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The Association between High School Coach's Leadership Behaviors and Athletes' Self-Efficacy and Grit

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Abstract

This quantitative study sought to determine the relationship between a coach's leadership behaviors and their athletes' self-efficacy and grit. Specifically, the goal was to determine whether behaviors informed by (a) training and instruction, (b) democratic behavior, (c) autocratic behavior, (d) social support, or (e) positive feedback of a coach impacted the student-athlete. The relationship between athletes and coaches is important and can influence an athletes' athletic performance. This research investigated the effects of this relationship on the student-athletes' self-efficacy and grit. Data were collected from 197 college students from a public university in a rural area in the southern portion of the United States. The findings indicated that student-athletes' perceptions of their former high school coaches' leadership behaviors significantly influenced their self-efficacy and grit. Implications for practice highlighted the importance of the student-athlete and coach relationship and how this relationship can positively impact self-efficacy and grit.

Keywords: Coaching; Leadership Behavior; Self-efficacy; Grit; Student-athlete

Introduction

For decades, youth have been introduced to competitive sports at an increasingly young age [1]. It is therefore reasonable to suggest that many athletes begin to develop relationship with their athletic coaches at a young age. The potential to cultivate this relationship is key to determining whether this relationship provides any benefits for the athlete. Jowett and Ntoumanis (2004) defined the coach-athlete relationship as the situation in which coaches' and athletes' emotions, thoughts, and behaviors are mutually interconnected [2]. The relationship between coaches and student-athletes remains an integral component of the development of both groups' performances [3].

Horn (2002) has suggested that the coach-athlete relationship eventually leads to perceptions made by both the coach and athlete. Horn further suggested that the perception a player forms of the coach's behavior plays a greater role than the coaching behavior itself [4]. Similarly, Devine, Meyers and Houssemand (2013) noted that a coach has the potential to have a tremendous influence on the student-athlete [5]. Coaching is a powerful tool for personal change and learning. The nature of the influence tends to come from the type of experiences and interactions the athletes have while interacting with their coach. Boardley, Kavussanu, and Ring (2008) suggested that the quality of an athlete's experience was significantly affected by their behavior of the relevant coach [6].

One such area that can be influenced by a coach is self-efficacy. Self-efficacy refers to a learners' perceived capabilities for learning or performing actions at designated levels [7]. Schunk (2001) hypothesized that self-efficacy influences one's choice of activities, effort expended, perseverance when difficulties are encountered, and skillful performance [8].

In addition, a student-athletes' grit may also be influenced by a coach. Grit is the perseverance and passion for long-term goals and entails working strenuously toward challenges, maintaining

effort and interest over years despite failure, adversity, and plateaus in progress [9]. Duckworth and Quinn (2009) noted that grit may be as an essential influence as IQ toward high achievement [10]. Duckworth (2006) identified grit as a non-cognitive trait [11]. Shechtman et al. suggested grit is the perseverance to accomplish long-term or high-order goals in the face of challenges and setbacks, engaging the student's psychological resources, such as their academic mindsets, effortful control, and strategies and tactics [12]. Additional research on these topics could help determine how they impact student's lives. This study aimed to determine if the student-athlete's perception of their high school coach's leadership style is related to their self-efficacy and grit.

Methodology

This quantitative perception study sought to determine if relationships existed between the perceived leadership behaviors of a coach and the (a) grit and (b) self-efficacy of student-athletes? An email, containing the student consent form and survey link, was sent by the researcher to the assistant athletics director for academics and student-athlete services at the participating university. All potential participants (i.e., current college athletes who were former high school athletes) were contacted through email by their university coaches. The student-athletes were asked to complete the consent forms and survey through an online survey tool. Prior to participating, all participants granted consent for their responses to be used on their survey by reading and completing their survey on survey monkey. Data collection took place over a one-month period. Once the data were collected and organized, the researcher used The Intellectus Statistics software to run data analyses and address each research question.

