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Decreasing Aggression through Team Communication in Collegiate Athletes

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Abstract: Researchers have been interested in the topic of aggression in sports, and research shows it may not only hinder team success but also cause serious injuries (e.g., career-ending injuries) to athletes. Previous studies found that variables (e.g., communication, coaches, and efficacy) increased or decreased aggression in athletes; however, no studies have been conducted to investigate a model including these variables and aggression. Therefore, the purpose of this study is to simultaneously examine the relationships among communication, coach–athlete relationship, team efficacy, and aggression in team sports. After 294 collegiate athletes playing in team sports completed the battery of questionnaires, the data were analyzed for descriptive statistics and the structural equation modeling. The bootstrapping method was utilized to test the mediation effects. The results showed that communication was positively related to the coach–athlete relationship and team efficacy. The coach–athlete relationship was positively related to team efficacy which was negatively related to aggression. The bootstrapping results indicated a significant indirect effect from communication to aggression through coach–athlete relationship and team efficacy. The current study suggests that coaches should improve their communication skills to help athletes to have positive perceptions in the relationships with their coaches, to increase team efficacy, and to reduce aggressive behaviors.

Keywords: communication; coach–athlete relationship; aggression; team efficacy

1. Introduction and Literature Review

The psychology of sustainability and sustainable development which is relatively a new research of Sustainability Science is centered on the psychological approach in the constructional processes of sustainability and sustainable development, and it unveils psychological factors which are sustainable for individuals and also facilitate their well-being in different environments such as personal, social, and organizational environments [1]. Specifically, based on the psychology of sustainability and sustainable development perspective in organizations [2], fostering a healthy team environment can lead to healthy and successful outcomes as well as well-being in team members. As Di Fabio and Rosen stated "opening the black box of psychological processes" leads to sustainable development [1], understanding the psychological processes of the team dynamic is essential to ultimately produce optimal outcomes and promote sustainability in teams.

Team communication is critical for sharing information, processing decision-making, providing solutions for problems, resolving team conflicts, and establishing interactional patterns [3,4]. In sports, effective instruction through clear communication facilitates athletes' skill development, confidence improvement, motivation, and satisfaction [5]. Especially, effective communication between team members (i.e., coaches and athletes, as well as between athletes) enhances team coordination and, in turn,

team success [6,7]. Communication is also considered a way to build foundations between individuals by sharing thoughts and emotions and to develop a rapport between coaches and athletes [8]. Effective (or positive) communication is, for example, that coaches use athlete-supportive, encouraging, and motivating verbal and non-verbal languages while communicating with athletes, whereas ineffective (or negative) communication is that coaches use intimidating, criticizing, yelling, and ignoring/disrespectful languages [5]. Therefore, coaches' interaction and effective communication between coaches and athletes influences athletes' development, performance, behaviors, psychological and emotional well-being, motivation, and sport persistence [9–12]. Given the open flow of communication in a close relationship, a co-oriented view can be created between coaches and athletes [13].

The formation of a close relationship based on trust and respect between the coach and athletes is essential for effective communication in order to lead to compatible coach–athlete partnerships [14]. The nature and quality of the relationship established between coaches and athletes affects athletes' physical and psychological development, well-being, skill development, and athletic performance [15–17]. The relationship quality is also associated with athletes' perceived training and performance satisfaction, physical self-concept, motivation, and passion [18–21]. Various conceptual models of the coach–athlete relationship were developed and examined [9,22]. As aforementioned, the open flow of communication results in co-orientation that represents coaches' and athletes' shared perspectives such as goals, values, and beliefs [23]. Shared knowledge and understanding made coaches and athletes appropriately work for each other's needs, aspirations, and problems [15,22]. Communication enables coaches and athletes to develop co-orientation [24]. Although the original definition of co-orientation focused on relationship members' perceptual consensus [25], co-orientation is closely related to effective communication, and previous research on the relationship between communication and successful performance showed similar results [26]. When coaches effectively communicated with athletes, athletes tried to achieve their goals [27]. Even though communication is the critical factor influencing athletes and team performance, as these studies illustrated, research examining the relationship between communication between team members and the coach–athlete relationship has been insufficient. Therefore, our first hypothesis was the following:

