevated levels of overparenting also reported a lower grit level and

higher mental health outcomes. To add, this finding also supports previous research which indicates overparenting behaviors may be detrimental to college student development in a number of ways (e.g., emotional distress; Odenweller et al., 2014). Conversely, psychological autonomy granting parenting behaviors were not a significant predictor of outcomes among the sample of student-athletes. Similar to previous research (Howard et al., 2019), psychological autonomy granting behaviors maintained positive (grit) and negative (mental health outcomes, athlete burnout) relationships with variables of interest, but were not identified as a predictor of the outcomes of success and wellness among student-athletes in the current sample. Although the facet of psychological autonomy granting is an integral part of the construct of authoritative parenting (Steinberg et al., 1992), the relationships between the variables in the current study were not as strong as initially hypothesized.

We suggest that this may be due to a few different reasons. First, psychological autonomy granting parenting behaviors have not been studied within collegiate student-athletes up to this point. Thus, relationships from previous studies with similar samples (i.e., college students) may differ from what has been found here. For example, high levels of psychological autonomy granting behaviors may not be as integral to student-athlete development, and success, as initially predicted. Second, considering that the scale used to evaluate psychological autonomy granting behaviors was developed 27 years ago (Steinberg et al., 1992), the construct of psychological autonomy granting may need to be updated in accordance with generational changes of parenting behaviors. Perhaps the creation of a new measure could assist the evaluation of these behaviors within the college student, and college student-athlete, environment. Third, student-

athletes are impacted by a number of factors during their time in college (Raedeke & Smith, 2004). Considering this, it may be the case that athletes are impacted by more socialization factors (e.g., coaches, trainers, tutors), in addition to parenting, throughout their development than average college students. Therefore, student-athlete parenting behaviors may be one protective factor of many during development, rather than the sole factor assisting in the success of student-athletes in higher education.

Further, we examined grit as a moderator in the relationship between overparenting behaviors and outcomes of success and wellness. Grit was not identified as a moderator between overparenting and college student outcomes. Although grit was able to successfully predict mental health outcomes, academic success, and athlete burnout of student-athletes in the sample, the interaction between the two variables did not further predict the outcomes among college student-athletes. In addition, we hypothesized that grit would buffer the negative impact from overparenting onto academic success, athlete burnout, and mental health outcomes. Unfortunately, the strength of the significant relationships between overparenting and the negative outcomes among college students were not significantly impacted by the presence of grit. This may be due in part to the high parental involvement and high satisfaction with this parental involvement reported by student-athletes in the current study. Although this finding did not support our hypotheses, further exploration of these variables may be helpful in learning how grit may be able to act as a protective factor against negative outcomes.

We also aimed to evaluate grit as a mediator between psychological autonomy granting behaviors and outcomes of success and wellness among college student-athletes. Grit was not identified as a mediator between psychological autonomy granting behaviors

and academic success, athlete burnout, and mental health outcomes in the current study. We propose that the lack of mediating relationships may be due to the fact that psychological autonomy granting behaviors were evaluated in the same model as overparenting behaviors. Because overparenting behaviors maintained such strong relationships with the outcomes in the study (grit, academic success, athlete burnout, mental health outcomes), it follows that overparenting may have impacted the ability to detect the unique effects of psychological autonomy granting behaviors.

Exploratory analyses aimed to understand the underpinnings of the grit construct by examining the subscales of the trait. Specifically, we evaluated the relationships between parenting behaviors, perseverance of effort, consistency of interest, mental health outcomes, academic success, and athlete burnout in the current sample of student-athletes. First, significant positive relationships between consistency of interest and academic success and psychological autonomy granting parenting behaviors were identified. To add, consistency of interest also yielded negative relationships with overparenting behaviors, mental health outcomes, and athlete burnout among student-athletes. In addition, overparenting was identified as a significant negative predictor of consistency of interest, indicating that student-athletes who reported elevated levels of overparenting likely reported lower levels of grit related to maintaining their long-term interest and goals. This result is partially congruent with our initial hypothesis and could give some insight into student-athlete grit. For example, it may be the case that student-athletes who experience high levels of overparenting may be less likely to continue their interest (e.g., class, sport, school) in the collegiate environment. This may be a way in which we can understand the negative impact of overparenting on student-athlete success.