Sample

The population for this study consisted of a convenient sample, purposely chosen from current college student athletes from a rural area in the southern portion of the United States. The sample was conveniently selected du+rs, only former high school athletes from the university were identified as potential participants. The individual coach for each sport determined which of their athletes were former high school athletes. The specific population of student-athletes, who were also former high school athletes, consisted of 378 student-athletes. Former high school athletes were used for this study because this research concerned high school coaches and the potential impact they may have on student-athletes. Former high school athletes were also used because of the amount of time they spent with high school coaches and to determine if a coaches' perceived leadership behavior provide any benefits.

Three-hundred and seventy- eight (378) participants from a variety of ethnic backgrounds, socioeconomic levels, and levels of educational achievements were asked to participate in this study. A sample-size calculator was utilized to determine if the sample would allow for overall generalization regarding the student athletes in the university information. A sample size calculator determined that, with a 5% margin of error, a confidence level of 95%, and a 50% response distribution, and a target population of 378, a sample size of 191 participants would be sufficient (Scruggs, 2017). Table 1 provides a summary of the demographics of the target sample.

	Frequency	Percentage
Ethnicity		
Caucasian	189	50.0%
Afro-American	134	35.4%
Other	55	14.6%
Gender		
Female	198	52.4%
Male	180	47.6%

Table 1: Target Sample Demographics; Note. N = 378.

Instrumentation

Three instruments were utilized for this study: the *Grit S survey* [10], the *Leadership Scale for Sport survey* (LSS) [13], and the *General Self-Efficacy Scale* (GSE) [14].

The Grit-S survey is a self-reported, 8 question survey utilizing a 5-point Likert-scale. Participants chose 1 ("not at all like me") through 5 ("very much like me") to answer to each question. Example survey items included: "I finish whatever I begin," and "Setbacks don't discourage me." Similarly, the responses possessed corresponding values with the minimum score being 1 ("not gritty at all") and 5 ("very gritty") [10]. Permission to use the Grit-S was requested and granted from Dr. Angela Duckworth.

The *Leadership Scale for Sport* survey (LSS) [13] is a 40-item measure developed to assess how an athlete perceives their coach as a leader. Student-athletes rated their perceived level of agreement regarding their high school coach on a scale from 1 to 5, with 1 being "never agreeing", and 5 representing "always agreeing" with their coach. The five subscales of the LSS contained multiple items for each, and included: training and instruction, democratic behavior, autocratic behavior, social support, and positive feedback. As noted below, the five subscales of the LSS have been shown to have good internal reliability and validity [13]. Permission to utilize the LSS was granted by Dr. Packianathan Chelladurai via email on April 8, 2017.

The *General Self-Efficacy Scale* (GSE) is a 10-item self-report created to assess a general sense of perceived self-efficacy with the aim in mind to predict coping with daily hassles as well as adaptation after experiencing all kinds of stressful life events [14]. The scale was designed for a general adult population, including adolescents. Schwarzer and Jerusalem noted that this measure has been used internationally with success for two decades and is suitable for a broad range of applications. Students responded to items on a 4-point Likert-type scale ranging from 1 = "Not at all true" to 4 "Exactly True". The responses to all 10 items were added together to yield the final total score for each participant. Permission to give the General self-efficacy scale was requested from Dr. **Ralf Schwarzer** and granted via the Internet website.

Analyses

Given the nature of the study, the following research questions and hypotheses were used to guide data collection and analyses.

1. Is there a relationship between the perceived leadership behaviors of a coach and the grit of student-athletes?

H_a1-There is a significant correlation between student-athletes' grit and the perceived leadership behavior of a coach.

$H_0$1-There is no significant correlation between student-athletes' grit and the perceived leadership behavior of a coach.

2. Is there a relationship between the perceived leadership behaviors of a coach and the self-efficacy of student-athletes?

H_a2-There is a significant correlation between student-athletes' self-efficacy and perceived leadership behavior of a coach.

$H_0$2-There is no significant correlation between student-athletes' self-efficacy and perceived leadership behavior of a coach.

Data was analyzed using Intellectus Statistics software. Pearson's correlation coefficients were used for research questions 1 and 2 to determine the relationships between the perceived leadership behaviors of a coach and the grit and self-efficacy of student-athletes.

