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THE RELATIONSHIP OF FACTORS CONTRIBUTING TO BURNOUT
AND GRIT AMONG DIVISION I COLLEGIATE ATHLETES

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ABSTRACT

Within the sports field, one popular interest is burnout among athletes. The objective of this study was to determine the association of risk factors to burnout and grit among Division I collegiate athletes. Seventeen males and twenty-five females (age= 19.88 ± 1.02) participated in this study (football, $n = 8$; cross country/track $n = 1$; soccer, $n = 1$; basketball, $n = 2$; golf, $n = 1$; volleyball, $n = 13$; baseball, $n = 5$; and rifle, $n = 11$). A survey and the athlete burnout questionnaire (ABQ) was used to evaluate risk factors of burnout and to assess burnout syndrome. The grit scale was used to score an athlete's grittiness. This study found there to be a significant, positive relationship between burnout and grit among Division I collegiate athletes. Furthermore, this investigation's findings determined that the only risk factor associated with burnout that is statistically significant is the number of sports played before playing collegiately. Findings from this study can be used to prevent burnout in younger athletes while self-reflecting on personal grit score.

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CHAPTER I

INTRODUCTION

Playing a sport provides athletes with both mental and physical benefits. Sport participation is popular around the world. However, unfortunately, playing a sport may put athletes at risk for mental and physical exhaustion; a concept known as burnout.

The definition of “burnout” is inconclusive which inhibits consistent evaluation in research studies (Cresswell & Eklund 2007). Additionally, burnout develops over time which makes it difficult to observe (Malina, 2010). For the purposes of this study, burnout will be defined as "the psychological, emotional, and physical withdrawal from a formerly pursued and enjoyable sport as a result of excessive stress which acts on the athlete over time" (Smith, 1986). Burnout has become a widely recognized concept that has numerous characteristics.

Initially, reports of negative experience from notable athletes cultivated research in athlete burnout (Cresswell et al., 2007). Specifically, Division I collegiate athletes must uphold the expectation of good academic standing while successfully performing in their sport. According to Crocker and Graham (1995), most college athletes have experienced burnout at least once in their career. However, research has been shown to be inconclusive in determining the risk factors for athletic burnout.

Athletes experience both mental and physical demands. Some demands athletes may experience include competition, idealisms of perfectionism, overtraining, sport specialization, self-determination, goals and motivation, gender, year in college, stress of maintaining a starting position, coaching changes, scholarship status, and societal pressure. Past research has indicated variables relating to athlete burnout such as

pressure to perform, competitive environment, heavy training demands, sport specialization, and societal pressure (Cresswell et al., 2007; Crocker et al., 1995; Malina, 2010). However, past research is inconclusive amongst subscales of burnout such as training and competition demands (Veradi et al., 2014). Due to ambiguous definitions of burnout, as well as varying characteristics among athletes, findings differ considerably when determining certain risk factors of athlete burnout, specifically in Division I collegiate athletes.

When investigating burnout, the emerging non cognitive characteristic trait, grit, has not been considered as a potential contributor. Grit is defined by passion and perseverance (Duckworth, 2016). Grit can be applied to various disciplines including athletics, work, and academics. In the athletic setting, grit may apply to an athlete's effort towards pushing past setbacks such as tough training conditions, or an athlete's decision to progress in a sport although they may experience burnout.

Athlete burnout has been investigated in various age groups. Examining burnout risk as well as the relationship between athletic burnout and grit in collegiate athletes may aid in preventing emotional and physical exhaustion, reduced sense of accomplishment, and sport devaluation. Additionally, analyzing the risk factors of burnout and its association with grit may reduce burnout amongst Division I collegiate athletes through means of prevention. Therefore, the purpose of this study is to analyze the risk factors for athletic burnout (competition, perfectionism, training, sport specialization, self-determination, goals and motivation, gender, year in college, scholarship status and maintenance of starting position, coaching change, and societal pressure), to assess if

college athletes have grit, and to determine the relationship between athletic burnout and grit in Division I collegiate athletes.

SIGNIFICANCE OF STUDY

This study focuses on burnout and grit among Division I collegiate athletes. Because burnout relates to the negative experience athletes can have, findings could influence younger athletes to take precautionary measures when participating in sports to reduce burnout.

HYPOTHESES

1. Competition, perfectionism, training, sport specialization, self-determination, goals and motivation, gender, year in college, scholarship status and maintenance of starting position, coaching change, and pressure will be significantly related to athletic burnout.
2. College athletes have a high level of grit.
3. There will be a negative relationship between athletic burnout and grit in Division I collegiate athletes.

CHAPTER II

REVIEW OF LITERATURE

a. Competition

Researchers have concluded that excessive competitive demands leave a lasting impact on an athlete. Veradi et al, (2014) referenced multiple authors who concluded that the nature of competition leads to emotional exhaustion (Hill & Appleton, 2011; Kimberley, Bartholomew, Ntoumanis, Ryan, Jos, Bosch & Thøgersen-Ntoumani, 2011; Raedeke, 1997).

