



The Open Sports Sciences Journal

Content list available at: <https://opensportssciencesjournal.com>



RESEARCH ARTICLE

Non-verbal Communication of Sports Leaders and Influence on Students' Participation Satisfaction, Positive Emotion, Exercise Adherence, and Sport Recommendation

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Abstract:

Background and Study Aim:

This study analyzed the relationship between the nonverbal communication of golf leaders' and the satisfaction, positive emotion, exercise adherence, and recommendation of sports leaders among students participating in golf classes.

Material and Methods:

The study surveyed 377 students in four middle and four high schools in Seoul and Gyeonggi Province from January 2 to May 2, 2020. The SPSS 23.0 and AMOS 23.0 programs were used to conduct these procedures: reliability analyses to analyze the validity and reliability of the survey questions; confirmatory factor analysis; the correlation between nonverbal communication and various variables; and a structural equation model (SEM) analysis to empirically verify the hypotheses of the study.

Results:

Results showed that five major hypotheses and five of the 18 sub-hypotheses had significant effects among the independent and dependent variables. The golf leaders' paralinguistic and physical appearance significantly affected the participation satisfaction of youth participants. In addition, their physical appearance had a statistically significant effect on the exercise adherence of the youth participants. In turn, the participation satisfaction among the youth participants significantly affected their positive emotions, exercise adherence, and recommendation of golf leaders. In effect, their positive emotion significantly affected their recommendations of golf leaders to others.

Conclusion:

Hence, sports leaders should learn nonverbal communication skills through continuous self-management, class preparation, and active demonstrations among their students.

Keywords: Sports communication, Paralinguistic, Proxemics, Physical appearance, Kinesics, Sports leaders.

Article History

Received: January 25, 2023

Revised: March 11, 2023

Accepted: March 15, 2023

1. INTRODUCTION

Communication plays the most basic role in shaping human relationships. Communication refers to the face-to-face interaction between two or more people and can be largely classified into verbal and nonverbal communication. A study by Birdwhistell (1970) reported that more than 65 percent of nonverbal elements are communicated while communicating with others, while linguistic elements convey the remaining 35 percent [1]. This result indicated that nonverbal communi-

tion could convey various meanings and emotions through body behaviors, gestures, postures, facial expressions, voice changes, and various body aspects [2]. Thus, nonverbal communication may be more effective or as effective as verbal communication in education.

One educational exercise where nonverbal communication can be meaningful is sports education. In sports, there is that vital interaction of sports leaders or coaches with their students wherein the leader can motivate the learners to have the right attitude and skills in sports. As Kim (2007) pointed out, the method and quality of the leader's communication behavior

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play an important role in the interaction between the sports leader and the students [3]. Sports communication among the adolescents of a country is important if one wants to have a healthy and socially adaptable generation.

In addition, adolescence is a period in which students' self-identity is established due to various mental, social, and physical changes in the developmental stage from childhood to adulthood. For example, sports develop their physical, intellectual, emotional, social, creative, and practical talents among adolescents. So, physical activities during childhood or school develop the student's thinking process, which also affects their beliefs and behaviors as they become adults. People's exercise habits or lifestyles can be important in making decisions [4]. Further, participation in sports activities is recognized as a useful cultural form that has social, mental, and cultural values.

A sport that is steadily gaining ground in Korea is golf. Golf used to be regarded as a high-end sport enjoyed by only a small number of wealthy people. However, it is now being popularized as a lifelong sport that can be enjoyed by all ages and sexes [5]. The main reasons for the popularization of golf are the increase in leisure time due to the economic growth of Korea, the improvement of public perception of the golf culture, the good performance of players at home and abroad, and the improving value of golf as a sports industry [6]. Today, teenagers are trying to make golfing a future career. As a result, the number of elementary, middle, and high school students registering as golf players continues to increase, especially with the establishment of golfing in schools [7].

In recent years, professional golf groups based in foreign countries have started to establish branches in Korea and train professionals. Golf leaders who guide teenagers in playing golf, especially for the first time, must play various roles and gain special qualities as life sports leaders. Golf has physical, psychological, and mental demands. Physically, it requires energy metabolism related to accurate technical skills and momentary movements for physical fitness. Psychologically, it is an exercise that emphasizes the desire to achieve. Mentally, it demands strong mental strength, high concentration, and sharp judgment. Hence, the first prerequisites in teaching golf are the sports leader's philosophy, attitude, and a firm awareness of their role and mission. The sports leader's professionalism, attitude, and consciousness are vital to participants [8, 9].