Results

The final sample (n = 197) for this study consisted of 100 female student-athletes and 97 male student-athletes. The majority of the participants were Caucasian (n = 113; 57.4%), while 72 of the participants were African American (36.5%). The remaining 12 participants (6.1%) represented other ethnic groups, such as Asian and Hispanic. The participants were also identified by grade level. Of the college student participants, 61 (31%) were juniors, 58 (29.4%) were freshmen, 41 (21.8%) were sophomores, 32 (15.7%) seniors, and five (2.1%) were graduate students. The information for student demographics is presented in Table 2.

Demographics	Frequency	Percentage
Ethnicity		
Caucasian	113	57.4%
African American	72	36.5%
Other	12	6.1%
Gender		
Female	100	50.8%
Male	97	49.2%
Grade Level (College)		
Juniors	61	31%
Freshmen	58	29.4%
Sophomores	41	21.8%
Senior	32	15.7%
Graduate Students	5	2.1%

Table 2: Demographics of Final Sample Population. Note. n = 197.

Research Question 1

The first research question explored whether there were relationships between the perceived leadership behaviors of a coach and the grit of student-athletes. Pearson correlation analyses were conducted to explore relationships between the grit of an athlete and his or her perceptions of the coach's (a) autocratic behavior, (b) democratic behavior, (c) positive feedback, (d) social support, and (e) training and instruction. Cohen's standard was used to evaluate the strength of the relationships, where coefficients between .10 and .29 represent a small effect size, coefficients between .30 and .49 represent a moderate effect size, and coefficients above .50 indicate a large effect size [15].

Statistical analysis of these data indicated that there was a significant positive correlation between the autocratic behavior of a coach and the grit of the student-athlete (r_p = 0.29, p < .001). The correlation coefficient between autocratic behavior and grit was 0.29 indicating a small effect size. This indicated that as the perceived autocratic behavior of a coach increased, a student's grit also increased. There was also a significant positive correlation between the perceived democratic behavior of a coach and the grit of the student-athlete (r_p = 0.27, p < .001). The correlation coefficient between democratic behavior and grit was 0.27, again indicating a small effect size. This indicated that as the perceived democratic behavior of a coach increased, the student's grit also increased. This finding revealed a significant positive correlation between grit and positive feedback (r_p = 0.15, p < .05). The correlation coefficient between grit and positive feedback was 0.15 indicating a small effect size. This indicated that as positive feedback increased, grit tended to increase. There was also a

significant positive correlation between grit and social support ($r_p = 0.15$, $p < .05$). The correlation coefficient between grit and social support was 0.15, again indicating a small effect size. This indicated that as social support increased, grit tended to increase. Findings also identified a significant positive correlation between grit and training and instruction ($r_p = 0.15$, $p < .05$). The correlation coefficient between grit and training and instruction was 0.15 indicating a small effect size. This indicated that as training and instruction increased, grit tended to increase. Overall, grit was found to have significant positive correlations with all five coaching behaviors; therefore, an increase in grit was correlated with an increase in autocratic behavior, democratic behavior, positive feedback, social support, and training and instruction. However, the highest correlation between a student-athletes' grit and a coaches' leadership behavior was autocratic behavior and democratic behavior. Table 3 presents the Pearson correlations.

Variable	1	2	3	4	5
1. Grit Total	-	-	-	-	-
2. Autocratic Behavior Total	0.29***	-	-	-	-
3. Democratic Behavior Total	0.27***	0.29***	-	-	-
4. Positive Feedback Total	0.15*	-0.07	0.49***	-	-
5. Social Support Total	0.15*	0.02	0.49***	0.64***	-
6. Training an Instruction Total	0.15*	-0.07	0.50***	0.65***	0.69***

Table 3: Pearson Correlation Matrix among Grit, Autocratic Behavior, Democratic Behavior, Positive Feedback, Social Support, and Training and Instruction; Note. The critical values are 0.14, 0.18, and 0.23 for significance levels .05*, .01**, and .001*** respectively.