Similarly, research has been conducted finding that the focus of the early stages of athletic development is concentrated around encouraging multi-sport participation in a fun and enjoyable manner (Ferguson & Stern, 2014). However, it was observed that the later stages of athletic development focus on sport specific skills, intense training, and high level competition (Ferguson & Stern, 2014). Competition can lead to self-determining perfection and overtraining which in turn leads to mental and physical exhaustion. Additionally, current literature explores the effect of competitive demands amongst athletes by showing that emotional and physical exhaustion (due to the excessive demands imposed by training sessions and competition) is one of three key aspects of professional exhaustion in athletes (Veradi et al., 2014). Burnout is applied to a competitive environment because of the stresses put on both the body mentally and physically in response to exhaustion. Overall, researchers have been fairly conclusive in noting that training and or competition demands are a subscale of burnout (Veradi et al., 2014). When athletes are constantly in a competitive state, there is a lack of recovery

from competitive stress. Further research can explore the level of effect a competitive environment has on a collegiate Division I athlete. Conducting research can help determine if there is a correlation between the level of competitive anxiety and burnout.

b. Perfectionism

Perfectionism in sports has been shown to be associated with athletic burnout (Madigan, Stoeber, & Passfield, 2015). Perfectionism has been described as a personality style characterized by the act of refining precision and completing work that is virtually perfect. People who are perfectionists are driven by excessively high standards for performance and they are often overly critical of their own behavior (Flett & Hewitt, 2002). It has also been suggested that perfectionism results in a higher susceptibility to stress (Gustafsson, Hill, Stenling & Wagnsson, 2015; Hewitt et al., 2002; Smith 1986). Perfectionism has also been found to have the ability to motivate and improve an athlete's performance (Chen, Kee, Chen, & Tsai, 2008). Nevertheless, published findings suggest that perfectionism has both increased and reduced burnout. Additionally, dimensions of perfectionism demonstrated characteristics such as hope for success and competitive self-confidence (Stoeber, Stoll, Salmi & Tiikkaja, 2009). Alternatively, it also has the ability to cause an athlete to be overly demanding of themselves as well as cause self-deprecating attributions of success and failure (Chen et al., 2008; Stoeber et al., 2009). The positive aspect of perfectionism is a form labeled "normal perfectionism," whereas negative perfectionism is labeled "neurotic perfectionism" (Stoeber & Otto, 2006). The correlation between the effects of perfectionism warrants additional consideration to

examine whether perfectionism positively or negatively affects Division I collegiate athletes in terms of athletic burnout.

c. Training

Overtraining establishes repeated physical stress to certain parts of the body. Pressure from society causes athletes to push themselves to achieve elite status which is cultivated by the demand to be the best. Research indicates that training demands do not allow for athletes to have a sufficient break from a sport (Cresswell et al., 2007). Similarly, Ferguson and Stern (2014) concluded that minimal rest for an athlete can be detrimental. In turn, the pressure to return to a sport opens the door for players beginning a season unprepared and with injuries (Cresswell et al., 2007). Researchers explore the anti-rest culture associated with sports whether it be because of athlete's fear for future success or public opinion (Cresswell et al., 2007). It has been estimated that approximately ten years of experience and 10,000 hours of deliberate practice is necessary for international success (Malina, 2010). Increasing rest and reducing training load could prevent potential fatigue, illness, or burnout (Soligard, Schwelunus, & Alonso, 2016).

According to the Long Term Athlete Development (LTAD) model, there are six stages to athletic development, half of which involve an emphasis on training: Training to Train, Training to compete, and Training to win (Ferguson et al., 2014). Although consistent training is important to athletic success, it is important to explore the risks of overtraining and its relationship to burnout. Although there are preventative measures for overuse injuries from overtraining (such as limiting sport specific repetitive movements,

modifying exercising based on the individual, and monitoring workload), research examining the effects of overtraining in correlation with burnout among collegiate level athletes is lacking.

d. Sport Specialization

Sport specialization refers to year-round training focusing on one sport. Researchers conclude that sport specialization stems from the emphasis on achieving an elite status (Ferguson et al., 2014; Jayanthi et al., 2012; Kutz & Secrest 2009; Malina, 2010;). This status may be accompanied by the goal of excelling to be a professional athlete. Depending on the athlete's goal, they may find themselves specializing in one sport in order to reach their goal, whether that be playing at a professional level, or moving to a starting position. Researchers predict that extensive practice hours may be a reason why parents encourage early sport specialization (Malina, 2010). Furthermore, researchers also found that many coaches and parents believe that in order to create a superior athlete, their child must focus on one sport year round (Malina, 2010).