Hypothesis 1. *Communication has a positive effect on coach–athlete relationship.*

In relation to communication and coach–athlete relationship, shared trust between team members and team efficacy have been known as factors that help to maximize team function, motivation, and persistence in teams [28–30]. Team efficacy is shared confidence within a team to successfully accomplish collective tasks [31], and it is also considered individual perceptions in a team toward the team's capabilities [32]. Team efficacy is a crucial factor that influences team success [33,34]; research on team efficacy has been rare and limited in the sport psychology discipline. Team performance (achievement) especially can be enhanced by strengthening communication, cohesion, and skill usage. Successful experience also has a positive influence on team efficacy [35,36]. Additionally, communication is known to be a critical factor in predicting team efficacy between athletes and coaches [37]. Positive communication during competitions contributed to increased team performance [38]; whereas, negative communication was an obstruction for teams [39]. Moreover, the coach–athlete relationship as a psychological construct reflects social interpersonal nature and interaction within sport teams [40], and the quality of the coach–athlete relationship is directly and indirectly linked to collective efficacy [40–42]. The coach–athlete relationship is how athletes perceive their relationship with their coaches. As an antecedent of team efficacy within sport teams [35], Jowett et al. [40], for example, found that athletes' perception on the relationship with their coaches positively influenced team efficacy. Therefore, we hypothesized as follows:

Hypothesis 2. *Communication has a positive effect on team efficacy.*

Hypothesis 3. *Coach–athlete relationship has a positive effect on team efficacy.*

In competitive sport situations, athletes often experience negative emotions (e.g., anxiety, frustration, and anger) which hinder optimal performance and team success. Recently, aggression has been the focus of attention because of its ability to influence the mental and physical health of athletes. Aggression that consists of anger and aggressiveness (i.e., aggressive behavior) can even cause critical issues such as serious injuries which may terminate athletes' careers [43–45]. The aggressiveness appearing in adolescence tends to lead to school maladjustment such as low academic achievement or dropout and predicts the involvement of antisocial behavior or crime in adulthood [46]. Sport psychologists and sociologists have examined the concept of aggression and the relationship between aggression and other related factors (antecedents and consequences). In early research, aggression was defined as behaviors with intentions to harm another person physically and psychologically [47,48]. In addition, athletes' aggression was defined as intentional behaviors aiming to harm opponents physically and psychologically whether it was socially acceptable or not [49]. To explain aggressive behaviors more clearly, various personal, emotional, and social variables also need to be studied together [50–52]. Studies showed male athletes experienced greater competitiveness and less empathy than female athletes, and thus male athletes generally scored higher on aggression than female athletes scored [53,54]; however, Keeler [55] reported there were no significant gender effects on aggression after controlling for basic demographic variables. Effective communication between coaches and athletes in competitive sports significantly influenced athlete aggressive behaviors during games [56]. For example, coaches' verbal aggressiveness was negatively related to athletes' intrinsic motivation, effort, and competence, and positively associated with anxiety [57]. In line with social learning theory [58], previous research indicated that athletes learned aggression from observation and indirect experiences from aggressive behaviors of coaches and peer athletes [59]. Young athletes also learned aggression through observing and modeling adult athletes who achieved their goals by aggressive behaviors [60]. Intriguingly, athletes in team sports (especially physical interactional sports such as rugby and soccer) showed a more aggressive disposition compared to athletes in individual sports [61]. In this perspective, immoral team environment and coaches' behaviors may influence aggressive behavior in athletes [62]. Hodge and Ronsdale [63] reported that athletes who had good relationships with their coach showed less antisocial behavior and more social behavior. Aggression is a team problem as well as an individual problem [64]. Another study illustrated that aggression was an important factor for the belief of team efficacy [65]. Furthermore, the potential aggression of athletes in team sports influenced their emotions, team environment, and performance negatively, and consequently, it could intimidate positive values and functions of sports [66]. While team efficacy is one of the important antecedent factors influencing the aggression of athletes, in many studies, the relationship between team efficacy and aggressive behavior has not been examined empirically. Therefore, we hypothesized as follows:

