

Grit on student-athletes' psychological factors and perceived academic performance: the role of grit

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Abstract:

This study argues that one's grit score will be positively associated with positive psychological factors and mitigate some of the negative psychological factors. Therefore, the purpose of the study is to examine the relationships between grit and other psychological factors in student-athletes. Our finding suggests that student athletes' grit score is significantly associated with psychological factors including self-efficacy, satisfaction, anxiety, and perceived academic performance, and the relationship was moderated by the NCAA Divisions. This finding provides valuable insights into the specific academic dynamics within different NCAA divisions and highlights the importance of grit in navigating the demands of higher-level athletic competition while maintaining academic achievement.

Key Words: Grit; Student-Athletes; Perceived Academic Performance

Introduction

Grit, as a personality trait, can be defined as “perseverance and passion for long-term goals” (Duckworth, Peterson, Matthews, & Kelly, 2007, p. 1087). Since Duckworth explained why some people outperform others in achievement settings, the term, grit, has received considerable attention from various disciplines and contexts (Duckworth et al., 2007; Duckworth, Quinn, & Seligman, 2009; Eskreis-winkler, Shulman, Beal, & Duckworth, 2014). In organization settings, there is a growing popularity of grit as an important trait in the organization and its performance (e.g., Bradberry, 2016; Hamilton, 2014). Although grit draws a lot of attention as one of the significant characteristics among student-athletes, the impact and the relationship between grit and student-athletes psychological factors have not been examined in the field of sport management. To fill the gaps mentioned above in the sport management literature, the current study examines the relationship between student-athlete grit and psychological factors such as self-efficacy, level of stress, anxiety, and life satisfaction and understands how student-athletes grit plays a role in their perceived academic performance.

According to the NCAA, more than 460,000 NCAA students are currently participating in the athletic programs and student-athletes have been considered as an integral part of schools in the United States (NCAA, 2017). Indeed, participating in intercollegiate athletic programs requires a considerable commitment of time and energy. Although the NCAA regulates the amount of time allowed for a team traveling, competition, and practices, athletic programs interpret these rules liberally (Simons, Van Rheenen, & Covington, 1997). Due to the heavy obligations, student-athletes are more likely to experience negative psychological symptoms such as stress, anxiety, lack of concentration, depression, fear of re-injury, burn-out, and so on (Etzel, Watson, Visek, & Maniar, 2006; Pinkerton, Hinz, & Barrow, 1989). In addition to these challenges, student-athletes' retention and psychological well-being have been deemed as one of the more critical issues for researchers, administrators, and universities than ever before (Tinto, 2006). Understanding what factors influence student-athletes psychological well-being and intervene in negative psychological symptoms is crucial. This study argues that one's grit score will be positively associated with positive psychological factors and mitigate some of the negative psychological factors. Therefore, the purpose of the study is to examine the relationships between grit and other psychological factors in student-athletes.

Current Study

Grit

Grit can be defined as “perseverance and passion for long-term goals” (Duckworth, Peterson, Matthews, & Kelly, 2007, p. 1087). It has gained significant attention across various fields due to its potential to explain why some individuals outperform others in achievement settings (Duckworth et al., 2007). Research has demonstrated the predictive power of grit in diverse contexts, including the National Spelling Bee contest, the military, high school, and marriage (Duckworth et al., 2007; Duckworth, Quinn, & Seligman, 2009; Eskreis-winkler, Shulman, Beal, & Duckworth, 2014). In the business world, grit is increasingly recognized as a valuable

trait (e.g., Bradberry, 2016; Hamilton, 2014). The significance of grit as a predictor of success was underscored in Angela Duckworth's TED presentation, further highlighting its popularity.

Despite the widespread interest in grit, several questions remain unanswered. Notably, the impact of grit on student-athletes, who face the demands of both athletics and academics, has not been thoroughly explored. While numerous studies have focused on grit in educational settings, there is a scarcity of research on its effect in the sports field. Furthermore, the attention given to grit in the business world has yet to be substantiated by empirical evidence. To address these gaps, this study aims to investigate the influence of grit on student-athletes' psychological factors and perceived academic success.

Self-Efficacy

Self-efficacy, as proposed by Bandura (1982), is cultivated through various processes such as observing exemplary behavior from social models, approaching complex tasks, creating learning opportunities, demonstrating complex tasks, creating learning opportunities, demonstrating perseverance, and acting on emotional awareness. Bandura defines self-efficacy as an individual's conviction in their ability to master specific activities and navigate challenging situations. It entails the belief that one can overcome obstacles and achieve their aspirations, dreams, and goals through practical means. Research suggests that a positive sense of personal efficacy is crucial for individuals to sustain the effort required for task accomplishment and experience overall well-being. Given the potential correlation between one's grit score and self-efficacy level, as well as the possibility of grit moderating the relationships between self-efficacy and other psychological outcomes such as psychological well-being, anxiety, and perceived academic performance, it is worth exploring the associations between self-efficacy, grit, and these psychological factors. In this study, we hypothesize that there will be a significant positive relationship between grit scores and self-efficacy among student-athletes.