Researchers claim conflicting views on the benefits of early sport specialization (Ferguson et al., 2014). The American Medical Society for Sports Medicine (AMSSM) notes that early sport specialization may lead to burnout and overuse injury; however, they also state that it may be necessary for early entry in some sports where peak performance is at a young age. Similarly, researchers agree that some degree of sports specialization is necessary to develop elite level skills; however, they also note that this should be delayed until later years to optimize success and limit injury and burnout (Jayanthi et al., 2012). Kutz and Secrest (2009) conclude that the conditions conducive

to overtraining are higher for a multi-sport athlete, which warrants caution for burnout. For this reason, additional research is warranted to examine the relationship between specializing in sports and athletic burnout amongst Division I collegiate athletes

e. Self Determination

According to existing literature, self-determination, in the context of sports, refers to having a choice in sports related behaviors (Lemyre & Stray-Gundersen, 2007). A behavior that is autonomous seems to be intrinsically elicited and thus, may be associated with more enjoyment. On the contrary, those behaviors which are not autonomous seem to be associated with lack of choice that is not self-regulated. Lack of autonomy may result in potential burnout due to their lack of control and satisfaction from the sport.

f. Goals and Motivation

Existing research indicates that intrinsic motivation refers to activity engagement due to pleasure and satisfaction from activity participation. This suggests that athletes who are primarily intrinsically motivated participate voluntarily (Pelletier, 1995). Furthermore, researchers have concluded that extrinsic motivation refers to athletes participating in a sport not for fun, but rather to obtain reward and avoid negative consequence (Pelletier, 1995).

Researchers have suggested that different forms of extrinsically motivated behaviors can be viewed on a continuum of higher to lower self-determination (Lemyre et al., 2007). This continuum is based off of three broad types of motivation within the self-determination theory: amotivation, extrinsic motivation, and intrinsic motivation

(Lonsdale, Hodge, & Rose, 2009). According to Lemyre et al., (2007), amotivation is at the lower end of the continuum. Amotivation is characterized by a lack of motivation (Lonsdale et al., 2009). Intrinsic motivation is based off of enjoyment in the activity itself. Additionally, external motivation is characterized by an athlete feeling controlled by external factors (for example, parental pressure). According to definitions of burnout, sport devaluation and lack of motivation for the sport contribute to physical and mental exhaustion.

It has been hypothesized that burnout should be positively correlated with non-self-determined motivation while simultaneously negatively correlating with self-determined motivation types (Lonsdale et al., 2009). According to Lonsdale et al., (2009), research has found that intrinsic motivation is negatively related to athlete burnout, while amotivation is positively related to the burnout syndrome. Research has demonstrated that in accordance with an athlete's motivation, their goals may contribute to burnout.

The motives for playing a sport may be indicative of athletic burnout, which can be examined through the analysis of the pressure an athlete feels to play a sport. Additionally, motives are examined by analyzing long term goals of playing a sport, such as playing professionally or not. Different motives for playing include money, self-satisfaction, and fame. Existing research is not conclusive in regards to how motives and goals relate to burnout. For example, some research indicates that junior tennis players who burned out early had lower levels of extrinsic motivation (Jayanthi et al., 2012). However, research also notes that lack of meaningful accomplishments is a characteristic of burnout (Crocker et al., 1995). In accordance with Crocker and Graham (1995), the

results of a study in a professional setting suggested that both reduced accomplishment and low professional efficacy should be considered as potential key characteristics of athlete burnout (Cresswell et al., 2007). Additionally, research should be conducted to examine the relationship between motivation and burnout amongst Division I collegiate athletes.

g. Gender

There is a need for research to analyze the effect on gender in relation to athletic burnout. Existing literature focuses on gender as a factor of burnout in an academic and work setting. In one study, the researchers focused on the relationship between gender and burnout in regards to emotional exhaustion and depersonalization (Muros & Purvanova, 2010). Both of these components have been considered when analyzing athletic burnout (Crocker, 1995). Thus, even though there is minimal research on the relationship between gender and athletic burnout, the results of other studies in other settings may correlate to an athletic setting.

There have been assumptions that burnout occurs more frequently in females (Muros et al., 2010). Results have demonstrated that females scored higher on emotional exhaustion in comparison to men; however, men scored higher on depersonalization in comparison with women. Overall, women were more likely to report burnout than men. However, it should also be noted that women were more likely to report the emotional exhaustion component of burnout, whereas men were more likely to report the depersonalization component of burnout (Muros et al., 2010). Nevertheless, these results were similar when looking at burnout between male and female police officers. Findings

indicated that male and female officers did not report significantly different levels of occupational stress and burnout (McCarthy, Zhao, & Garland, 2007). The inconclusively of these results call for additional research to assess whether this same trend is similar in an athletic setting.

h. Year in College

There is minimal research done on the relationship between year in college and athletic burnout. Most college athletes have experienced burnout at least once in their college career (Crocker et al., 1995). However, this burnout is not specifically related to the athlete's year in college. Rather than year in college, research indicates that severe practice conditions, extreme physical fatigue, lack of recovery time from competitive stress, boredom, and emotional stress were the main contributors to the athletic burnout (Corcker et al., 1995). Although there is some research on athletic burnout amongst collegiate athletes, there is a need for further research to see if there is a relationship between year in college and athletic burnout in order to analyze which factors contribute to burnout.

i. Scholarship status

Research is warranted to examine if there is correspondence between a non-scholarship (walk on) athlete and athlete burnout. In 1999-2000, only 2.2% of girls and 2.0% of boys attained athletic scholarships (Malina, 2010). The numbers for full scholarships was even lower with 1.2% of females and 1.1% of males (Malina, 2010). These small numbers raise a question about the number of Division I college athletes who

are not receiving scholarship benefits. Although existing literature does not explore the relationship between walk on athletes and burnout, it can be hypothesized that factors such as motivation, pressure, and perception of success may or may not lead to mental, emotional and/or physical exhaustion depending on the athlete and their scholarship status.