Golf is an exercise where mutual communication and emotional exchange between leaders and participants is more important than any other sport. Furthermore, a lot of physical contact and demonstration with the participants is needed due to the nature of golf lessons. Hence, golfers need guidance from effective golf leaders [10, 11]. Furthermore, in most golf cases, education is conducted one to one, so golf leaders need proper and effective communication to guide the students in the technical and psychological aspects of the game [12].

The communication ability of the leader is particularly important compared to other events [13, 14]. To motivate the youth to learn sports, including golf, sports leaders use various methods and strategies, specifically nonverbal communication.

Lee (2009) found that nonverbal communication of sports leaders resulted in the active participation of students in physical education classes and various activities, harmonious growth development, and improved attitudes and satisfaction with physical education classes. Park (2009) pointed out that non-verbal communication can reduce language anxiety between sports leaders and students. However, much research on youth golf in Korea has been focused on the performance and psychological aspects of the youth golf participants.

There have also been studies on the influence of sports leaders on youth golf players, but more on their leadership qualities and verbal skills [15, 16]. Sports leaders must motivate students to participate in golf activities actively and enhance their positive attitude and satisfaction towards golfing. To do this, sports leaders should have good communication skills and knowledge of the technical aspects of golf to maintain a smooth human relationship with their students. Several studies have already recognized the importance of verbal communication in sports. Therefore, this study examined the nonverbal communication skills of the golf leaders and their effects on participation satisfaction, positive emotion, exercise adherence, and recommendation of golf leaders among youth participants.

The specific research question for this study is:

RQ: What are the nonverbal communication behavior of sports leaders that influence the participation satisfaction, positive emotion, exercise adherence, and recommendation of golf leaders among youth participants [17 - 34]?

2. LITERATURE REVIEW

Humans can communicate through nonverbal messages without using verbal messages and exchange various meanings and emotions through facial expressions, gestures, postures, gaze behaviors, changes in voice, and various aspects of the body [35]. Non-verbal communication is performed with verbal expressions and sometimes has a stronger meaning than verbal content [36]. Accordingly, nonverbal communication is more than simple communication and maximizes its efficiency. The meaning can differ depending on the non-verbal elements involved when delivering verbal messages of the same content [37].

According to Knapp (1980), nonverbal communication comprises seven factors: kinesics, physical appearance, contact behavior, paralanguage, temporal behavior, proxemics, and environmental factors related to artifacts. For example, Dodd (1998) showed that body movement had five factors: eye movement, gaze, physical contact, proxemics, and temporal behavior. On the other hand, Sundaram and Webster (2000) pointed to four elements: kinesics, proxemics, paralanguage, and physical appearance. Based on the research of Sundaram and Webster (2000), studies in Korea on the nonverbal communication of leaders in sports showed that it comprises paralanguage, proxemics, physical appearance, and kinesics [38].

Firstly, paralanguage refers to expressing emotion through voice, tone, and speed of speech, even when the same word is used [39]. It is also related to voice characteristics and use,

called voice or voice action. Since paralanguage conveys people's emotions, they elicit greater trust than the meaning of words, and sometimes they more accurately reflect an individual's psychological state than actual language [40]. Woo Ryong Kim and Ji Won Won (2004) divided paralanguage into tone, tone, and speech elements. The meaning of language can be clearly understood through paralanguage, such as pronunciation, tone of voice, speed of speech, loudness of speech, and tone of speech [41]. In addition, since the speaker's emotional state and the person's personality can be grasped through paralanguage, paralanguage is an important factor in determining communication skills [23]. In conversation, people consciously and unconsciously grasp the degree of confidence in the content of the conversation and the importance of the content through similar languages.

Secondly, proxemics is a method of expressing intimacy or politeness by maintaining a distance from or contacting one another in an interactive situation [39]. As it relates to an individual's space use and physical distance, it means the distance or relative position between the interactors. In relation to human space usage, Kim Woo-ryong and Place Won (2004) viewed the physical distance between the receiver and the sender as a nonverbal element in a communication situation. Generally, it was argued that people seek psychological stability by pursuing adequate physical space [41]. Woo Ryong Kim and Ji Won Won (2004) and Sundaram and Webster (2000) pointed out that maintaining contact distance was a sign of intimacy. Therefore, securing the most important space was regarded as the most important part of proxemics.