Research Question 2

The second research question explored whether relationships existed between the perceived leadership behaviors of a coach and the self-efficacy of the student-athletes. Pearson correlation analyses were conducted to explore the relationships between the self-efficacy of an athlete and his or her perceptions of their coach's (a) autocratic behavior, (b) democratic behavior, (c) positive feedback, (d) social support, and (e) training and instruction.

The autocratic behaviors of a coach were not significantly correlated with the self-efficacy of a student-athlete ($r_p = 0.11$, $p > .05$). However, there was a significant positive correlation between the democratic behavior of the coach and the self-efficacy of the student-athlete ($r_p = 0.27$, $p < .001$). The correlation coefficient between democratic behavior and self-efficacy was 0.27 indicating a small effect size. This indicated that as the perceived democratic behavior of a coach increased, a student's self-efficacy also tended to increase. There was also a significant positive correlation between the perceived positive feedback of a coach and the self-efficacy of the student-athlete ($r_p = 0.20$, $p < .05$). The correlation coefficient between positive feedback and the self-efficacy was 0.20, again indicating a small effect size. This indicated that as the perceived positive feedback of a coach increased, the student's self-efficacy also increased. Findings also indicated a significant positive correlation between self-efficacy and social support ($r_p = 0.02$, $p < .001$). The correlation coefficient between self-efficacy and social support was 0.25 indicating a small effect size. This indicated that as social support increased, self-efficacy tended to also increase. There was also a significant positive correlation between self-efficacy and training and instruction ($r_p = 0.19$, $p < .01$). The correlation coefficient between self-efficacy and training and instruction was 0.19 indicating a small effect size. This indicated that as training and instruction increased, self-efficacy also tended to increase. Self-efficacy was found to have significant positive correlations with democratic behavior, positive feedback, social support, and training and instruction, therefore the increase in self-efficacy resulted in an increase in democratic behavior, positive feedback, social support and training and instruction. The highest correlation of a student-athletes' self-efficacy was between democratic behavior and social support of a coaches' leadership behavior. Table 4 presents Pearson correlations.

Variable	1	2	3	4	5
1. Self-Efficacy Total	-	-	-	-	-
2. Autocratic Behavior Total	0.11	-	-	-	-
3. Democratic Behavior Total	0.27***				

4. Positive Feedback Total	0.20**	-0.07	0.49***	-	-
5. Social Support Total	0.25***	0.02	0.49***	0.64***	-
6.Training and Instruction Total	0.19**	-0.07	0.50***	0.65***	0.69***

Table 4: Pearson Correlation Matrix among, Self-Efficacy, Autocratic Behavior, Democratic Behavior, Positive Feedback, Social Support, and Training and Instruction Note; The critical values are 0.14, 0.18, and 0.23 for significance levels .05*, .01**, and .001***.

Discussion and Conclusion

All athletes are obviously different and have different preferences. Some student-athletes may prefer that their coach have one type of leadership behavior while their teammate may prefer their coach have another form of leadership behavior [16]. The first research question investigated if there is a relationship between the perceived leadership behaviors of a coach and the grit of student-athletes. It is evident from this study's findings that relationships do exist between the perceived leadership behaviors of a coach and the grit of student-athletes. Morgan (2016) found that the term *grit* serves as a valid and reliable measure of success throughout diverse life pursuits. There was a significant positive correlation between all five of the leadership behaviors of a coach and the grit of a student-athlete. This is extremely important because all five perceived leadership behaviors can be utilized by a coach to significantly relate to student-athletes grit. In addition, coaches may enjoy knowing that all these leadership style will positively correlate to student-athletes grit.

These findings are important because they indicated that, within this study, as a coach demonstrated either autocratic or democratic behavior toward the student-athlete, the student's grit showed more of an increase than with the other coaching behaviors in this study. Kotur and Anbazhagan (2014) reported that with autocratic leadership, or the authoritarian leadership style, the power and decision making reside with the leader. This study found that student-athletes that perceived their coach to work independent of them and make the ultimate decision tended to have higher grit scores. Similarly, Nami et al. (2013) reported that the autocratic leadership style of coaches exists when athletes are not involved in decision-making about team goals and issues, but rather, must obey coaching instructions. This study also found that as student-athletes perceived their coach to speak in a manner not to be questioned and the coach refuse to compromise with them then there tended to be higher correlations to student-athletes' grit.