Similarly, there is a lack of analysis on the anxiety of maintaining a starting position in relation to burnout. If a player does not start, they may overwork themselves to become a starter. However, if a player does start, they may overwork to maintain their starting position. Research is needed to determine if there is a difference in burnout risk for those first string athletes and others.

j. Coaching Change

In current literature, there are gaps with regard to investigating the correlation between coaching changes and burnout. Competitive transitions may create stress for an athlete. Along with competitive transitions comes the difficulty of meeting different demands and expectations in a short amount of time (Cresswell et al., 2007). Cresswell et al. (2007) concluded that those who feel that they had free communication with coaches/management demonstrate less feelings associated with burnout. Furthermore, a coach's connection with an athlete, including the coach's behavior and communication style has an influence on athletes. Because the coach-athlete relationship is an integral part of a sport, it is also fundamental to sport satisfaction and success (Crocker, 1995). Both sport satisfaction and success relate to burnout. Thus, examining the relationship between coaching change transitions and athletic burnout may demonstrate the need for

additional resources provided to athletes during a coaching staff transition to prevent burnout. One study analyzed that a midseason coaching change leads to improved team performance in about sixty-one percent of the cases they examined (Martinez & Caudill, 2013). The conclusions of Martinez and Caudill may be indicative of reduced burnout but it likely related to the situation which resulted in the coaching change.

Along with different coaches comes different coaching styles and attitudes. Certain types of athletes prefer certain coaching behaviors. For example, researchers found that interdependent sport athletes have a preference for an autocratic style versus a democratic style in comparison to an independent sport athlete. Specifically, research suggests that males prefer autocratic styles of coaching and females prefer a democratic style (Crocker, 1995). Crocker (1995) concluded that athlete satisfaction is highly correlated with coaches who offer positive feedback, social support, and a democratic style of decision making. Players that felt they had free communication with coaches and management didn't report feelings associated with burnout (Cresswell et al., 2007).

Because a coach is such an imperative component of an athlete's success, it may be constructive to see if coach change is a factor of athletic burnout.

k. Pressure

Pressure to perform has been documented as a substantial stressor for athletes of all ages. Athletes feel pressure on a scale from personal satisfaction to external satisfaction. Pressure varies depending on different components including social variants such as social support, overall goals, and position played (Cresswell et al., 2007).

Athletes face the pressure to comply with demands, whether that be from coaches, parents, or media. Coaches may lead athletes to feel an obligation to meet the requirements they place on them. Media pressure may result in athletes internalizing unrealistic external beliefs. Media increases scrutiny which makes it more difficult for athletes to ignore criticism (Cresswell et al., 2007). Similarly, Cavallerio et al. (2016) concluded that cultural norms, values, and behaviors all play a role in the occurrence of overuse injuries.

The pressure to perform can provide additional stress, especially when considering team selection is primarily based on performance (Cresswell et al., 2007). Research demonstrates predetermined expectations of certain athletes who are labeled as talented. On top of labeling, the pressure of attaining a scholarship may also be present (Malina, 2010).

The pressures athletes face have the ability to reduce accomplishment and decrease efficacy which are suggested as potential key characteristics of athletic burnout (Cresswell et al., 2007). Additionally, the pressure from an athlete's parents may affect their mental and emotional stress because of the desire to satisfy parents' expectations.

According to a developmental analysis of perfectionism completed by Flett, Hewitt, Oliver, and Macdonald (2002), one key factor in the development of perfectionism was social expectation. In addition to the relationship between perfectionism and social expectation, Madigan et al., (2015), also note the connection to burnout.

Although not heavily documented, a study was conducted comparing burnout amongst professional and amateur soccer players in relation to playing position (Verardi

et al., 2014) and concluded that different positions relayed different stress responses. Specifically, forwards tended to overestimate stressful situations such as the pressure to score a goal. The research also indicated that an increase in negative feelings may be associated with certain playing positions. Different coping methods of dealing with different stressors such as playing position may lead to athletic burnout.

Pressure on athletes has the ability to lead to burnout due to the physical, mental, and emotional exhaustion from the pressure for an athlete to comply with society. Although research has considered different components of societal pressures, there is little evidence that analyzes the interaction of societal pressures in correlation with other factors that together may lead to athletic burnout amongst Division I collegiate athletes.