Thirdly, physical appearance refers to the body's external appearance [41]. Physical attractiveness and appearance, such as hairstyle, clothes, and ornaments, influence cognition in the interaction [38]. Physical appearance, which includes physique, physical attractiveness, skin and hair color, hair, health status, and smell, is an important determinant of perception in interpersonal interaction [42, 43]. Based on physical appearance, people perceive a lot of information such as gender, age, personality, physical fitness, and health status; through this, they have stereotypes [44].

Fourth, kinesics is a body movement related to light greetings, nodding heads, facial expressions such as smiles, gaze and eye contact, gestures, and postures [40]. It can include the nod of the head, which is a gesture; the movement of a hand or arm, *etc.*; and facial expressions such as smile and frown. Tubbs and Moss (2010) say that facial expression is the most important type of nonverbal communication as it enables personal identification and determines personal impressions. Posture can characterize an individual's emotions, such as an aggressive posture, a relaxed posture, *etc.* Finally, gestures consist of one or several gestures as a concept of continuous movement [15, 39]. Kinesics has the advantage of being able to communicate more delicately [45]. It can also express one's feelings and emotions or give instructions [46].

3. HYPOTHESES OF THE STUDY

Prior to the hypothesis testing, the relationships among nonverbal communication, participation satisfaction, positive emotion, exercise adherence, and recommendation intention

were analyzed through a review of previous studies. Accordingly, five major research hypotheses and the 18 corresponding sub-hypotheses were established.

3.1. Hypothesis 1

Nonverbal communication (paralanguage, proxemics, kinesics, physical appearance) affects participation satisfaction..

3.1.1. Hypothesis 1-1

Paralanguage has a significant effect on participation satisfaction.

3.1.2. Hypothesis 1-2

Proxemics has a significant effect on participation satisfaction.

3.1.3. Hypothesis 1-3

Kinesics has a significant effect on participation satisfaction.

3.1.4. Hypothesis 1-4

Physical appearance significantly affects participation satisfaction.

3.2. Hypothesis 2

Nonverbal communication (paralanguage, proxemics, kinesics, physical appearance) affects positive emotion.

3.2.1. Hypothesis 2-1

Paralanguage has a significant effect on positive emotion.

3.2.2. Hypothesis 2-2

Proxemics has a significant effect on positive emotion.

3.2.3. Hypothesis 2-3

Kinesics has a significant effect on positive emotion.

3.2.4. Hypothesis 2-4

Physical appearance significantly affects positive emotion.

3.3. Hypothesis 3

Nonverbal communication (paralanguage, proxemics, kinesics, physical appearance) affects exercise adherence.

3.3.1. Hypothesis 3-1

Paralanguage has a significant effect on exercise adherence.

3.3.2. Hypothesis 3-2

Proxemics has a significant effect on exercise adherence.

3.3.3. Hypothesis 3-3

Kinesics has a significant effect on exercise adherence.

3.3.4. Hypothesis 3-4

Physical appearance significantly affects exercise adherence.

3.4. Hypothesis 4

Participation satisfaction affects positive emotion, exercise adherence and recommendation.

3.4.1. Hypothesis 4-1

Participation satisfaction with golf significantly affects positive emotion in golf.

3.4.2. Hypothesis 4-2

Participation satisfaction with golf significantly affects exercise adherence to golf.

3.4.3. Hypothesis 4-3

Participation satisfaction with golf significantly affects recommending golf as a sport.

3.5. Hypothesis 5

Positive emotion affects exercise adherence and recommendation.

3.5.1. Hypothesis 5-1

Positive emotion has a significant effect on exercise adherence.

3.5.2. Hypothesis 5-2

Positive emotion has a significant effect on recommendation.

3.6. Hypothesis 6

The exercise adherence affects recommendation.

3.6.1. Hypothesis 6-1

Exercise adherence has a significant effect on recommendation.

4. RESEARCH MODEL OF THE STUDY

The analytical model used in Fig. (1) shows the concepts studied based on the literature, the specific variables, and the relationship between the concepts. The nonverbal communication of sports leaders deemed important to the student-athletes are paralinguage, proxemics, physical appearance, and kinesics. When sports leaders use these effectively, they can elicit satisfaction, positive emotion, and exercise adherence, leading them to recommend golf leaders to their friends or peers.

As the research goal is to develop a theoretical model of what nonverbal factors of the sports leaders affect what response variables among the youth participants in golf, these variables were all subjected to statistical analyses and verification. For this process, structural equation modeling (SEM) was used.