Hypothesis 4. *Communication has a negative effect on aggression.*

Hypothesis 5. *Coach–athlete relationship has a negative effect on aggression.*

Hypothesis 6. *Team efficacy has a negative effect on aggression.*

Importantly, researchers [67–71] have reported effective communication is one of the key factors to build strong social cohesion (i.e., interpersonal relationship) between coaches and athletes and between athletes and athletes, increase collective efficacy, help athletes regulate their negative emotions and behaviors such as anxiety and aggression, and finally contribute to team success and sustainability. Identifying factors related to aggression is essential to manage the various aggressive behaviors in sports situations and prevent athletes from serious injuries. However, only limited research has been conducted to examine the relationships among the variables, and no study has tested the variables simultaneously. Thus, the primary purpose of this study was simultaneously to investigate how team communication, team efficacy, and coach–athlete relationship influence aggression in order to reveal

fundamental information for decreasing athletes' aggression level. The hypothesis of the current study is as follows:

Hypothesis 7. *Communication has an indirect effect on aggression mediated by coach–athlete relationship and team efficacy.*

2. Materials and Methods

2.1. Participants

We used purposeful sampling to recruit participants of this study. The participants were 294 Korean collegiate athletes (265 males and 29 females) in team sports with a mean of 21.51 (SD = 1.32) years old and also a mean of 9.78 (SD = 2.18) years of athletes' experience. They responded to a battery of questions to measure team communication, coach–athlete relationship, team efficacy, and aggression. They were active members of team sports including basketball (n = 83, 28.2%), volleyball (n = 12, 4.1%), baseball (n = 86, 29.3%), soccer (n = 74, 25.1%), and handball (n = 39, 13.3%). Also, 76 (25.85%) of the participants had experience at the national representative level. After 29 questionnaires were discarded because of excessive missing values, 265 questionnaires were used for the analysis. General characteristics of the participants in this study are shown in Table 1 below.

Table 1. General characteristics of the participants (n = 294).

Characteristics	Category	Frequency (n)	Present (%)
Sex	Male	265	90.1
	Female	29	9.9
Age	20	79	26.9
	21	76	25.8
	22	72	24.5
	23	52	17.7
	24 or older	15	5.1
School year	Freshmen	79	26.9
	Sophomores	76	25.8
	Juniors	72	24.5
	Seniors	52	17.7
	Graduate school	15	5.1
Type of Sports	Basketball	83	28.2
	Volleyball	12	4.1
	Baseball	86	29.3
	Soccer	74	25.1
	Handball	39	13.3

2.2. Measures

The participants in this study were asked to complete a demographic questionnaire (e.g., sex, age, school year, and type of sports), the Korean version of the Scale of Effective Communication in Team Sports (SECTS-K), the Korean version of the Coach–Athlete Relationship Questionnaire (KrCART-Q), the Korean version of Collective Efficacy Questionnaire for Sports (CEQS), and the short version of competitive aggressiveness and anger scale (CAAS).

The SECTS-K was used to assess team communication. Choi et al. [72] modified the original SECTS-2 [73] by considering Korean culture and an understanding of Korean collegiate athletes. Team communication consists of 14 items in 3 factors measured on a 7-point Likert scale, which are acceptance and conflict (i.e., trust each other, communicate honestly and directly, share thoughts and feelings with one another; e.g., *Try to make sure all players are included*; 6 items, α = 0.84), particularity (i.e.,

use nicknames, languages, gestures that only team members can understand; e.g., *Use slang that only team members would understand*; 3 items, α = 0.79), and negative conflict (i.e., express negative feelings; e.g., *Show that we lose our temper*; 3 items, α = 0.69). A higher score indicates a higher level of team communication. Confirmatory factor analysis (CFA) of the SECTS-K was performed, and Table 2 shows the standardized loading values and composite reliabilities of subcomponents in the SECTS-K.

Table 2. Standardized factor loading values and composite reliability.