1. Grit

Grit is a contemporary concept in relation to the world of sports. There has not been much exploration on the relationship between the personality trait ‘grit’ and sports. Angela Duckworth (2016) explains that grit is the combination of passion and perseverance where passion is the consistency of goals held over a long period of time and perseverance is the ability to overcome setbacks. Moles, Auerbach, and Petrie (2017) confirm Duckworth’s definition to study the possible effects of grit on the relationship between motivation feedback and the athlete’s performance. As demonstrated, Duckworth’s definition of grit can be applied in the world of sports, thus, her definition can also be exercised in relation to the importance of analysis on the relationship between effects of grit and factors contributing to burnout.

Duckworth's (2016) interviews of leaders in business, art, athletics, journalism, academics, medicine, and law led to the emergence of the Grit Scale which she defines as a test that has the potential to measure the extent to which you approach life with grit. Moles (2017) used Duckworth's scale in his study which evaluated motivational feedback and sport performance, which demonstrates the scales validity when examining concepts of athletics. This scale can be used to determine the grittiness of a person which, in turn, can be used to see if there is a relationship between grit and athletic burnout.

In *Grit*, Duckworth (2016) explains that grit applies to many different areas, some of which include athletics, work, and academics. She notes that grit contributes to success because despite general intelligence and pure talent, effort "counts twice". Her central model follows that talent times effort is skill and skill times effort is achievement. Duckworth (2016) brought up the question of why an unconscious bias toward talent persists. Current literature fails to explore the answer to this question, however, looking at the different factors contributing to burnout may help scrutinize it. Duckworth interviewed Dan Chambliss, a sociologist who completed a study of competitive swimmers titled, "The Mundanity of Excellence." He explained that some great athletes are blessed with a natural gift. He further analyzed that when it can't clearly be seen how experience and training led someone to a flawless performance, they are often labeled as a natural. By analyzing contributing factors of burnout, a relationship between perfection and level of grit can be explored.

In 1940, researchers at Harvard University designed a study to understand characteristics of healthy young men in terms of living a happy and healthy life. Young

men were asked to run on a steep angle, fast speed treadmill for up to five minutes. The idea behind this Treadmill Test was to gauge strength and will. The Harvard researchers knew that running was not only a test of physical strength, but it was also a function of how hard a subject is willing to push himself before having a tendency to quit (Duckworth, 2016). A psychiatrist named George Vaillant followed up with the subjects from this study decades later. He discovered that the Treadmill Test seemed to be a reliable predictor of psychological adjustment throughout adulthood. The willingness of a subject to push himself relates to athletic overtraining. Additionally, this study relates to an athlete's decision to continue a sport although they may be burnt out. Furthermore, research is needed to discern a conjunction between factors leading to burnout and the characteristic of grittiness.

There are studies that look at grit and athletics, however, existing literature lacks when comparing the relationship between grit and athletic burnout. An investigation examined the relationship between grit and burnout in relation to surgical trainees and doctors (Halliday, Walker, Vig, Hines, & Brecknell, 2016). Researchers concluded that surgical trainees reported higher levels of burnout than consultants. The study also showed that grit increased throughout surgical training (Halliday et al., 2016). Although the researchers who conducted this study found that high levels of grit were associated with lower burnout in the medical field, further research is needed to look at this relationship in the field of athletics in relation to burnout. Despite exploration of the characteristics of grit and burnout as well as grit and athletics, research is warranted to assess these components together.

m. Conclusion

Past studies have confirmed that burnout has some relationship to different aspects relating to sports including competition, perfectionism, over-training, sport specialization, self-determination, goals and motivation, and societal pressures. However, this relationship has not been studied amongst Division I Collegiate athletes. Minimal studies have examined the relationship between athletic burnout and gender, scholarship status, stress from maintenance of starting position, and coaching change. Although there has been research conducted on athletic burnout, research lacks in athletic burnout amongst Division I collegiate athletes. Additionally, research has not yet been conducted to examine the relationship between grittiness and burnout.

Due to the lack of research on athletic burnout and Division I collegiate athletes as well as athletic burnout and grit, the purpose of this study is to determine if college athletes have grit, the risk factors for athletic burnout (competition, perfectionism, training, sport specialization, self-determination, goals and motives, gender, year in college, walk on/maintenance of starting position, coaching change, and pressure), and the relationship between athletic burnout and grit in college athletes.

CHAPTER III

METHODS

Participants

Participants for this study were male and female Division I Collegiate athletes from the University of Mississippi. Participant involvement was voluntary.

Procedure

Surveys approved by The University of Mississippi Institutional Review Board were given to athletes at team meetings, in lecture classes, and academic advising appointments. The survey took approximately five to ten minutes to complete. Participants were notified of assured confidentiality and anonymity. Upon completion, participants placed their survey into a manila envelope for confidentiality.

Measurement

Athlete Burnout Questionnaire (ABQ) - The ABQ was used to evaluate burnout syndrome. Raedeke and Smith (2001) developed the ABQ to evaluate burnout among athletes. This questionnaire includes 15 items and three subscales to evaluate athlete burnout. The three subscales are comprised of physical and emotional exhaustion, reduced sense of accomplishment related to sport, and sport devaluation. Test-retest reliability was found in each of the three subscales: emotional/physical exhaustion ($R = .92$), reduced sense of accomplishment ($R = .86$), and sport devaluation ($R = .92$). Responses were based on a five point likert scale in which 1=Almost Always and 5=Almost Never.

