The Relationships between Coaches' Leadership Styles, Competitive State Anxiety, and Golf Performance in Korean Junior Golfers

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The purpose of this study was to determine whether Korean junior golf coaches' leadership styles affect athletes' competitive state anxiety before a game as well as their performance. In the Multidimensional Model of Leadership (MML), Chelladurai and Saleh (1980) identified five aspects of leadership behavior in coaching: training/instruction, democratic behavior, autocratic behavior, social support, and positive feedback. A survey was conducted with junior golfers participating in the 23rd Korean National Middle and High School Championship. Data from 216 questionnaires were used in the analysis. Multiple regression analyses were run on the data, revealing the following results. First, training/instruction and social support of coaches decreased cognitive anxiety before the game, whereas autocratic behavior increased it. Second, training/instruction and positive feedback of coaches increased self-confidence before the game. Third, training/instruction of coaches increased golf performance, whereas autocratic behavior decreased it. Finally, cognitive anxiety of golf athletes was found to reduce golf performance, whereas self-confidence increased it. Consequently, this study may deliver sport administrators and parents with understanding of how coaches' leadership styles could influence on junior golfers' psychological state and golf performance.

Keywords: leadership styles, competitive state anxiety, golf, performance

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Introduction

The role of coaches in mentoring athletes and ensuring their mental health has become increasingly important in competitive sports. Golf coaches play a particularly important role in this regard compared to coaches in other sports, because golfer's psychological state has a major impact on his/her performance (Finn, 2008; Hellstrom, 2009). This may be partly due to the relatively short time golfers have for playing and the long time they spend waiting their turn or moving across the course (Bois, Sarrazin, Southon, & Boiche, 2009). Kim and Han (2004) argued that the most common reason a player misses shots is his/her mindset. They also noted that anxiety is a major factor in disrupting mental balance. Therefore, the role of the coach in golf is not confined to technical assistance; it also involves psychological support.

The number of golfers in South Korea has been increasing steadily. According to Kim (2002), the rise is due to an increase in leisure time and in interest in health, both owing to economic growth. There were 1,311 junior golfers registered with the Korea Junior Golf Association (KJGA) in 2000, which rose to 2,030 in 2013 (KJGA, 2013). However, currently few golf coaches actually have a formal coaching education, due to the preference of Koreans for coaches who have had a successful career as players over those who are well versed in coaching techniques. Therefore, this study may be helpful in fostering competent coaches in golf.

Literature Review

In the multidimensional model of leadership, Chelladurai and Saleh (1980) identified five aspects of leadership behavior in coaching. According to Chelladurai (1993), training/instruction prioritizes training and instructing the athletes to achieve better performance; democratic behavior involves sharing opinions with the athletes; autocratic behavior limits athletes' participation in decision-making process; social support focuses on forming mutual relations with the athletes; and, lastly, positive feedback involves complimenting athletes and encouraging them to achieve success in performance.

Drawing on multidimensional anxiety theory (MAT), Martens, Burton, Vealey, Bump, and Smith (1990) divided anxiety into three subcomponents: cognitive anxiety, somatic anxiety, and self-confidence. Cognitive anxiety is related to negative expectations or thoughts about performance, while somatic anxiety is how the nervous system becomes stimulated by anxiety-including situation, resulting in a physiological response (Martens, Vealey, & Burton, 1990). Self-confidence is "one's belief in meeting the challenge of the task to

be performed” (Woodman & Hardy, 2003, p. 443). Some sports theorists have claimed that there is a significant relationship between cognitive anxiety and somatic anxiety (Caruso, Dziewaltoski, Gill, & McElory, 1990; Jones, Cale, & Kerwin, 1988; Krane, 1992; Morris, Davis, & Hutchings, 1981). A relationship between somatic anxiety and sports performance lacks a theoretical foundation (Woodman & Hardy, 2003). In reality, somatic anxiety varies over time, and thus is less likely to affect sports performance compared with cognitive anxiety (Martens, Vealey et al., 1990). Due to this debate over its relevance to sports, somatic anxiety was excluded from this study.

Previous studies have shown differing results in terms of what type of coaching behavior affects sports performance in a variety of sports. Training/instruction was, for example, positively related to performance (Gordon, 1986; Rajabi, 2012). In contrast, democratic behavior has been found to be positively (Lee, 2007; Rajabi, 2012) and negatively related to sports achievement (Lan, 2009). Weiss and Friedrich (1986) found that social support was more likely to increase athletic performance.