Latent Variable	Item	Standardized Loading Values	C.R
Acceptance & conflict	1	0.704	0.879
	2	0.617	
	3	0.780	
	4	0.735	
	5	0.766	
	6	0.782	
particularity	1	0.632	0.753
	2	0.708	
	3	0.694	
Negative conflict	1	0.621	0.722
	2	0.610	
	3	0.676	

The KrCART-Q [74] was used to measure how athletes perceived their relationship with their coaches. The original CART-Q [21] was modified, and the KrCART-Q consists of 11 items in 3 factors measured on a 7-point Likert scale: closeness (i.e., perceptions of intimacy with each other; e.g., *I like my coach*; 4 items, α = 0.95), commitment (i.e., intentions to develop and maintain the relationship; e.g., *I am committed to my coach*; 3 items, α = 0.91), and complementarity (i.e., cooperative interactions between each other; e.g., *when I am coached by my coach, I am responsive to his/her efforts*; 4 items, α = 0.94). A higher score indicated a higher level of coach–athlete relationship. CFA of the KrCART-Q was performed, and Table 3 shows the standardized loading values and composite reliabilities of subcomponents in the KrCART-Q.

Table 3. Standardized factor loading values and composite reliability.

Latent Variable	Item	Standardized Loading Values	C.R
Closeness	1	0.903	0.917
	2	0.945	
	3	0.951	
	4	0.872	
Commitment	1	0.865	0.842
	2	0.879	
	3	0.891	
Complementarity	1	0.839	0.903
	2	0.926	
	3	0.919	
	4	0.919	

Team efficacy was measured by the Korean version of CEQS [75]. The original CEQS was developed by Short et al. [76]. This scale consists of 15 items in 4 factors: team strategy (e.g., *we are strong on set plays*; 4 items, α = 0.81), enough training (e.g., *we have been enough training for the season/game*; 3 items, α = 0.90), trust for leaders (e.g., *we trust coaches and staff*; 4 items, α = 0.94), and effective communication (e.g., *we well communicate each other during a game*; 4 items α = 0.92). This scale was also measured on a 7-point Likert scale. A higher score indicated a higher level of team efficacy. CFA of the

CEQS was performed, and Table 4 shows the standardized loading values and composite reliabilities of subcomponents in the CEQS.

Table 4. Standardized factor loading values and composite reliability.

Latent Variable	Item	Standardized Loading Values	C.R
Team strategy	1	0.696	0.724
	2	0.762	
	3	0.885	
	4	0.602	
Enough training	1	0.892	0.852
	2	0.903	
	3	0.793	
Trust for leaders	1	0.837	0.890
	2	0.912	
	3	0.920	
	4	0.897	
Effective communication	1	0.869	0.893
	2	0.923	
	3	0.858	
	4	0.820	

The CAAS was translated and modified into Korean [49] and used to measure trait anger and aggressiveness in competitive athletes. This scale consists of 2 factors with 12 items measured on a 5-point Likert scale: trait anger (e.g., *I get mad towards my opponent if I lose*; 6 items, α = 0.82) and competitive aggressiveness (e.g., *it is ok to us physical force to win a game*; 6 items, α = 0.85). A higher score indicated a higher level of aggression. CFA of the CASS was performed, and Table 5 shows the standardized loading values and composite reliabilities of subcomponents in the CAAS.

Table 5. Standardized factor loading values and composite reliability.

Latent Variable	Item	Standardized Loading Values	C.R
Anger	1	0.523	0.778
	2	0.466	
	3	0.760	
	4	0.845	
	5	0.583	
Aggressiveness	1	0.484	0.847
	2	0.681	
	3	0.751	
	4	0.643	
	5	0.857	
	6	0.759	

2.3. Procedures and Research Design

After obtaining the Institutional Review Board (IRB) approval, the first author contacted college sport team coaches in Korea to explain the purpose of this study and gain their permission to recruit participants (i.e., student-athletes). With coaches' permission, the authors visited athletes before their practices. The coaches introduced the authors to their athletes and left the sites. The authors first explained the purpose of this study and informed the athletes that their participation was fully anonymous and voluntary. They were told to ask any questions before, during, and after completing the survey. After signing a written consent form and completing the survey, they put the survey in an

envelope and left the sites. It took approximately 20 min for the participants to complete the survey. Because a cross-sectional research design was used for this study, the data were collected once.