Grit Scale- The grit scale was developed by Angela Duckworth (2016), originally developed for her study at West Point, however, has since been applied for various

different studies to evaluate grit. Responses were based off of a five point likert scale in which 1=Very Much Like Me and 5= Not Like Me at All.

STATISTICAL ANALYSIS

Univariate statistics as well as correlation and chi-square analysis were run using Statistical Package for Social Sciences (SPSS Version 25 by IBM Corporation, Chicago, IL, USA). Pearson correlation was run to find the relationship between grit and burnout, and the burnout subscales and grit. Pearson chi-square analysis was run to analyze the association between participant's demographic variables and burnout and grit.

Significance was set at $\alpha= 0.05$

CHAPTER IV

RESULTS

Participant demographic results can be found in Tables 1, 2, and 3. The following sports were represented: football ($n = 8$), cross country/track ($n = 1$), soccer ($n = 1$), basketball ($n = 2$), golf ($n = 1$), volleyball ($n = 13$), baseball ($n = 5$), and rifle ($n = 11$). Participants consisted of 40.5% males ($n = 17$) and 59.5% ($n = 25$) females. The participant's ages ranged from 18-22 years with an average age of 19.88 ± 1.02 . Chi-square analysis revealed gender, year in college, scholarship status, participation in additional training, planning to play sport professionally, a coach change, autonomy in position played, fear of losing starting position, feeling anxious before a game or match, getting angry when a mistake is made, and pressure from parents, coaches and fans were not significantly associated with burnout or grit ($p > .05$). Chi-square analysis showed sport played to have a significant association with grit but not burnout ($X^2 = 147.25$, $p < .05$). However, the representation of participants in the eight teams was not fairly distributed, making this finding not meaningful. Additionally, it revealed the number of sports played before attending the university to have a significant association with both grit ($X^2 = 107.68$, $p < .05$), and burnout ($X^2 = 126.29$, $p < .05$).

Overall, participants scored an average grit score of 3.75 ± 0.45 on the grit scale, with 5 being the highest grit score.

The score of the combined burnout items was 53.45 ± 11.63 out of a possible 75 total points representing most severe burnout. Each burnout subscale score was out of a possible 25 points. Reduced sense of accomplishment averaged a score of 18.62 ± 3.64 ,

emotional and physical exhaustion averaged a score of 15.57 ± 4.96 , and devaluation averaged a score of 19.28 ± 4.40 .

Pearson's correlation determined a significant, positive relationship between grit and burnout with a correlation coefficient of $r = .57, p < .05$. Additionally, a significant, positive moderate relationship was found between grit and the burnout subscales- reduced sense of accomplishment ($r = .44, p < .05$), emotional/physical exhaustion ($r = .48, p < .05$), and devaluation ($r = .56, p < .05$).

The interaction amongst the burnout subscales indicated a significant, positive correlation. There was a significant moderate relationship between reduced sense of accomplishment and emotional and physical exhaustion ($r = .52, p < .05$). A strong significant relationship exists between reduced sense of accomplishment and devaluation ($r = .69, p < .05$) as well as emotional/physical exhaustion and devaluation ($r = .77, p < .05$).

Table 1. Demographics ($n = 42$)

	Frequency	Percent (%)
Gender		
Male	17	40.5
Female	25	59.5
What sport do you play?		
Football	8	19
Cross Country/Track	1	2.4
Soccer	1	2.4
Basketball	2	4.8
Golf	1	2.4
Volleyball	13	31
Baseball	5	11.9
Rifle	11	26.2
How many years have you been at Ole Miss?		
1 year	20	47.6
2 years	12	28.6
3 years	8	19
4 years	2	4.8
How many sports did you play before coming to Ole Miss?		
0	1	2.4
1	11	26.2
2	15	35.7
3	13	31
6	1	2.4
7	1	2.4
Are you considered a walk on?		
Yes	9	21.4
No	33	78.6
Do you do additional training other than prescribed by a coach?		
Yes	23	54.8
No	18	42.9
Do you plan to play your sport professionally?		
Yes	20	47.6
No	22	52.4

Table 1 continued.

	Frequency	Percent (%)
Have you had a coach change since being at Ole Miss?		
Yes	21	50
No	21	50
Do you have a say in the position you play?		
Yes	12	28.6
No	26	61.9
N/A	4	9.5
If you start, have you ever feared your starting position being taken away?		
Yes	18	42.9
No	10	23.8
N/A	14	33.3
Do you feel anxious before a game or match?		
Yes	21	50
No	7	16.7
Sometimes	14	33.3
Do you get angry when you make a mistake?		
Yes	16	38.1
No	6	14.3
Sometimes	20	47.6
Do you feel pressure from parents, coaches, and fans to perform well?		
Yes	17	40.5
No	11	26.2
Sometimes	14	33.3

Table 2. Responses to the Athlete Burnout Questionnaire (ABQ)