In a study of Korean Taekwondo athletes, Hong (2008) found that training/instruction and positive feedback behavior reduced cognitive anxiety levels, and that training/instruction, social support, and democratic behavior were positively associated with self-confidence. A recent study showed that the training/instruction of junior taekwondo coaches significantly reduced cognitive anxiety and significantly increased self-confidence in junior taekwondo (Han, 2012). In a sample of college bowlers in Korea, both training/instruction and autocratic behavior significantly decreased bowling athletes’ cognitive anxiety, whereas democratic behavior decreased self-confidence (Yeom, 2009). These contradictory findings may be due to the differing samples, settings, and sports used.

A negative relationship between cognitive anxiety and athletes’ performance in sports has been found (Burton, 1988; Chamberlain & Hale, 2007; Martens, Vealey et al., 1990), while a positive relationship has been shown between self-confidence and athletic performance (Chamberlain & Hale, 2007; Doo, Kim, & Lee, 2002; Martens, Vealey et al., 1990). However, it seems difficult to accurately demonstrate the possible relationships between coaches’ leadership styles, athletes’ competitive state anxiety, and sports performance. In an attempt to illuminate these issues, this study assessed the impact of different types of coaches’ leadership styles in South Korea on junior golfers’ competitive state anxiety levels before a game and their golf performance. The research questions in this study are as follows:

- Do coaches' different leadership styles have an effect on junior golfers' competitive state anxiety levels before a tournament?
- Do coaches' different leadership styles have an effect on junior golfers' performance levels?
- Do junior golfers' different competitive state anxiety levels have an effect on their performance levels?

Figure 1. Relationships between Leadership Styles, Competitive State Anxiety, and Golf Performance

Methods

Participants

The participants were 232 student athletes between 12 and 18 years of age in the KJGA. Participants were recruited via convenience sampling at the 23rd National Middle and High School Golf Championship, which was held on August 6–10, 2012, and data were obtained via a questionnaire. The tournament took place in the Gold Lake Country Club in South Korea. Of the questionnaires, 16 were excluded due to insincere responses. Consequently, the data of 216 questionnaires were used in the analysis in this study. The demographic characteristics of participants are shown in Table 1.

Table 1

Demographic Characteristics of Participants

Category		Frequency	Percent (%)
Gender	Male	127	58.8
	Female	89	41.2
School year	Middle school 1	7	3.2
	Middle school 2	33	15.3
	Middle school 3	42	19.4
	High school 1	31	14.4
	High school 2	66	30.6
	High school 3	37	17.1
Golf experience	<2 years	69	31.9
	2 to <4 years	77	35.6
	4 to <6 years	48	22.2
	≥6 years	42	10.2
Total		216	100

Instruments

The instruments used in this study were as follows: (a) the Leadership Scale for Sport (LSS), (b) the Competitive State Anxiety Inventory-2 (CSAI-2), and (c) each athlete's 18-hole round score in the preliminary round of the tournament. The LSS was developed by Chelladurai and Saleh (1980) and the CSAI-2 by Martens, Burton et al. (1990). The validity of the data of both the LSS and CSAI-2 was assessed using exploratory factor analysis with a varimax rotation. A reliability analysis was conducted using Cronbach's alpha. The results of validity and reliability of the LSS are shown in Table 2.

Table 2

Validity and Reliability of the LSS

	Training	Democratic	Social	Autocratic	Positive	Cronbach's α
Item 1	.812					
Item 7	.780					
Item 2	.759					
Item 8	.756					
Item 13	.748					
Item 14	.731					.917
Item 19	.716					

Table 2 (continued)

Item 26	.708				
Item 25	.693				
Item 20	.662				
Item 35	.661				
Item 3		.794			
Item 9		.731			
Item 27		.712			
Item 31		.696			
Item 21		.684			.866
Item 15		.680			
Item 32		.673			
Item 36		.660			
Item 34		.634			
Item 29			.728		
Item 17			.714		
Item 11			.706		
Item 33			.696		.840
Item 23			.673		
Item 5			.671		
Item 37			.646		
Item 38			.642		
Item 4				.803	
Item 10				.740	
Item 16				.710	.741
Item 22				.653	
Item 28				.615	
Item 30					.727
Item 18					.724
Item 6					.687
Item 12					.664
Item 24					.637
Eigenvalue	6.084	4.529	3.875	2.650	2.626
Variance %	16.011	11.918	10.197	6.975	6.911

The CSAI-2 comprises 18 items in two dimensions and rated on a four-point Likert-type scale (1 = *not at all*, 2 = *somewhat*, 3 = *moderately*, and 4 = *always*). The results of the validity and reliability analyses of this instrument are in Table 3.