Further, consistency of interest was also identified as a significant positive predictor of academic success, but no other outcomes of student-athletes in the sample. This was partially supportive of our initial hypotheses, which proposed consistency of interest would successfully predict all student-athlete outcomes. The lack of predictive ability found within participants' consistency of interest is congruent with previous literature related to the subscales, which posits that consistency of interest does not maintain as high of a predictive ability as the perseverance of effort subscale (Bowman et al., 2015).

As initially predicted, perseverance of effort yielded a significant positive relationship with academic success, and significant negative relationships with mental health outcomes and athlete burnout. However, perseverance of effort was not successfully predicted by either parenting variables in the study, which is incongruent with our initial hypotheses. Although previous studies have found perseverance of effort to be stronger of the two facets of grit (Bowman et al., 2015), perseverance of effort was not predicted by overparenting or psychological autonomy granting. Moreover, perseverance of effort was significantly positively predictive of academic success, and negatively predictive of mental health outcomes and athlete burnout. This finding does support previous literature stating that perseverance of effort is the more potent grit factor within the grit scale (Bowman et al., 2015). Perseverance of effort and consistency of interest were also investigated as moderators and mediators between parenting strategies and outcomes of success and wellness. No significant mediations or moderations were identified in the current sample.

Furthermore, an unforeseen relationship between grit and overparenting was found. Although not initially hypothesized, student-athlete grit partially mediated the

relationship between overparenting behaviors and mental health outcomes. That is, when considering grit as a mediator, the relationship between overparenting and mental health outcomes significantly decreased. This suggests overparenting behaviors negatively impact grit level, which then negatively impacts college student-athlete mental health outcomes. In addition, this result also suggests that participants' level of grit assisted in explaining their mental health concerns. This finding supports previous research (e.g., Howard et al., 2019, Dorsch et al., 2016) that found overparenting to be a negative predictor of positive factors in the collegiate environment. Specifically, Howard and colleagues (2019) found that overparenting negatively impacted grit level which, in turn, negatively impacted student academic success. The finding of the current study acknowledges a similar mediating mechanism of grit, but instead of academic success, overparenting is influencing mental health by reducing grit in college student-athletes.

This is a novel finding that may provide evidence in understanding one aspect of the parent/student-athlete relationship in college. Results from the current study indicate that student-athletes are not negatively affected by overparenting behaviors in terms of their academic work. Considering the typical student-athlete stressors and academic benefits to parental over-control (e.g., less work to complete), perhaps it is the case that athletes are more likely to accept over-involved academic support from their parents. However, what student-athletes (and their parents) may not be as aware of is how these intrusive and over-protective behaviors may be wearing down their grit which, in turn, may negatively impact their ability to combat stressors in the collegiate environment. Considering this and the previous findings that suggest student-athletes are not as akin to seeking help regarding their mental health concerns (Velasco, 2017), overparenting and

student-athlete grit may play an even larger roles related to college student-athlete mental health than initially considered.

Limitations

A few imitations of the current study are acknowledged. First, correlational analyses and a cross-sectional design were utilized to evaluate the relationships between the parenting variables, grit, and outcomes of success and wellness. Therefore, we cannot represent direct cause-and-effect relationships. Second, our sample utilized for analyses ($N = 202$) was lower than initially proposed ($N = 300$). Although the sample did not negatively impact certain relationships between variables, it may have impacted our ability to detect significant relationships with more complex analyses (e.g., moderation) in the current study. Third, much of our sample completed the battery of questionnaires in-person, which led to more incomplete surveys, errors on quality assurance (e.g., validity questions), and missing data for data analyses. This limitation impacts the results of the current study due to the undetermined level of effort by participants within this group to attend to each question and the removal of surveys from analyses ($n = 48$). Fourth, scale reliability of the consistency of interest ($\alpha = .68$) and perseverance of effort ($\alpha = .66$) were lower than acceptable standards in the literature ($\alpha = .78 - .79$; Duckworth & Quinn, 2009). This should be considered when evaluating the relationships between the subscales and other variables in the aforementioned analyses.