Structural Equation Modelling (SEM) is a powerful technique that estimates the relationship between more than one dependent variable and many independent variables. That is to say that a researcher may be interested in the strength of the relationships between variables in a hypothesis, and SEM is a way to examine those variables.

Nonverbal Communication

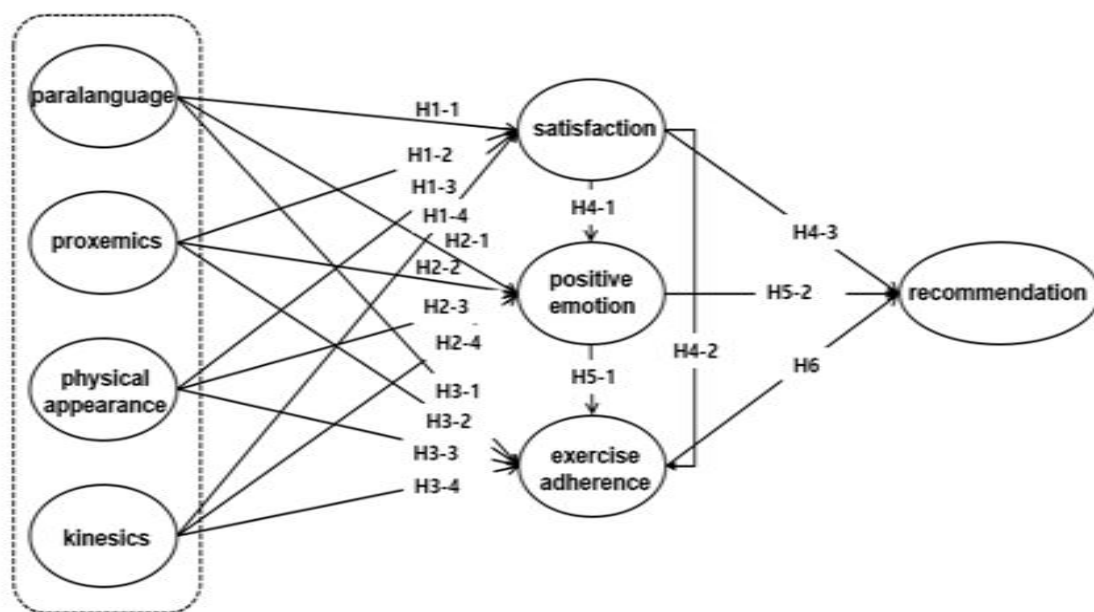


Fig. (1). Research model showing the variables and hypotheses of the study.

5. METHODOLOGY

5.1. Participants and Sampling

This study used a cross-sectional survey design. In a cross-sectional survey, data are collected at one point in time from a sample selected to represent a larger population.

Survey research is a quantitative and qualitative method with two important characteristics. First, the variables of interest are measured using self-reports. Second, considerable attention is paid to the issue of sampling. In particular, researchers strongly prefer large random samples because they provide the most accurate estimates of what is true in the population.

Data were collected from January 2 to May 2, 2020, from four middle and four high schools in Seoul and Gyeonggi Province in South Korea. The study's participants were middle and high school students in Seoul and Gyeonggi Province as of 2020. In most schools, many students did not participate in golf classes in the first and third grades. Therefore, the middle school (2nd and 3rd grades) and high school (1st and 2nd grades) were selected as study participants. (N=377).

The youth golf participants in this study were generally male (67%), in middle school 2nd grade (46%) or 3rd grade (21%), and willing to participate in golf sports (75%). However, the majority (56.8%) know about golf only to some extent, while many (30%) know little about it. Also, almost half (48%) spent less than 5 minutes searching for information about golf. So this result implies that golf sports leaders need to share such information to sustain their interest in the sport Table 1.

5.2. Data Gathering Instrument and Data Analysis

A self-administered survey was drafted using questions from previous studies confirmed to be valid and reliable in previous literature. Some questions were modified or supplemented to be more appropriate for this study. All questions, except for demographic characteristics, consisted of a 5-point Likert scale (1 point: strongly disagree, 5 points: strongly agree).

Data were encoded and analyzed using SPSS 23.0 and AMOS 23.0 programs. The researcher followed these specific methods. First, frequency analysis was done to analyze the demographic characteristics of the study subjects. Second, confirmatory factor analysis and reliability analyses were conducted to analyze the validity and reliability of the questionnaire items. Third, a structural equation model (SEM) analysis was conducted to empirically verify the study's hypotheses.