2.4. Statistical Analysis

SPSS 22.0 was used to calculate the descriptive statistics, and AMOS 22.0 was used to conduct structural equation modeling (SEM) to identify the relationships among team communication, coach–athlete relationship, team efficacy, and aggressiveness. Following Anderson and Gerbing's two-step approach in SEM [77], the measurement model was examined before verifying the structural model. For the mediation effect analysis, 2000 bootstrap samples were requested.

3. Results

3.1. Descriptive Statistics

Table 6 presents the means and standard deviations. All variables demonstrated satisfactory univariate skewness (<2) and kurtosis (<2). The sample reported high levels of communication, coach–athlete relationship, and team efficacy, as indicated on the seven-point Likert scale (communication M = 4.62, SD = 0.67, coach–athlete relationship M = 5.15, SD = 1.19, team efficacy M = 5.09, SD = 0.96). The sample reported moderate-to-low levels of aggression on the five-point Likert scale (aggression M = 2.84, SD = 0.78).

Table 6. Means (*M*), standard deviation (*SD*), skewness, and kurtosis.

Scale	M	SD	Skewness	Kurtosis
Communication	4.62	0.67	0.671	0.656
Coach–athlete relationship	5.15	1.19	−0.479	0.491
Team efficacy	5.09	0.96	−0.312	0.279
Aggression	2.84	0.78	−0.214	0.048

3.2. Measurement Model

A measurement model was examined with saturated pathways. The pathways of latent variables (measurement variables) are illustrated in Table 7. The fit of the measurement model was acceptable (χ^2 = 240.97, df = 71, TLI = 0.90, CFI = 0.92, RMSEA = 0.08). The correlation analysis results showed that communication had a positive relationship with coach–athlete relationship (r = 0.56) and team efficacy (r = 0.79) but a negative relationship with aggression (r = −0.32). Additionally, a positive correlation between coach–athlete relationship and team efficacy (r = 0.74) was observed, but there was a negative relationship between coach–athlete relationship and aggression (r = −0.16). Team efficacy had a negative relationship with aggression (r = −0.34).

Table 7. Factor correlations among the study variables.

Variable		Variable	Estimate
communication	↔	Coach–athlete relationship	0.561
communication	↔	Team efficacy	0.789
communication	↔	Aggression	−0.322
Coach–athlete relationship	↔	Team efficacy	0.743
Coach–athlete relationship	↔	Aggression	−0.163
Team efficacy	↔	Aggression	−0.335

3.3. Structural Model

The structural model was verified, and the fit was found to be acceptable (χ^2 = 240.97, df = 71, TLI = 0.90, CFI = 0.92, RMSEA = 0.08, SRMR = 0.076). In the model, communication was set as an exogenous variable, and coach–athlete relationship and team efficacy were set as endogenous

and mediating variables. Furthermore, aggression was set as a dependent variable. As indicated in Figure 1, there were significant positive pathways from communication to coach–athlete relationship (H1: $\beta = 0.56$, $p < 0.001$) and to team efficacy (H2: $\beta = 0.54$, $p < 0.001$). Coach–athlete relationship was significantly related to team efficacy (H4: $\beta = 0.43$, $p < 0.001$). Team efficacy had a significant, negative association with aggression (H6: $\beta = -0.36$, $p < 0.001$), whereas coach–athlete relationship did not have a significant association with aggression (H5). The bootstrapping result indicated a significant indirect effect from communication to aggression through coach–athlete relationship and team efficacy in the model (H7: $\beta = -0.088$, $p < 0.01$). Standardized path coefficients for the structural model are shown in Table 8 below.

Table 8. Standardized path coefficients for the structural model.

Hypothesized Path	*b*	
	Direct	Indirect
H1: Communication → coach–athlete relationship	0.561 ***	
H2: Communication → team efficacy	0.544 ***	
H3: Communication → aggression	−0.141	
H4: Coach–athlete relationship → team efficacy	0.438 ***	
H5: Coach–athlete relationship → aggression	0.183	
H6: Team efficacy → aggression	−0.360 ***	
H7: Communication → coach–athlete relationship → team efficacy → aggression		−0.088 **