Surprisingly, this study also found a higher correlation of grit with those student-athletes perceived democratic behavior from their coach, even though this leadership style is opposite of autocratic behavior. The democratic coaching style, also known as the autonomy-supportive style, was defined as including high amounts of training, social support, and positive and informational feedback from coach to athlete (Hodge & Lonsdale, 2011). Sernek (2016) believed this is a type of coach that gives athletes the ability to have a say on and off the field [16]. This study found that student-athletes preferred to be able to share in the decision making and get group approval before going ahead with the decision. In addition, this study revealed that the student-athletes perceived that their coach asked for the opinion of the athlete on strategies for specific competition and encouraged them to make suggestions for ways of conducting practices. This study found that athletes perceived the democratic coach allowed them to try their own way even if they made mistakes.

Similarly, the correlation coefficient between grit and positive feedback was 0.15, indicating a small effect size. This indicated that as positive feedback increased, the student's grit also tended to identify an increase. Chelladurai and Saleh (1980) reported that positive feedback is related to the need of the coach to compliment athletes and give positive feedback on their performances to maintain motivation and is crucial in maintaining the motivational level of the athletes [13]. This study found that student-athletes preferred when their coach compliment and reward them for their performance. In addition, in this study the student-athletes preferred when their coach expressed appreciation and gave credit when credit was due.

There was a significant positive correlation between grit and social support for the participants in this study. This finding indicated that as social support increased, grit also tended to increase. Chelladurai and Saleh (1980) reasoned that social support refers to the behavior of the coach that is directed toward the personal needs of athletes. This study found that student-athletes preferred a coach who settled conflicts and helped them with their personal issues [13].

Findings also indicated a significant positive correlation between grit and training and instruction. This indicated that as training and instruction increased, grit also tended to show an increase. Chelladurai and Saleh (1980) suggested that training and instruction incorporates how the coach's behavior is directed toward improving an athlete's performance [13]. This study revealed student-athletes preferred coaches explain to each athlete the techniques and tactics of the sport. In addition, the coach explains every athletes' role and how they fit into the whole picture.

Overall, grit was found to have significant positive correlations with all five coaching behaviors, as students perceived coaches to exhibit autocratic behaviors, democratic behaviors,

positive feedback, social support, instruction and training, grit increased.

The second research question investigated if there was a relationship between the perceived leadership behaviors of a coach and the self-efficacy of student-athletes. Relationships were identified between the perceived leadership behaviors of the coach and the self-efficacy of the student-athletes who participated in this study. Schunk, Meece, and Pintrick (2014) defined self-efficacy as one's perceived capabilities for learning or performing actions at designated levels.

A significant positive correlation was identified in this study between democratic behavior and self-efficacy. As students perceived that their coach demonstrated more democratic behaviors, self-efficacy increased. Nanjundeswaraswamy and Swamy's (2014) study revealed that democratic leaders take great care to involve all members of the team in discussion and can work with a small but highly motivated team. Within this sample, as student-athletes believed that their coach included them in the decision-making and allowed them to set their own goals, self-efficacy was increased. In addition, there was a significant positive correlation between positive feedback and self-efficacy. As students perceived that their coach demonstrated more positive feedback, self-efficacy increased. Within this sample, as student-athletes believed that as their coach compliment an athlete and rewards them on their performance, self-efficacy was increased.

Further, Chelladurai and Saleh (1980) reported that positive feedback related to the need of the coach to compliment athletes and give positive feedback on their performances to maintain motivation [13]. This finding is important because it indicated that when a coach displays democratic behavior or positive feedback toward the student-athletes, the students' self-efficacy tended to increase. This supports the hypothesis that a coach's leadership behavior is related to students' self-efficacy. This study indicated that the student-athlete perceived when a coach expressed appreciation when an athlete performed well and this tended to correlate to increase their self-efficacy. In addition, this study found that an autocratic coach who spoke to student-athletes in a manner not to be questioned did not increase their self-efficacy. This is important, because the perceived democratic behavior or positive feedback coach tended to increase self-efficacy rather than an autocratic behavior coach possibly due to how the student-athlete perceived how the coach treated them and instructed them.