Lastly, regarding the IRB process, the research context in this country does not require specific, informed consent when collecting data in the educational field. However, when working with participants in the medical field or drug-related experiments, it is required to receive specific and detailed informed consent and proceed IRB committee.

As a result, this study did not cover the medical field or human experiment, and all survey participation was voluntary, so the researchers decided to proceed with this research. Also, most researchers in this specific research context did not specifically proceed IRB process when only collecting survey data. This study does not include qualitative data, such as interviews with study participants. Thus, ethical approval and consideration are not required.

Table 1. Characteristics of the study participants.

Profile		Frequency (N=377)	Percentage
Gender	Male	254	67.4
	Female	123	32.6
Grade	Middle school 2nd grade	174	46.2
	Middle school 3rd grade	80	21.2
	High school 1st grade	60	15.9
	High school 2nd grade	63	16.7
Information About golf	Know a lot	48	12.7
	To some extent	214	56.8
	Know a little	115	30.5
Search time for information on golf in a day	Less than 5 minutes	182	48.3
	6 – 10 minutes	128	34.0
	11 – 20 minutes	39	10.3
	21 – 30 minutes	17	4.5
	More than 31 minutes	11	2.9
Willingness to participate in golf in the future	I want to participate	283	75.1
	I will not participate	94	24.9
Total		377	100.0

Table 2. Confirmatory factor analysis for all the independent and dependent variables.

Variable	Question	β	SE	CR	AVE (α)
Paralanguage	The speed of speech during class was appropriate.	.887	.096	.942	.764 (.858)
	The voice tone was appropriate.	.759	.257		
	Pronunciation was clear.	.826	.172		
	The tone was smooth.	.842	.150		
	The voice was lively.	.713	.331		
Proxemics	The use of the surrounding space was appropriate.	.663	.237	.835	.628 (.713)
	They kept a comfortable distance.	.733	.207		
	Appropriate physical contact for guidance was made and explained.	.686	.414		
Kinesics	The golf leader had a bright, relaxed look.	.695	.377	.858	.602 (.818)
	They looked at me while talking during the question-and-answer part. In class.	.760	.280		
	They nodded properly when expressing themselves in class.	.683	.508		
	They acted politely in class.	.793	.261		
Participation satisfaction	I am satisfied with the current leader's exercise program.	.768	.255	.912	.723 (.860)
	I am satisfied with the leadership of the current leader.	.840	.178		
	I am satisfied with my current leader's interaction with me.	.726	.299		
	I am satisfied with the current leader.	.776	.196		
Positive emotion	Through the golf class, I felt joy.	.900	.104	.968	.860 (.944)
	Through the golf class, I felt pleasure.	.929	.073		
	Through golf classes, I felt comfortable.	.856	.136		
	Through the golf class, I felt happy.	.801	.209		
	Through the golf class, I had a pleasant feeling.	.903	.107		
Exercise adherence	I think golf is an exercise that cannot be easily given up.	.671	.427	.932	.776 (.873)
	I think golf is an ideal exercise.	.862	.116		
	I want to continue to learn golf from current leaders.	.864	.106		
	I will continue to participate in golf.	.860	.124		
Recommendation	I will recommend golf leaders to those around me.	.852	.167	.925	.804 (.882)
	I will recommend the golf leaders to a friend.	.913	.100		
	I will recommend golf leaders to social media etc.	.784	.263		
Goodness-of-fit statistics: $X^2=946.062$, $df=436$, $X^2/df=2.170$, $CFI=.939$, $IFI=.939$, $TLI=.930$, $SRMR=.074$, $RMR=.038$, $RMSEA=.056$					

6. RESULTS

6.1. Confirmatory Factor Analysis

Based on previous studies, confirmatory factor analysis was conducted to analyze the validity of all factors for nonverbal communication, participation satisfaction, positive emotion, exercise adherence, and recommendation of golf leaders (Table 2).

Computations showed that the value of all questions was above .5. The goodness of fit for the model was $X^2 = 946.062$ ($df = 436$, $p = .000$), and Normed Chi-square (X^2/df) was 2.170. Comparative Fit Index (CFI) was .939, Incremental Fit Index (IFI) was .939, Tucker Lewis Index (TLI) was .930, Standard Root Mean Square Residual (SRMR) was .074, Root Mean Square Residual (RMR) was .038, and Root Square Error of Approximation (RMSEA) was .074. Therefore, CFI, IFI, and TLI were found to be more than .9. As suggested in previous studies [17, 18], the model fit was relatively good.