Future Research

Considering the results of the current study, we propose some areas for future research. First, it is recommended that research potentially expand predictors and/or outcomes related to success of student-athletes in college. Potential research studies could

investigate relationships between outcomes (e.g., substance misuse, GPA) with other socialization factors (e.g., coaches, trainers, additional family members) to further understand predictors of student-athlete grit as well as student-athlete well-being and success. This additional research could also take particular aim at further understanding the dynamic relationship between overparenting, grit, and mental health outcomes to increase knowledge of these relationships in various college populations (e.g., student-athletes). In addition, it is also recommended that demographic variables (e.g., gender, academic status, sport) be explored to further understand the within group differences present in student-athletes. Although gender did not significantly impact the results of the current study, future research may benefit from considering the role of gender in the student-athlete experience (e.g. burnout, mental health). This would assist in understanding how different groups may be impacted by the variables investigated in this study. Furthermore, we suggest that future research should focus on updating the measurement of authoritative parenting to be in accordance with the current social and cultural changes. Lastly, collecting data from student-athlete parents may also be beneficial in understanding the impact of parenting and grit on student-athlete success. This would fill a gap in the literature that aims to understand not only student-athlete success, but also predisposing factors that may hinder or assist success in higher education.

Clinical Implications

We propose a few implications in research and applied settings. Findings of the current study further support some of what we already know about college student-athletes. Parenting behaviors continue to be an integral part not only of the formation of

the student-athlete, but also the success of the athlete while attending university. Congruent with previous research (e.g., Dorsch et al., 2016), our research suggests that parents who maintain an overbearing, intrusive parenting style may hinder their child's ability to develop grit which, in turn, could negatively impact their mental health as well as their ability to handle adversity on and off the field. In addition, our research findings indicate that grit is an advantageous trait for college student-athletes. Specifically, individuals with higher grit levels experienced less mental health outcomes and more academic success in comparison to their counterparts. Considering these findings, we ask that university and campus health professionals budget resources to communicate these types of findings related to parenting, grit, and outcomes of success and wellness to their athletes and families.

We propose a few recommendations. First, programming regarding an onboarding process for student-athlete families should be considered, with specific goals to explain how student-athletes succeed in college with the appropriate support from their parents. This could include psychoeducation on appropriate parenting behavior (e.g., reacting to adversity in child's life) and psychological well-being from an athlete's perspective. Second, health promotion programming informing coaches, and athletes, should also be considered. This may include psychoeducation on grit, such as how to stay focused on long-term goals and maintain perseverance through adversity, coping mechanisms to help student-athletes maintain balance in their busy lives, and potential interventions to increase grit (i.e., deliberate practice; Eskreis-Winkler et al., 2016).

Third, we ask that university athletic departments and campus health professionals emphasize how grit may assist student-athletes beyond sport. Specifically,

grit should be conveyed as a broader construct that is applicable to more than just athletic performance. Although romanticized in athletics, student-athletes may benefit from understanding grit in many different domains, such as with career decision-making and employment opportunities. We ask that athletic administrators involve campus mental health resources (e.g., student counseling services, offices of health promotion) to further educate staff and student-athletes on grit and coping skills as tools to use inside and/or outside of athletics (e.g., Gratitude – Mindfulness Intervention; Gabana, Steinfeldt, Wong, Chung, & Svetina, 2019). With a greater understanding for what grit could provide for athletes off the court or field, we may be better able to support efforts to cultivate a more well-rounded grit which, in turn, may increase the overall well-being of college student-athletes. Fourth, educating coaching and training staffs on how we may prevent negative outcomes (e.g., mental health outcomes, burnout) may also increase cohesion between health professionals (counselors, psychologists) assisting athletes on-campus. Recent research has identified coaches as a predictor on whether or not an athlete attends the appropriate mental health treatment (Castaldelli-Maia et al., 2019) and thus, we encourage coaches and training staffs to not only cooperate with mental health professionals on campus, but rather, support this option as viable to increase the wellness of university and college athletes. To add, athlete-specific health and wellness programming, along with options available for individual assistance, could also better assist university athletic departments in preventing negative outcomes, rather than simply reacting to them.