** $p < 0.01$, *** $p < 0.001$, b = standardized regression weight.

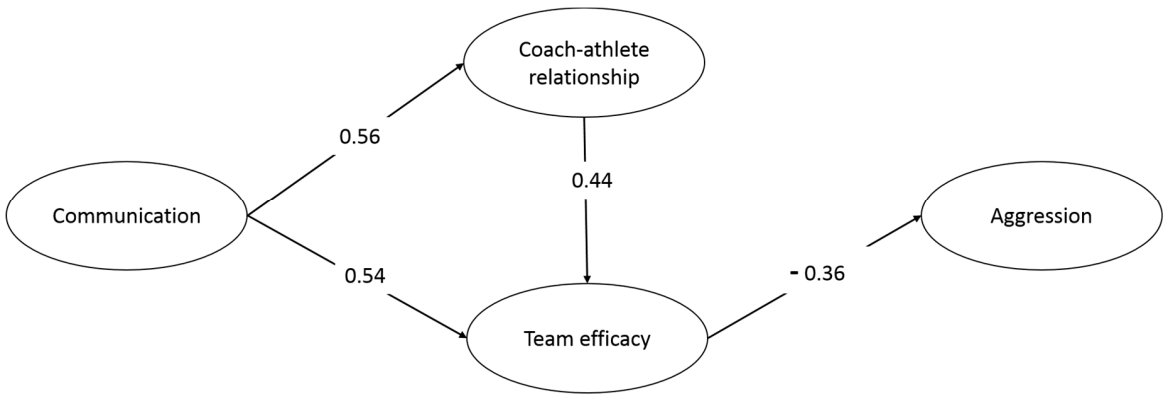

Figure 1. Structural equation model with standardized estimates among variables. Only significant paths are presented. The paths were significant at level $p < 0.001$.

4. Discussion

The research results related to team sports indicated that effective communication has a positive influence on performance and competition results by improving the quality of the coach–athlete relationship and team efficacy and by decreasing aggression. In addition, recent coach–athlete relationship studies focused first on relational approaches in which coaches and athletes perceived themselves mutually in a friendly way, and second on the psychological influences of coach–athlete relationship. However, these studies suffer some limitations because they only considered an individual approach without group processes. Therefore, this study examined the effect of communication on aggression, with the coach–athlete relationship and team efficacy as mediating factors.

First, communication had a significant positive association with coach–athlete relationship (Hypothesis 1). This finding is consistent with previous studies that indicated the importance of communication on building and maintaining the quality relationship between coaches and athletes [8,9,13,14,22–25]. This finding is also well supported by the four stages of the linear group development theory, which states that a team goes through four stages to be an ideal team and that subjective and open communication is a key that can resolve conflicts, replace hostility with solidarity

and cooperation, and stabilize interpersonal relationships [53]. Carron et al. [28] reported that team communication is necessary for the development of team structure and team maintenance. Furthermore, they suggested that decision-making, goal-setting, cooperation, team building, position, leadership, and conflicts in the team are also related to team communication [28]. Athletes especially perceived the evaluation of coaches and the effects of training differently depending on the communication style of the coaches. In other words, athletes prefer coaches who talk comfortably with consideration for the athletes while communicating. It also makes athletes believe that their training is more effective.

Second, communication had a significant positive relation to team efficacy (Hypothesis 2). This finding supports the previous research finding that effective communication among team members increased self-efficacy and collective efficacy and in turn performance [78]. The critical factors of team success are team communication, team cohesion, and skill enhancement [32]; thus, team outcomes can be improved or decreased by these factors. If team members do not communicate well within the team, the team members will not be cohesive and cooperative emotionally. As explained by the shared mental model [79,80], the result of effective verbal and non-verbal communication enables team members to build strong shared trust on performance ability and team work, anticipate one another's behaviors, and coordinate their actions. Therefore, team members, including athletes, should communicate with each other consistently and effectively for team cohesion, team efficacy, and consequently team performance.