Table 3

Validity and Reliability of the CSAI-2

	Cognitive anxiety	Self-confidence	Cronbach's α
Item 11	.841		.927
Item 17	.824		
Item 9	.821		
Item 13	.819		
Item 15	.801		
Item 7	.793		
Item 5	.767		
Item 3	.755		
Item 1	.723		
Item 10		.800	.896
Item 6		.781	
Item 14		.758	
Item 8		.749	
Item 16		.736	
Item 2		.727	
Item 12		.717	
Item 18		.693	
Item 4		.671	
Eigenvalue	5.713	4.936	
Variance %	31.740	27.422	

Data Collection

In order to gather data within the time available, a self-administered questionnaire was optimal. Approval by the Institutional Review Board for the protection of human subjects had been obtained prior to conducting the survey. For the purpose of confidentiality, the questionnaires were numbered (i.e., the athlete's name was not used). The data were collected during the 23rd National Middle and High School Golf Championship over the first three days of the five-day event. During the preliminary rounds, each participating athlete's score was obtained from the official scoreboard after an 18-hole round.

Statistical Analysis

Statistical Package for the Social Sciences (SPSS) version 20.0 was used in this study. First, descriptive statistics were applied to the demographic characteristics of the survey participants. Second, the validity and reliability of

the two measurement instruments were analyzed using exploratory factor analysis and Cronbach's alpha. Finally, multiple regression analysis was conducted to identify the possible relationships between the variables.

Results

Correlation Analysis

A correlation analysis was conducted using Pearson's coefficient (r) to investigate the relationship between the measured variables in this study. The results of the analysis are presented in Table 4.

Table 4

Correlations among the Measured Variables

Variable	1	2	3	4	5	6	7	8
Training/instruction	1	.157*	-.055	-.081	.259**	-.191**	.345**	-.380**
Democratic behavior		1	.076	.043	.044	.059	.069	.032
Autocratic behavior			1	-.061	-.023	.202**	-.105	.247**
Social support				1	-.030	-.321**	-.121	-.003
Positive feedback					1	-.015	.350**	-.107
Cognitive anxiety						1	-.101	.480**
Confidence							1	-.338**
Golf performance								1

Research Question Testing

Multiple regression analysis was conducted to determine the effect of coaches' leadership styles on junior golfers' competitive state anxiety levels before a tournament. First, leadership styles accounted for 19% of the variance in cognitive anxiety ($R^2 = .189$, $F(5, 210) = 9.818$, $p < .001$). Training/instruction ($\beta = -.233$, $p < .001$), autocratic behavior ($\beta = .163$, $p < .01$), and social support ($\beta = -.333$, $p < .001$) all had significant effects on athletes' cognitive anxiety levels, whereas democratic behavior and positive feedback did not have significant effects on it. Second, leadership styles accounted for 20.9% of the variance

in self-confidence ($R^2=.209$, $F(5, 210)=11.071$, $p<.001$). Training/instruction ($\beta=.255$, $p<.001$) and positive feedback ($\beta=.277$, $p<.001$) had positive effects on self-confidence, whereas democratic behavior, autocratic behavior, and social support did not have significant effects on it. The results of the analysis are presented in Table 5.

Table 5

Multiple Regression Analyses for Competitive State Anxiety according to Leadership Styles

Predictor	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>B</i>	<i>SE</i>	β	<i>t</i>
	<i>Cognitive Anxiety</i>				<i>Self-Confidence</i>			
(Constant)	3.475	.457		7.601	1.809	.368		4.912***
Training/ instruction	-.231	.065	-.233	-3.565***	.206	.052	.255	3.948***
Democratic behavior	.122	.080	.096	1.522	.029	.065	.028	.455
Autocratic behavior	.175	.067	.163	2.599**	-.081	.054	-.093	-1.503
Social support		.071	-.333	-5.317***	-.092	.058	-.099	-1.598
Positive feedback	.039	.071	.035	.547	.251	.058	.277	4.360***
R ² = .189, F = 9.818***				R ² = .209, F = 11.071***				

Multiple regression analysis was conducted to determine the effect of coaches' leadership styles on junior golfers' performance levels. Leadership styles accounted for 20.2% of the variance in golf performance ($R^2=.202$, $F(5,210)=10.634$, $p<.001$). Training/instruction ($\beta=-.380$, $p<.001$) and autocratic behavior ($\beta=.219$, $p<.01$) had significant effects on golf performance levels. The results of the analysis are presented in Table 6.

Table 6

Multiple Regression Analysis for Golf Performance according to Leadership Styles

Predictor	<i>B</i>	<i>SE</i>	β	<i>t</i>
(Constant)	81.722	2.603		31.397***
Training/instruction	-2.163	.370	-.380	-5.854***
Democratic behavior	.555	.457	.076	1.214
Autocratic behavior	1.348	.382	.219	3.527**
Social support	-.160	.407	-.024	-.392
Positive feedback	-.048	.407	-.008	.118
$R^2 = .202, F = 10.634***$				

Multiple regression analysis was conducted to determine whether junior golfers' competitive state anxiety levels influenced their performance levels. Cognitive anxiety and self-confidence accounted for 31.5% of the variance in golf performance ($R^2=.315, F(2, 213)=43.938, p<.01$). It was shown that both cognitive anxiety ($\beta=.450, p<.001$) and self-confidence ($\beta=-.292, p<.001$) had significant effects on performance. The results of the analysis are presented in Table 7.