Next, whether the items for each confirmatory factor analysis form the intended dimension among all variables was verified. Then, the convergent validity of each variable was analyzed. Finally, the concentrated validity was calculated by

analyzing the construct reliability (CR) values and average variance extracted (AVE).

Among the nonverbal communication factors, the concept reliability values were as follows: paralanguage (.942), proxemics (.835), physical appearance (.930), and kinesics (.858). Among the dependent variables, participation satisfaction was .912, positive emotion was .968, exercise adherence was .932, and recommendation of golf leader was .925.

The average variance extraction index for the nonverbal communication factors was paralanguage (.764), proxemics (.628), physical appearance (.770), and kinesics (.602). In addition, participation satisfaction was .723, positive emotion was .860, exercise adherence was .776, and the recommendation was .804.

These results of convergent validity analysis through confirmatory factor analysis showed the following. The CR of all variables ranged from a minimum of .858 to a maximum of .968. The AVE ranged from a minimum of .602 to a maximum of .86. These figures satisfied the CR .7 or higher values and AVE .5 or higher, as suggested by previous studies [19], to confirm the convergent validity of each variable.

Table 3. Evaluation of the suitability of the research model (structural equation model).

Research Model	X ²	p	df	CFI	IFI	SRMR	RMR	RMSEA
Fit	963.112	.000	440	.937	.938	.076	.039	.056

Table 4. Hypothesis verification results for the research model.

-	Hypothesis	β	SE	t	p	Confirmed
H1-1	Paralanguage => Participation satisfaction	.105	.052	2.027	.043	Accept
H1-2	Proxemics => Participation satisfaction	.030	.175	.172	.863	Reject
H1-3	Physical appearance => Participation satisfaction	.420	.103	4.093	.000	Accept
H1-4	Kinesics => Participation satisfaction	.226	.083	2.734	.006	Reject
H2-1	Paralanguage => Positive emotion	.024	.052	.454	.650	Reject
H2-2	Proxemics => Positive emotion	.126	.174	.721	.471	Reject
H2-3	Physical appearance => Positive emotion	.196	.106	1.838	.066	Reject
H2-4	Kinesics => Positive emotion	.073	.084	.868	.385	Reject
H3-1	Paralanguage => Exercise adherence	.049	.044	1.103	.270	Reject
H3-2	Proxemics => Exercise adherence	.093	.148	.625	.532	Reject
H3-3	Physical appearance => Exercise adherence	.283	.091	3.114	.002	Accept
H3-4	Kinesics => Exercise adherence	.103	.072	1.443	.149	Reject
H4-1	Participation satisfaction => Positive emotion	.831	.081	10.295	.000	Accept
H4-2	Participation satisfaction => Exercise adherence	.477	.087	5.472	.000	Accept
H4-3	Participation satisfaction => Recommendation	.297	.121	2.455	.014	Accept
H5-1	Positive emotion => Exercise adherence	.069	.060	1.147	.251	Reject
H5-2	Positive emotion => Recommendation	.428	.077	5.561	.000	Accept
H6	Exercise adherence => Recommendation	.081	.086	.947	.344	Reject

Next, the reliability value of each variable was analyzed using the method of analyzing internal consistency reliability, which is Cronbach's coefficient. Among the nonverbal communication factors, paralanguage was .858, proxemics was .713, physical appearance was .868, and kinesics was .818. In addition, participation satisfaction was .860, positive emotion was .944, exercise adherence was .873, and recommendation of golf leaders was .882, indicating that they met the criteria of .7 or higher as suggested by prior studies [20], confirming the reliability of all variables.

6.2. Analysis of the Suitability of the Research Model

The structural model's maximum likelihood (ML) was used for the analysis, and the following fit was found through the structural equation model analysis (Table 3).

The results are as follows: X² = 963.112 (df = 440, p = .000), and X² / df was 2.189, CFI was .937, IFI was .938, SRMR was .076, RMR was .039, and RMSEA was .056. As a result of the study, the structural equation model appeared relatively suitable. According to a previous study, in general, the conformity of the structural equation model is more than .9. for CFI and IFI. SRMR, RMR, and RMSEA are evaluated as good models below 0.08. Therefore, the structural equation model established in this study based on the previous study appears suitable, and there is no problem verifying the specific hypothesis.