Student-athletes are a unique subset of the college student population with inimitable stressors. Findings of the current study further underline the significant impact

of parenting behaviors and grit on college student-athlete wellness and success. Although grit in collegiate athletics is practically a requirement, little research has compiled related to student-athlete grit in other domains. Findings of the current study posit grit as a positive influence on academic success, athlete burnout, and mental health outcomes. In addition, overparenting was found to have a negative impact on grit and thus, was not identified as advantageous to collegiate student-athletes. In sum, researchers should continue to delineate the unique relationships between parenting, grit, and collegiate athletes while also developing new protocols to further cultivate this valuable characteristic on college campuses nationwide.

APPENDIX A – Informed Consent

INFORMED CONSENT (IN-PERSON)

PURPOSE: The present study seeks to better understand the relationship between parenting, grit, and outcomes (e.g., academic success) among student athletes.

DESCRIPTION OF STUDY: The present study will consist of participants completing several brief questionnaires in person taking approximately 15 – 20 minutes. Quality assurance checks will be used in this study to make sure that participants read each question carefully and provide thoughtful answers. Participants who do not pass these checks will not be used in further data analyses.

BENEFITS: Benefits could include a better understanding of current mental health, academic success, and perceived parenting practices. Additionally, participants may find that their perceived levels of academic success and positive characteristics (i.e., grit) are sufficient or exceeding what they had originally imagined. Participants may also recognize the need for help or assistance after completing the current study, and utilize the resources offered to their benefit. Further, the information provided may better enable researchers to better understand parenting behaviors and how they may be related to mental health outcomes in emerging adulthood. This study does not involve treatment procedures of any kind, or the potential for medical injury.

RISKS: There are no foreseeable risks associated with the current study, beyond those already present in routine daily life. If any questionnaire material evokes distress during the completion of this study, participants should contact the researcher with concerns immediately.

CONFIDENTIALITY: The questionnaires and the information you provide will be kept strictly confidential. Any potentially identifying information will not be retained with your responses. All data collected from the study will be stored in aggregate form with no identifying information to ensure confidentiality. Data will be stored in a secure location for seven (7) years, after which time it will be destroyed.

PARTICIPANT'S ASSURANCE: This project has been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, Box 5147, Hattiesburg, MS 39406, (601) 266-6820. Participation in this project is completely voluntary, and participants may withdraw from this study at any time without penalty, prejudice, or loss of benefits. Questions concerning the research should be directed to the primary researcher Jackson Howard (Jackson.Howard@usm.edu) or the research supervisors, Dr. Bonnie Nicholson (bonnie.nicholson@usm.edu) and Dr. Melinda Wells Valliant (valliant@olemiss.edu).

If you experience distress as a result of your participation in this study, please notify the primary researcher Jackson Howard (Jackson.Howard@eagles.usm.edu) or the research supervisors, Dr. Melinda Wells Valliant (valliant@olemiss.edu) and Dr. Bonnie Nicholson (bonnie.nicholson@usm.edu).

A list of available agencies that may be able to provide services for you are provided below:

USM Community Counseling and Assessment Clinic (601) 266-4601
USM Student Counseling Services (601) 266-4829
UM Counseling Center (662) 915-3784
Pine Belt Mental Healthcare (601) 544-4641
Forrest General Psychology Service Incorporated (601) 268-3159

By marking the box labeled “Yes” and signing below, consent is hereby given to participate in this study.

I have read the informed consent agreement associated with this study, and hereby provide informed consent of my participation.

- Yes**

Signature: _____

Date:

If you would NOT like to participate in the current study, please simply mark the box below labeled “No” and turn this page, and your packet, back into the researcher.

- No**

INFORMED CONSENT (ONLINE)

PURPOSE: The present study seeks to better understand the relationship between parenting, grit, and outcomes (e.g., academic success) among student athletes.

DESCRIPTION OF STUDY: The present study will consist of participants completing several brief questionnaires online taking approximately 15 – 20 minutes. Quality assurance checks will be used in this study to make sure that participants read each question carefully and provide thoughtful answers. Participants who do not pass these checks will not be used in further data analyses.