A significant positive correlation was identified in this study between self-efficacy and social support. This indicated that as social support increased, self-efficacy also tended to increase. This study found that a coach who encouraged an athlete to confide in them impacted their self-efficacy. In addition, this research revealed that a social support of a coach who helped athletes with their problems tended to increase their self-efficacy. There was a significant positive correlation between self-efficacy and training and instruction. This indicated that as training and instruction increased, self-efficacy also tended to increase. Chelladurai and Saleh (1980) suggested that training and instruction incorporates how the coach's behavior is directed toward improving an athlete's performance. This study further indicated that a coach who points out each athlete's strengths and weakness tended to increase the student-athletes' self-efficacy.

Hodge and Lonsdale (2011) found that the democratic coaching style was defined as including high amounts of training, social support, and positive and informational feedback from coach to athlete. This is impactful because self-efficacy, in this study, was found to have significant positive correlations with democratic behavior, positive feedback, social support, and training and instruction; therefore, the increase in self-efficacy resulted in an increase in democratic behavior, positive feedback, social support, and training and instruction. Within this sample, these were interesting result, because these perceived leadership behaviors tended to show higher increase in self-efficacy of student-athlete than the perceived autocratic behavior of a coach. This may be due to the nature of the perceived autocratic coach in contrast to the perceived democratic behavior, positive feedback, social support, and training and instruction coaches. Those type of coaches, by their nature tended to allow opportunities for student-athletes to be positively engaged by their coach, however the autocratic leader tended to lead solely and by giving direct instruction with no feedback from student-athletes. In addition, Chelladurai and Saleh (1980) further found that the coach's behavior may directly satisfy such needs or the coach may create a climate in which the members mutually satisfy their interpersonal needs.

However, the perceived autocratic behavior of a coach had no positive correlation with the self-efficacy of a student-athlete. The autocratic behaviors of a coach were not significantly correlated with the self-efficacy of a student-athlete. In this study, this was the only perceived leadership behavior of a coach to not show any correlation with student-athletes' self-efficacy. These findings suggested that the perceived autocratic behavior of a coach did not have positive correlation with student-athletes' self-efficacy. Therefore, it is reasonable to suggest that a coach who aims to improve student-athletes' self-efficacy should likely use democratic behavior, social support, positive feedback, and training and instruction. This study found student-athletes tended to not want to be excluded from the decision making and the autocratic behavior of a coach was not impactful on the student-athletes self-efficacy.

In contrast, Martens (2012) found that the autocratic coach takes full control by explaining exactly what needs to be done, and the role of the athlete is to listen to, absorb, and comply with the coach's commands. This is an important point of autocratic

behavior coach and how they seem to work independently of the student-athlete. Self-efficacy by its definition seems to work in contrast of an autocratic coach, therefore it makes sense that this was the only leadership behavior that did not correlate to a student-athletes' self-efficacy. Bandura (1986) reported that self-efficacy refers to a person's judgments of his or her capabilities to organize and execute courses of action required to attain designated types of performances. Based on this definition of self-efficacy, it does not seem that an autocratic coach provides a student-athlete to develop in this manner based on the results from this study.

Application in sports

The leadership styles of coaches have a significant relationship to grit and self-efficacy. This study found a significant correlation between the autocratic behavior and democratic behavior of a coach and the grit of the student-athlete. In addition, this study did find a significant correlation to use the positive feedback, social support, and training and instruction of a coach with an increase in grit for the student-athlete.

These findings from current study also implied that coaches should use the perceived democratic behavior and positive feedback to increase student-athletes' self-efficacy. Additionally, social support and training and instruction of a coach, in this current study, showed a correlation to the student-athletes' self-efficacy. However, the perceived autocratic behavior leadership behavior of a coach did not significantly influence self-efficacy.

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