Hypothesis 1: Grit scores will be significantly related to self-efficacy among student-athletes.

Life Satisfaction

Life satisfaction, as defined by Pavot, Diener, Colvin, & Sandvik (1991), is a comprehensive evaluation of one's overall life experience. It serves as a crucial indicator of subjective well-being and reflects an individual's perception of their own life quality. College students often face significant stressors, including academic demands, social pressures, and personal challenges. Understanding the factors that contribute to their life satisfaction is important for promoting their overall well-being.

Research has consistently shown a strong correlation between life satisfaction and various dimensions of quality of life. Diener and Suh (1997) found that perceived life satisfaction is highly correlated with aspects such as physical health, emotional well-being, and freedom. This suggests that individuals who experience higher levels of life satisfaction tend to perceive a higher overall quality of life.

Considering the demanding schedules and unique challenges faced by student-athletes, it is plausible to suggest that their level of grit may influence their life satisfaction. Grit, characterized by perseverance and passion for long-term goals, can enable individuals to effectively cope with obstacles and setbacks. Student-athletes with higher levels of grit may possess the resilience needed to navigate the demands of their sport, academic commitment, and personal life.

Furthermore, studies have shown that grit is associated with positive psychological well-being, including increased resilience, self-efficacy, and positive affect (Duckworth et al., 2007). These psychological factors contribute to an individual's overall life satisfaction and subjective well-being.

Based on these arguments, we hypothesize that there will be a significant positive relationship between grit scores and life satisfaction among student-athletes. Those with higher levels of grit are likely to experience greater satisfaction with their lives, given their ability to persist, overcome challenges, and pursue their goals.

Hypothesis 2: Grit score will be significantly positively related to life satisfaction.

Perceived Academic Performance

Previous research conducted by Duckworth and her colleagues (2007, 2009) has demonstrated a positive association between grit and academic performance. They found that individuals with higher levels of education and higher cumulative GPAs tend to exhibit higher levels of grit. This suggests that grit plays a crucial role in academic success and persistence.

When considering the unique challenges faced by student-athletes, it becomes important to explore the relationship between their grit scores and perceived academic performance. Student-athletes have demanding schedules that require them to balance their athletic commitments with their academic responsibilities. However, studies have indicated that student-athletes can excel academically, particularly during the off-season when they have more time to focus on their studies (Schultz, 2017).

Building on these findings, it is reasonable to hypothesize that student-athletes with higher grit scores are more likely to demonstrate higher levels of perceived academic performance. Their perseverance, passion for long-term goals, and ability to overcome obstacles may positively impact their academic endeavors. Student-athletes with higher levels of grit may possess the motivation and determination necessary to excel academically despite the challenges they face.

Additionally, research has shown that grit is associated with effective time management, self-regulation, and goal-setting skills (Duckworth et al., 2007). These qualities are essential for academic achievement and can contribute to a student-athlete's ability to prioritize their academic responsibilities.

Therefore, based on the existing literature and the unique context of student-athletes, we hypothesize that there will be a significant correlation between grit scores and perceived academic performance.

Hypothesis 3: Grit scores will be significantly correlated with perceived academic performance.

Anxiety

Participating in athletic programs can impose significant demands on student-athletes, leading to negative psychological symptoms such as stress, anxiety, lack of concentration, and depression (Etzel, Watson, Visek, & Maniar, 2006). These psychological challenges can hinder the well-being and performance of student-athletes. Therefore, it becomes crucial to understand how to mitigate these negative symptoms and promote better mental health among student-athletes.

Considering the concept of grit, we propose that there may be a negative association between a student-athlete's level of anxiety and grit scores. Grit, characterized by perseverance and passion for long-term goals, can potentially serve as a protective factor against anxiety symptoms. Individuals with higher levels of grit are likely to possess the determination and resilience necessary to overcome challenges and setbacks, which alleviate anxiety.

Supporting this notion, previous research has shown that higher levels of grit are associated with lower levels of anxiety. For example, Duckworth et al. (2007) found that individuals with higher grit scores displayed lower levels of anxiety in various contexts. Additionally, studies have demonstrated that grit plays a crucial role in stress management and coping strategies (Eskreis-Winkler et al., 2014). These findings suggest that student-athletes with higher grit scores may experience lower levels of anxiety due to their ability to persist in the face of adversity and effectively manage stressors.

Therefore, in this study, we aim to investigate the relationship between student-athletes' grit scores and their levels of anxiety, with the hypothesis that a higher level of grit will be associated with a lower level of anxiety.