BENEFITS: Benefits could include a better understanding of current mental health, academic success, and perceived parenting practices. Participants may also find that their perceived levels of academic success and positive characteristics (i.e., grit) are sufficient or exceeding what they had originally imagined. In addition, participants may also recognize the need for help or assistance after completing the current study, and utilize the resources offered to their benefit. The information provided may also better enable researchers to better understand parenting behaviors and how they may be related to mental health outcomes in emerging adulthood. This study does not involve treatment procedures of any kind, or the potential for medical injury.

RISKS: There are no foreseeable risks associated with the current study, beyond those already present in routine daily life. If any questionnaire material evokes distress during the completion of this study, participants should contact the researcher with concerns immediately.

CONFIDENTIALITY: The questionnaires and the information you provide will be kept strictly confidential. Any potentially identifying information will not be retained with your responses. All data collected from the study will be stored in aggregate form with no identifying information to ensure confidentiality. Data will be stored in a secure location for seven (7) years, after which time it will be destroyed.

PARTICIPANT'S ASSURANCE: This project has been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, Box 5147, Hattiesburg, MS 39406, (601) 266-6820. Participation in this project is completely voluntary, and participants may withdraw from this study at any time without penalty, prejudice, or loss of benefits. Questions concerning the research should be directed to the primary researcher Jackson Howard (Jackson.Howard@usm.edu) or the research supervisor, Dr. Bonnie Nicholson (bonnie.nicholson@usm.edu).

If you experience distress as a result of your participation in this study, please notify the primary researcher Jackson Howard (Jackson.Howard@usm.edu) or the research supervisor, Dr. Bonnie Nicholson (bonnie.nicholson@usm.edu).

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Pine Belt Mental Healthcare (601) 544-4641

Forrest General Psychology Service Incorporated (601) 268-3159

By marking the box labeled “Yes”, consent is hereby given to participate in this study.

If you would NOT like to participate in the current study, please simply mark the box below labeled “No”.

APPENDIX B – Demographic Form

What is your age? _____

What is your gender?

Male

Female

Other _____

Please indicate your college status:

Freshman

Sophomore

Junior

Senior

Other (please specify) _____

Please indicate your current living situation

Off campus (with parents)

Off campus (without parents; with roommates)

Off campus (without parents; without roommates)

On campus (with roommates)

On campus (without roommates)

Other (please indicate): _____

What is your race?

White/Non-Hispanic

Black/African American

Asian-American

Native American

Native Hawaiian/Pacific Islander

Other _____

What is your immediate family's estimated income?

\$0-\$24,999

\$25,000-\$49,999

\$50,000-\$74,999

\$75,000-\$99,999

\$100,000-\$124,999

\$125,000-\$149,999

\$150,000+

For the purposes of this study, you will be asked to identify a primary caregiver. This should be the parent, or “primary caregiver” that you consider to currently provide the most support in your life.

Mother

Father

Grandfather or other male family member (e.g., uncle)

Grandmother or other female family member (e.g., aunt)

Other (please describe) _____

On a scale from 1-10 (1 = not involved at all and 10 = very involved), how involved do you believe your primary caregiver is in your life?

On a scale from 1-10 (1 = completely unsatisfied and 10 = completely satisfied), how satisfied are you in your relationship with your primary caregiver?

APPENDIX C – IRB Approval Form



INSTITUTIONAL REVIEW BOARD

118 College Drive #5147 | Hattiesburg, MS 39406-0001

Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 18040601

PROJECT TITLE: Student-Athlete Success: An Examination of Parenting, Grit, Academic Success, and Mental Health Outcomes

PROJECT TYPE: New Project

RESEARCHER(S): Jackson Howard

COLLEGE/DIVISION: College of Education and Psychology

DEPARTMENT: Counseling Psychology

FUNDING AGENCY/SPONSOR: N/A

IRB COMMITTEE ACTION: Expedited Review Approval

PERIOD OF APPROVAL: 04/09/2018 to 04/08/2019

Lawrence A. Hosman, Ph.D.

Institutional Review Board

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