Statement	Mean \pm SD	Response	Frequency	Percent (%)
1. I'm accomplishing many worthwhile things in [sport]	3.98 \pm 0.75	Almost Always	11	26.2
		Frequently	19	45.2
		Sometimes	12	28.6
		Rarely	0	0
		Almost never	0	0
2. I feel so tired from my training that I have trouble finding energy to do other things	2.86 \pm 1.00	Almost Always	5	11.9
		Frequently	5	11.9
		Sometimes	21	50
		Rarely	7	16.7
		Almost Never	2	4.8
3. The effort I spend in [sport] would be better spent doing other things	3.78 \pm 1.11	Almost Always	2	4.8
		Frequently	2	4.8
		Sometimes	12	28.6
		Rarely	12	28.6
		Almost Never	13	31
4. I feel overly tired from [sport] participation	3.17 \pm 1.19	Almost Always	5	11.9
		Frequently	6	14.3
		Sometimes	13	31
		Rarely	13	31
		Almost Never	5	11.9
5. I am not achieving much happy in [sport]	3.96 \pm 1.06	Almost Always	1	2.4
		Frequently	4	9.5
		Sometimes	6	14.3
		Rarely	16	38.1
		Almost Never	15	35.7

Table 2 continued.

Statement	Mean \pm SD	Response	Frequency	Percent (%)
6. I don't care as much about my [sport] performance as I used to	4.24 \pm 1.04	Almost Always	1	2.4
		Frequently	3	7.1
		Sometimes	3	7.1
		Rarely	12	28.6
		Almost Never	22	52.4
7. I am not performing up to my ability in [sport]	3.36 \pm 1.01	Almost Always	1	2.4
		Frequently	8	19
		Sometimes	13	31
		Rarely	15	35.7
		Almost Never	5	11.9
8. I feel "wiped out" from [sport]	3.33 \pm 1.05	Almost Always	2	4.8
		Frequently	5	11.9
		Sometimes	19	45.2
		Rarely	9	21.4
		Almost Never	7	16.7
9. I'm not into [sport] like I used to be	3.81 \pm 1.12	Almost Always	2	4.8
		Frequently	4	9.5
		Sometimes	10	23.8
		Rarely	10	23.8
		Almost Never	16	38.1
10. I feel physically worn out from [sport]	3.10 \pm 1.25	Almost Always	6	14.3
		Frequently	6	14.3
		Sometimes	14	33.3
		Rarely	10	23.8
		Almost Never	6	14.3

Table 2 continued.

Statement	Mean ±SD	Response	Frequency	Percent (%)
11. I feel less concerned about being successful in [sport] than I used to	3.74 ± 1.12	Almost Always	2	4.8
		Frequently	3	7.1
		Sometimes	11	7.1
		Rarely	14	33.3
		Almost Never	12	28.6
12. I am exhausted by the mental and physical demands of [sport]	3.12 ± 1.09	Almost Always	3	7.1
		Frequently	7	16.7
		Sometimes	20	47.6
		Rarely	6	14.3
		Almost Never	6	14.3
13. It seems that no matter what I do, I don't perform as well as I should	3.57 ± 1.11	Almost Always	2	4.8
		Frequently	5	11.9
		Sometimes	11	26.2
		Rarely	15	35.7
		Almost Never	9	21.4
14. I feel successful at [sport]	3.76 ± 0.79	Almost Always	6	14.3
		Frequently	23	54.8
		Sometimes	10	23.8
		Rarely	3	7.1
		Almost Never	0	0
15. I have negative feelings toward [sport]	3.76 ± 1.05	Almost Always	1	2.4
		Frequently	4	9.5
		Sometimes	11	26.2
		Rarely	14	33.3
		Almost Never	12	28.6

Table 3. Responses to Grit Scale

Statement	Response	Frequency	Percent (%)
1. I have overcome setbacks to conquer an important challenge	Very much like me	25	59.5
	Mostly like me	13	31
	Somewhat like me	4	9.5
	Not much like me	0	0
	Not like me at all	0	0
2. New ideas and projects sometimes distract me from previous ones	Very much like me	2	4.8
	Mostly like me	12	28.6
	Somewhat like me	22	52.4
	Not much like me	6	14.3
	Not like me at all	0	0
3. My interests change from year to year	Very much like me	1	2.4
	Mostly much like me	7	16.7
	Somewhat like me	12	28.6
	Not much like me	18	42.9
	Not like me at all	4	9.5
4. Setbacks don't discourage me	Very much like me	9	21.4
	Mostly like me	12	28.6
	Somewhat like me	15	35.7
	Not much like me	4	9.5
	Not like me at all	2	4.8
5. I have been obsessed with a certain idea or project for a short time but later lost interest	Very much like me	1	2.4
	Mostly like me	8	19
	Somewhat like me	10	23.8
	Not much like me	22	52.4
	Not like me at all	1	2.4
6. I am a hard worker	Very much like me	33	78.6
	Mostly like me	7	16.7
	Somewhat like me	2	4.8
	Not much like me	0	0
	Not like me at all	0	0
7. I often set a goal but later chose to pursue a different one	Very much like me	1	2.4
	Mostly like me	7	16.7
	Somewhat like me	14	33.3
	Not much like me	14	33.3
	Not like me at all	6	14.3
8. I have difficulty maintaining my focus on projects that take more than a few months to complete	Very much like me	2	4.8
	Mostly like me	5	11.9
	Somewhat like me	12	28.6
	Not much like me	18	42.9
	Not like me at all	5	11.9

Table 3 continued.