Hypothesis 4: Student-athletes' level of anxiety would be negatively associated with their grit scores.

NCAA Divisions

The NCAA consists of three divisions, each with different roles and expectations. NCAA Division I is widely recognized as having a highly competitive environment, attracting top-tier athletes with scholarships, formidable opponents, and colleges that heavily invest in sports programs. In contrast, NCAA Division III does not offer athletic scholarships and is predominantly composed of small colleges with limited investment in athletics, resulting in fewer advanced athletes. Student-athletes in Division I are expected to dedicate additional time to practice and competition. Given these differences, it is reasonable to speculate that student-athletes with higher grit scores are more likely to excel in athletic skills and academic performance.

Several studies support the notion that grit is associated with improved academic performance and achievement. Duckworth and her colleagues (2007) found that individuals with higher education displayed higher levels of grit compared to those with less education. Additionally, they observed that higher grit scores were correlated with higher cumulative grade point averages (Duckworth et al., 2009). These findings indicate that individuals with greater perseverance and passion for long-term goals tend to achieve higher academic success.

In the context of NCAA divisions, student-athletes in Division I face greater challenges due to the competitive nature of the division, including rigorous training schedules, intense competition, and higher expectations. Consequently, student-athletes with higher levels of grit may possess the resilience and determination necessary to succeed in both their athletic endeavors and academic pursuits, effectively managing their time and prioritizing their commitments.

Therefore, it is hypothesized that the relationship between an individual's grit and their perceived academic performance would be influenced by the NCAA division in which they compete.

Hypothesis 5: The NCAA Divisions moderate the relationship between grit and perceived academic performance.

Method

Participants

Data were collected from 304 student-athletes in the United States at public/private universities. The sample includes 127 women (41.6%) and 178 men (58.4%). Concerning the racial composition, there were 107 African Americans (35.1%), 7 Asians (2.3%), 18 Hispanics (5.9%), and 173 Whites (56.7%). Also, there were 104 Division I (34.1%), 99 Division II (32.5%), and 102 Division III (33.4%).

Procedure

Questionnaire packets (i.e., a cover letter explaining the purpose of the study, the recruiting materials, and a questionnaire) were randomly distributed at three universities. Participants completed a questionnaire in

which they provided their demographic information and responded to the 12-item Grit scale developed by Duckworth and her colleagues (2007), the 10-item self-efficacy scale (Schwarzer and Jerusalem, 1995), and the level of anxiety with Nist and Dielhl's (1990) Anxiety scale. Like Martin and his colleagues (2005), we implemented the perceived academic performance (PAP), which asks students how they would rate their overall academic performance. All items will be measured on a 7-point scale.

Results

Results show that student-athlete with a higher grit score is more likely to have a higher self-efficacy (h1), life satisfaction (h2), and perceived academic performance (h3). Also, student-athletes' level of anxiety was negatively associated with their grit scores (h4). Finally, the NCAA divisions moderated the relationship between grit and Perceived Academic Performance (h5).

Descriptive Statistics

Means, standard deviations, and bivariate correlations are presented in Table 1. Results indicate that the grit score was positively and significantly associated with Perceived Academic Performance, Self-Efficacy, and Life-Satisfaction, but was negatively associated with Anxiety. Student-athletes with a higher grit score is likely to have higher positive psychological factors (Self-efficacy, Life-satisfaction, and Perceived academic performance) and lower negative psychological factor (Anxiety). See Tables 1 and 2.

Hypothesis Testing

In support of Hypothesis 1, a significant positive correlation was found between grit score and self-efficacy ($r = .77, p < .001$). This indicates that student-athletes with higher grit scores are more likely to possess a higher level of self-efficacy. Hypothesis 2 was also supported, as the results revealed a significant positive association between grit score and life satisfaction ($r = .43, p < .001$), suggesting that student-athletes with higher grit scores are more likely to experience satisfaction with their campus life. Additionally, in support of Hypothesis 3, a positive correlation was observed between grit score and perceived academic performance ($r = .49, p < .001$). This suggests that student-athletes who perceive their academic performance to be higher are more likely to exhibit higher levels of grit. Hypothesis 4 was also supported, as a negative and significant association was found between student-athletes' levels of anxiety and their grit scores ($r = -.511, p < .001$), implying that student-athletes with higher levels of grit tend to have lower anxiety levels.