6.2.1. Research Hypotheses Verification

The results of verifying the six major hypotheses and the 18 sub-hypotheses of the study are found in Table 4.

6.2.2. Nonverbal Communication (Paralanguage, Proxemics, Kinesics, Physical Appearance) affects Participation Satisfaction

Hypotheses 1-1 to 1-4 verified the relationship between the nonverbal communication of golf leaders and the participation satisfaction of youth participants. In addition, results showed that paralanguage (β = .105, t = 2.207, p = .043) and physical appearance (β = .420, t = 4.093, p = .000) showed a statistically significant effect on participation satisfaction. Therefore, Hypothesis 1-1 and Hypothesis 1-3 were adopted. That is, among the nonverbal communication of golf leaders, paralanguage and physical appearance have a statistically significant effect on the participation satisfaction of the youth participants.

6.2.3. Nonverbal Communication (Paralanguage, Proxemics, Kinesics, Physical Appearance) affects Positive Emotion

Hypotheses 2-1 through 2-4 verified the relationship between the nonverbal communication of golf leaders and the positive emotion of youth participants. Results showed that no nonverbal communication significantly affected positive emotion. Therefore, Hypothesis 2 is rejected.

6.2.4. Nonverbal Communication (Paralanguage, Proxemics, Kinesics, Physical Appearance) affects Exercise Adherence

Hypotheses 3-1 through 3-4 verified the relationship between the nonverbal communication of golf leaders and the exercise adherence of youth participants. Results showed that only physical appearance had a statistically significant effect

on exercise adherence. Therefore, only hypotheses 3-3 are accepted.

6.2.5. Participation Satisfaction affects Positive Emotion, Exercise Adherence and Recommendation

Hypotheses 4-1 through 4-3 verified the relationship of the nonverbal communication of golf leaders, such as participation satisfaction with positive emotion, exercise adherence, and recommendation of golf leaders. Results showed that participation satisfaction significantly affected exercise adherence, positive emotion, and recommendation of golf leaders. Therefore, hypotheses 4-1, 4-2, and 4-3 are accepted.

6.2.6. Positive Emotion affects Exercise Adherence and Recommendation

Hypotheses 5-1 and 5-2 verified the relationship between positive emotion, exercise adherence, and recommendation of golf leaders. Positive emotion was found to have a statistically significant effect on recommendation ($\beta = .428$, $t = 5.561$, $p = .000$). Hence, only Hypothesis 5-1 is accepted. In other words, positive emotion among the youth participants was found to have a significant effect on their recommendation of golf leaders.

6.2.7. The Exercise Adherence affects Recommendation

Hypothesis 6 verifies the effect of exercise adherence on the youth participants' recommendation of golf leaders. However, exercise adherence was not found to have a statistically significant effect on the recommendation of sports leaders ($\beta = 0.81$, $t = .947$, $p = .344$). Hence, Hypothesis 6 is not accepted. Furthermore, exercise adherence did not have a statistically significant effect on the recommendation of golf leaders.

7. DISCUSSION

First, the paralanguage (H1-1) and physical appearance (H1-3) of golf leaders significantly affected youth participants' participation satisfaction. The results affirm the findings of Baek (2017) that the dance leader's paralanguage, kinesics, and physical appearance affected students' participation satisfaction [21]. Hyun *et al.* (2017) also found that leaders' paralanguage and physical appearance significantly affected athletes' life satisfaction [22]. Meanwhile, Chunayoung's (2019) study on college physical education class instructors showed that kinesics significantly affected class satisfaction.

This result implies that golf leaders should be aware of the importance of paralanguage, such as proper speech speed, tone, clear pronunciation, soft speech, and lively voice. It requires personal effort to undergo voice management, pronunciation correction through pronunciation practice, correct communication, and self-development. In addition, they should be conscious and enhance their physical appearance. They should maintain a good and neat image and wear golf attire to look professional.

Second, the physical appearance of the golf leaders (H3-3) had a statistically significant effect on the exercise adherence of the youth participants. This finding is supported by the study

of Jeon *et al.* (2019), who showed that the physical appearance of badminton leaders affected exercise adherence among the players [23]. Meanwhile, the paralanguage and proxemics of golf leaders did not affect participants' exercise commitment and exercise adherence [24], and the paralanguage and kinesics of aerobic leaders did not affect exercise adherence. Kim and Lee (2015) found that the golf leaders' paralanguage, proxemics, auditory language, and physical appearance did not affect the participants' exercise intention [25].