The coach–athlete relationship had a positive influence on team efficacy (Hypothesis 4). Recent studies on the coach–athlete relationship [40,81] emphasized on the two-way communication with a relational perspective. In team sports, trust between team members should be shared to achieve team goals. In addition, the coach–athlete relationship is important, as well as building trust between athletes during training and competition. With a qualitatively facilitated coach–athlete relationship, team members can have strong team cohesion and team efficacy. In the sport field, coaches and athletes are strongly emphasized to interact consistently. The coach–athlete relationship is an important factor that determines team cohesion, team efficacy, and team success (team performance). According to Jowett et al. [38], the interpersonal factor was divided into the coach–athlete relationship and team cohesion. Additionally, they reported that the coach–athlete relationship had more influence on team efficacy than team cohesion.

Team efficacy had a negative influence on aggression (Hypothesis 6), whereas coach–athlete relationship was not significantly associated with aggression (Hypothesis 5). Both findings were consistent with previous research showing there was insignificant association with the relationship between teacher–student relationship and aggression but significant association with the relationship between student–student relationship and aggression [82]. In previous studies [76,83], team efficacy was influenced by significant others such as coaches, team captain, and leading players. We can easily observe and experience the situation that athletes in sports team are trying to become cohesive by shouting "We are one team, and we can do it." In this situation, the cohesion of the team increased. Therefore, aggressive behaviors during games decrease when players understand the importance of team cohesion and have fewer negative conflicts with other players.

Lastly, communication had a significant indirect effect on aggression mediated by coach–athlete relationship and team efficacy supporting Hypothesis 7. This study emphasized the importance of communication between coaches and athletes as the main factor and coach–athlete relationship and team efficacy as the mediating factors that control aggression in athletes. As Hypothesis 4 as well as Hypothesis 7, we expected to have partial mediation effects. That is, communication would have a direct association with aggression and an indirect association with aggression through coach–athlete relationship and team efficacy; however, communication was not significantly associated with aggression. The meaningful pathway that was found confirmed indications that effective communication enhanced the quality of the coach–athlete relationship, team efficacy, and consequently decreased athletes' aggression. This supports previous research which found that fostering sustainable social environment decreased aggression [82].

There are several limitations to generalize the current findings. First, this study used a cross-sectional design to collect the data to examine the mediation effects of coach–athlete relationship and team efficacy on the relationship between communication and team efficacy. Because the data were collected only once, the results cannot provide clear causal relationships among variables in this study. Although aggression is generally considered more of a personality trait, it is possible that athletes may have higher levels of aggression during season than off season. Thus, a longitudinal approach to examine the relationship between communication and aggression with mediating variables should be conducted in future research. Second, this study did not analyze the data by sex (e.g., male vs. female), age (e.g., middle school, high school, and college), or sport types (e.g., collision type vs. contact type vs. non-contact type sports) because of the small sample size per group for the invariance test. For example, males from general psychology are usually more aggressive than females, but that is not always true. The results of the gender effects in a specific sport context are still equivocal. Therefore, future research should have enough sample size per group for the invariance test in order to find effects of moderating variables on the relationship between communication and aggression.

5. Conclusions

This study was an initial attempt to investigate the relationship between communication, coach–athlete relationship, team efficacy, and aggression in Korean collegiate athletes. The results of this study indicated that communication was positively related to the coach–athlete relationship and team efficacy. The coach–athlete relationship was positively related to team efficacy which was negatively related to aggression. There was a significant indirect effect from communication to aggression through coach–athlete relationship and team efficacy.

This study sheds light on that effective communication is an initial key factor to facilitate team environment and sequentially change variables in a team to regulate athletes' aggression; therefore, coaches should pay attention on improving their communication skills to help athletes control their aggression. We believe that sport organizations and schools should provide educational workshops and programs for coaches to improve effective communication skills. The current study also provided a theoretical model of communication-aggression through coach–athlete relationship and team efficacy. Different perspectives were utilized to understand the possible relationship between the variables and aggression. As previous studies have mostly focused on what variables could enhance athletic performance so as to optimize team performance and win; however, not many studies have investigated the factors that might hinder team success. Given that notion, this study provides valuable practical information for coaches, athletes, educators in sports, and consultants. As Carron and Hausenblas [28] emphasized, active interaction with coaches and athletes in a team is essential to produce optimal performance. This study emphasizes on the importance of communication within team members (especially, coaches, and athletes) to improve the quality of coach–athlete relationship and increase team efficacy for fostering sustainable team environment in order to decrease aggression in athletes.

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