Lastly, Hypothesis 5, which predicted that NCAA divisions would moderate the relationship between grit and perceived academic performance among student-athletes, was supported. To explore this moderation effect, a moderated regression analysis was conducted to examine the association between grit scores and perceived academic performance varied depending on the NCAA divisions. The results indicated that the relationship between grit and perceived academic performance differed based on the NCAA divisions, with a stronger association observed in higher NCAA divisions (Division I) ($B = .87, SE = .08, \beta = .56, p < .001$). This implies that within Division I, there is a more substantial positive impact of grit on perceived academic performance compared to lower divisions. Student-athletes competing at this higher division may experience a more pronounced relationship between their level of grit and their perceived academic performance. Moreover, the interaction between grit and division was found to be significant ($B = .38, SE = .08, \beta = .23, p < .001$). This interaction suggests that the effect of grit on perceived academic performance varies across the NCAA divisions. To visually illustrate the interaction effect, Figure 1 presents the plot of simple slopes, demonstrating the different slopes in the relationship between grit and perceived academic performance for higher and lower NCAA divisions.

Table 1 Results of Regression on Perceived Academic Performance

Item	B	SE	β	R^2	ΔR^2
				.747	.743
Grit	.26	.07	.26***		
Life-Satisfaction	.49	.04	.49***		
Self-Efficacy	.49	.07	.49***		
Anxiety	-.21	.04	-.21***		
Division	.08	.03	.08***		

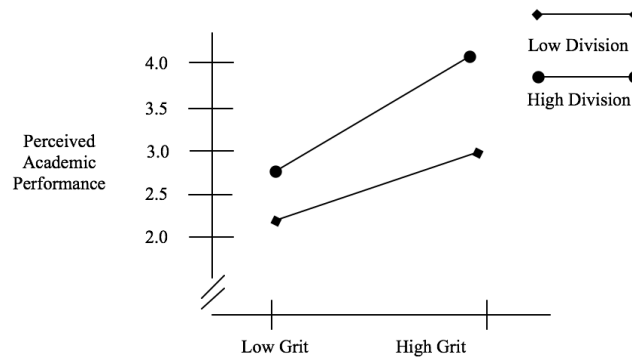
Table 2 Means, Standard deviations, and Bivariate Correlations

Item	M	SD	1	2	3	4
GRIT	5.58	1.02	---			
PAP	4.14	1.56	.49**	---		
SELF-EF	5.47	1.19	.77**	.64**	---	
LIFE-SF	4.75	1.1	.44**	.35**	.33**	---
ANXI	2.82	.99	-.51**	-.43**	-.38**	-.41**

Notes. * $p < .05$. ** $p < .01$; GRIT- Grit scores, PAP- Perceived Academic Performance, SELF-EF- Self efficacy, LIFE-SF- Life Satisfaction, ANXI-Anxiety

Figure 1

The moderation effect of Academic Division on the relationship between PAP and Grit



Discussion

This study aims to investigate the relationship between student-athletes' grit and various psychological factors, including self-efficacy, life satisfaction, anxiety, and perceived academic performance. The study's contribution to the literature is threefold, advancing our understanding in several key areas.

First, by examining the impact of grit on student-athletes' psychological factors, this study makes significant contributions to the sport management literature. The existing body of literature on Grit and its effects on student-athletes is limited. Therefore, this study has the potential to provide valuable insights into the implications of grit within the fields of Sport Management, Sport Psychology, and Psychology. By understanding how grit influences student-athletes' psychological well-being, this research expands our knowledge base and can inform interventions and strategies to support the development of grit in student-athletes.

Second, this study explores the relationship between grit and perceived academic performance among student-athletes, shedding light on the factors that contribute to their academic success. The findings have practical implications for the design of interventions and support programs aimed at enhancing academic performance and overall well-being among student-athletes. By identifying the role of grit in academic achievement, educators, coaches, and support staff can tailor interventions to cultivate and strengthen grit among student-athletes, leading to improved academic outcomes and personal growth.

Third, this study delves into the psychological factors that influence the mental well-being of student-athletes by investigating the relationship between grit and anxiety. Understanding how grit relates to anxiety in the context of student-athletes can offer valuable insights for interventions and support programs focused on enhancing mental health and resilience. By identifying the role of grit in managing anxiety, practitioners can develop targeted strategies to promote mental well-being and coping mechanisms among student-athletes, ultimately improving their overall psychological health.

Furthermore, this study goes beyond examining the general relationship between grit and perceived academic performance by comparing this relationship across NCAA Divisions. The findings indicate that the impact of grit on perceived academic performance is more significant in Division I compared to Division III. This distinction is noteworthy as student-athletes in Division I often face heightened demands from their athletic programs. The results suggest that student-athletes with higher levels of grit are more likely to succeed academically despite these additional challenges. This finding provides valuable insights into the specific academic dynamics within different NCAA divisions and highlights the importance of grit in navigating the demands of higher-level athletic competition while maintaining academic achievement.

Overall, this study advances our understanding of the relationships between student-athletes' grit, psychological factors, and perceived academic performance. The findings contribute to various academic disciplines, inform interventions, and support programs, and offer valuable insights for promoting the well-being and success of student-athletes.

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