Statement	Response	Frequency	Percent (%)
9. I finish whatever I begin	Very much like me	16	38.1
	Mostly like me	21	50
	Somewhat like me	4	9.5
	Not much like me	1	2.4
	Not like me at all	0	0
10. I have achieved a goal that took years of work	Very much like me	25	59.5
	Mostly like me	12	28.6
	Somewhat like me	5	11.9
	Not much like me	0	0
	Not like me at all	0	0
11. I become interested in new pursuits every few months	Very much like me	4	9.5
	Mostly like me	10	23.8
	Somewhat like me	11	26.2
	Not much like me	16	38.1
	Not like me at all	1	2.4
12. I am diligent	Very much like me	17	40.5
	Mostly like me	17	40.5
	Somewhat like me	6	14.3
	Not much like me	1	2.4
	Not like me at all	1	2.4

CHAPTER V

DISCUSSION

This investigation measured the risk factors contributing to burnout in Division I collegiate athletes, the grittiness of Division I collegiate athletes, and the relationship between athletic burnout and grit in Division I collegiate athletes. Determining risk factors for athlete burnout among Division I collegiate athletes is beneficial for preventing burnout among younger generations. Previous investigated areas include variables of athlete burnout, however, the motivation for this investigation was stimulated by the lack of conclusive risk factors of burnout as well as the lack of research on grit in a Division I collegiate athletic setting. The main findings of this study were a lack of significant risk factors associated with burnout, and a significant, positive correlation between burnout and grit.

Participants in this study reported an average grit score of 3.75 out of a possible 5, supporting the hypothesis that college athletes have grit. The moderate grit score finding supports the claim of Angela Duckworth (2016) that people need to be gritty to join a culture that selects for grit, such as a sports team. Further research is warranted to explore the idea that athletes require some degree of grit.

The findings of this study indicate an average burnout score of 53.45 out of a possible 75 points which would be most severe burnout. This finding is conclusive with existing studies that quantify athlete burnout syndrome (Cresswell et al., 2007). Additionally, this finding demonstrates the prevalence of burnout specifically among Division I collegiate athletes.

A significant, positive correlation was found among burnout subscales. This interaction is supported by the findings of Veradi et al. (2014), reporting that mean and median values indicate burnout beginning with the development of reduced sense of accomplishment, physical/emotional exhaustion, and sport devaluation. Findings of this study indicate devaluation as having the strongest relationship among the three burnout subscales. However, Veradi et al. (2014) observed some author's findings supporting the idea that the three subscales should be independent from one another because burnout is gradual. Thus, further research is required to determine the relationship between these three subscales.

A significant, positive relationship between grit and burnout was seen in the present study. These findings were also supported by the finding of grit having a significant, positive relationship with the three subscales of burnout. These results do not support the hypothesis that there will be a negative relationship between athletic burnout and grit in Division I collegiate athletes. Although there has been minimal research and conclusions made about the relationship between athlete burnout and grit, these findings also contradict the findings presented by Halliday et al. (2016) that determined increased grit scores are associated with lower burnout in the medical field. Perhaps the findings of this current study, differs from other findings because of the different components of grit. Although grittiness may motivate an athlete to work hard due to passion for the sport as well as perseverance, grittiness may also result in athletes continuing in their sport although they may be experiencing burnout. Duckworth (2016) supported the possibility that high levels of grit may enhance an athlete's willingness to push through burnout.

The finding that the number of sports played before playing collegiately was the only significant risk factor of burnout that did not support the hypothesis or findings of previous studies. Results of previous studies have noted competitive environment, pressure to perform and comply with demands, overtraining, anti-rest culture, all to be significant risk factors of burnout (Cresswell et al., 2007; Malina, 2010). The findings of this study might conflict with those other studies because the population was Division I collegiate athletes rather than youth and/or elite athletes. The findings may also not support other studies because there may not have been enough athletes experiencing burnout. Furthermore, findings from this study determine a significant association between grit and the number of sports played before playing collegiately, as well as the sport the athlete currently plays. Although the association between burnout risk factors and burnout or grit are statistically significant, there was not enough distribution among sports in this study which may have skewed the results.

Limitations of this study include self-reported data and a small population. Another limitation of this study was the lack of distribution among sports, thus, not every sport was represented. The delimitation of this study was that participants were Division I collegiate athletes from the University of Mississippi and thus may not be representative of other populations.

In conclusion, this study determined that Division I collegiate athletes have grit. In addition, it determined that there is a significant, positive relationship between burnout and grit among Division I collegiate athletes. Furthermore, this study's findings determined that the only risk factor associated with burnout that is statistically significant is the number of sports played before playing collegiately.

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Appendices