Table 7

Multiple Regression Analysis for Golf Performance according to Competitive State Anxiety

Predictor	<i>B</i>	<i>SE</i>	β	<i>t</i>
(Constant)	78.589	1.524		51.557***
Cognitive anxiety	2.584	.327	.450	7.900***
Self-confidence	-2.058	.401	-.292	-5.127***
$R^2 = .315, F = 43.938***$				

Discussion

This study examined the possible relationships between coaches' leadership styles, junior golfers' competitive state anxiety, and golf performance in South Korea. Training/instruction and social support decreased junior golfers' cognitive anxiety before the game, whereas autocratic behavior significantly increased anxiety. These results are consistent with previous studies in which coaches were found to influence athletes' psychological state (Chelladurai, 1993). Well-trained athletes whose coaches use training/instruction are more likely to approach competitions with emotional stability (Hong, 2008; Yeom, 2009). In golf, such emotional stability leads to a more regular swing tempo and rhythm, thereby reducing the number of missed shots (Kim & Han, 2004). In other words, golfers with less training might experience cognitive anxiety before a game, which can lower their subsequent performance.

In addition, it can be assumed that a coach's efforts to continuously encourage, show sincere interest in, and maintain a close relationship with athletes is effective in reducing athletes' anxiety. Chelladurai and Saleh (1980) noted that autocratic behavior is characterized by one-way communication, where in coaches do not interact with the athlete. It may be inferred that the lack of interactive communication under autocratic leadership makes it difficult for these coaches to influence athletes' psychological well-being. Coaches' training/instruction and positive feedback had significant positive effects on junior golfers' pre-competition self-confidence levels. These results are partially consistent with Hong's (2008) study that coaches' positive feedback further increases their self-confidence levels especially when athletes show good performance.

Among the five leadership styles, only training/instruction had a positive effect on junior golfers' performance. This result matches those of Im (2008) and Rajabi (2012), who showed that training/instruction behavior improves sports performance. Taken together, it can be assumed that training under the guidance of a coach helps junior golfers acquire the skills needed for them to become proficient golfers. Second, a negative relationship was found between coaches' autocratic behavior and junior golfers' performance. The result of the present study supports the early findings of Gordon (1986) for Canadian intercollegiate football players, wherein coaches' authoritative leadership style decreased athletes' performance levels. Consequently, unlike in the past, a forceful leadership style is no longer considered an effective way of coaching junior golfers. Instead, this style leads to deterioration in their performance.

Junior golfers' cognitive anxiety before the game had a significant negative effect on their performance levels. This finding is consistent with past studies

suggesting that there was a negative relationship between athletes' cognitive anxiety and their sports performance (Burton, 1998; Chamberlain & Hale, 2007; Martens, Vealey et al., 1990). In golf, it can generally be assumed that an athlete's cognitive anxiety results in tense muscles that lead to losing swing tempo and rhythm. In effect, this can raise his/her chance of missing the shot, which hurts his/her performance. This study also found that the relationship between athletes' self-confidence and performance was significantly positive. This is consistent with the results of previous studies (Chamberlain & Hale, 2007; Doo et al., 2002; Martens, Vealey et al., 1990). Chun and Kwak (2007) pointed out that self-confidence leads to thinking positively, reinforces concentration, and provides energy for achieving goals. Therefore, it can be inferred that these factors help junior golfers perform better.

Consequently, this study can be meaningful as it demonstrates a close connection between coaches' leadership styles, junior golfers' psychological state and golf performance. There has been a lack of Korean golf coaches who are well trained on mental and psychological coaching systematically. This study may help to cultivate more competent coaches who not only teach technical aspects of coaching, but also focus on the importance of psychological aspects of coaching. Also, coaches' effective and proper leadership styles are a significant factor for athlete's well-being and performance. Thus, this study may provide sport administrators and parents of Korean junior golfers with understanding of how coaches' leadership styles could influence their children to be successful on and off the golf courses.

Limitations to Address for Future Study

Due to the logistic difficulty of using a random sampling method for data collection, a non-probability sampling method was employed. Probability sampling methods should be used in follow-up studies to enhance the generalizability of the findings. This study looked only at Korean junior golf athletes. For the purpose of cross-cultural comparison using similar samples, it is suggested to replicate this method to compare results between the United States and Korea. Further follow-up studies could expand the target population to intercollegiate golf athletes, professional golfers, or other sports athletes.

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