Third, participation satisfaction (H4-2) among youth participants significantly affected their positive emotions, exercise adherence, and recommendations of golf leaders. The effect of participation satisfaction is supported by the study of Yoon and Kim (2017), who showed that the participation satisfaction of a youth basketball club motivated them to adhere to their exercise [26]. As to the significant effect of satisfaction of participation on the intention to recommend sports leaders, this is supported by other studies. For example, Kim and Lee (2018) found that customer satisfaction with the sports event significantly influenced their referral to it [27]. In addition, satisfaction was found to have a significant influence on recommendations and supports the results of this study [28 - 31].

Results show that the youth satisfied with golf developed positive emotions and exercise adherence and recommended golf leaders to people and social media. In addition, it is necessary to develop and actively implement various detailed golf instruction programs to increase participation satisfaction. Second, increasing the technical leadership capable of specific explanations and demonstrations of golf is necessary. Third, participation satisfaction will be even higher if the interaction is enhanced through personal guidance, counseling, and training journaling.

Fourth, positive emotions about golf leaders (H5-2) significantly affected youth participants' recommendations of golf leaders. Findings support the study of Kim *et al.* (2018) that the emotional participation of golf participants significantly affected their exercise adherence [32]. Furthermore, according to the study by Won *et al.* (2019), golf participants' achievement, goal orientation, and emotional responses significantly influenced their intentions to adhere to their exercises [33]. Kim and Yoon (2019) also proved the significant and positive relationship between perceived values, positive emotions, and exercise adherence intentions among exercise participants [34].

For the youth golf participants, having positive feelings about golf did not necessarily mean exercise adherence to golf. However, through positive emotions such as joy, comfort, happiness, and pleasantness, they could recommend sports leaders to neighbors, friends, and social media. Hence, golf leaders must research enjoyable teaching methods and develop specific programs that include interest and fun. If it is possible to evoke fun and positive feelings about golf in youth golf participants, they will likely recommend the golf leader and the sports to others.

The survey showed that the golf leaders' paralanguage (H1-1) and physical appearance (H1-3) significantly affected the participation satisfaction of youth participants. In addition,

their physical appearance (H3-3) had a statistically significant effect on the exercise adherence of the youth participants. In turn, the participation satisfaction (H4-2) among the youth participants significantly affected their positive emotions, exercise adherence, and recommendation of golf leaders. In effect, their positive emotion (H5-2) significantly affected their recommendations of golf leaders to others.

The golf leaders' paralanguage (clear and lively voice, appropriate tone and speed, clear pronunciation) and physical appearance (proper hairstyle, neat faces, appropriate clothing such as uniform) significantly affected the participation satisfaction and exercise adherence of the youth participants. This result may be because these non-verbal expressions connote professionalism, expertise, and encouraging or non-threatening messages. If the golf leaders' image can increase the youth's participation satisfaction, the youth participants would also feel positive emotions, adhere to their golf exercises, and recommend the golf leader to others and the media. Hence, golf leaders should learn and share nonverbal communication skills with youth participants. They can do this through continuous self-management, class preparation, and active demonstrations among their students.

CONCLUSION

This study ventures into the development communication area of sports. Findings can provide sports leaders and schools with principles and strategies to make their sports development programs more effective and develop sports communication programs. As such, findings can enhance the youth's participation in the short run and popularize golf as a sport in the long run.

The study also recognizes that it is necessary to supplement the competence of sports leaders with empirical research. No longer are sports just an art and technique but a matter of communication between sports leaders and their students, especially the youth. Hence, this study can add to the growing body of knowledge on sports development as an interplay among actors in the field of communication.

LIST OF ABBREVIATIONS

SEM	=	Structural Equation Model
ML	=	Maximum likelihood
CFI	=	Comparative Fit Index
IFI	=	Incremental Fit Index
TLI	=	Tucker Lewis Index
SRMR	=	Standard Root Mean Square Residual
RMR	=	Root Mean Square Residual
RMSEA	=	Root Square Error of Approximation

ETHICAL STATEMENT

This study does not include qualitative data, such as interviews with study participants. Thus, ethical approval and consideration are not required.

CONSENT FOR PUBLICATION

Not applicable.

AVAILABILITY OF DATA AND MATERIAL

All the data and supportive information are provided within the article.

STANDARDS OF REPORTING

STROBE guideline were followed.

FUNDING

None.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

ACKNOWLEDGEMENTS

Declared none.

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