RESEARCH ARTICLE

Running Head: Cross-Cultural Study of Leadership, Motivation, Team Cohesion, and Athletic Performance Factors

Kim, Jong-Back[1]; Park, Sung-Bae Roger[2*]; Han, Peter[3]; Shin Jung-Taek[4]; Kim, Sung-Hoon[5]

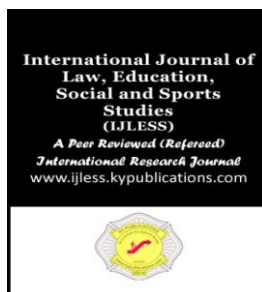[1]Dept. of Leisure & Sports, Dongeui University, Korea
[2]Department of Sport & Physical Education, Gonzaga University, USA
[3]Dept. of Sport Management, SUNY at Cortland, USA
[4]Dept. of Exercise Prescription & Rehabilitation, Dongeui University, Korea
[5]Dept. of Physical Education, Yonsei University, Korea
*Author for correspondence

ABSTRACT

The main purpose of this current study was to identify the relationship among the variables of competing values leadership, team cohesion, intrinsic motivation, and the team performance and also find out if nationality could be an intermediate factor to influence on the relationship between American and Korean college student athletes. A total of 394 student-athletes participants (207 Korean; 187 American) completed the survey. The study found the following results. First of all, a coach's mentor role and innovative researcher role positively contributed to the team cohesion while a coach's authoritative director role did negatively regardless of players' nationality. It also found that a coach's leadership could help increase players' intrinsic motivation and lastly there was the clear cultural difference on the relationship between competing values leadership and team cohesion for Korean student-athletes and their American counterparts.

Key Words: cross-cultural study, competing values leadership, motivation, & cohesion

Sport and athletic leadership has been more important than ever before and can be easily seen and proved by many successful sport teams and franchises all over the world, including FIFA World cup, the Manchester United football club, and San Francisco Giants, who recently won the World Series of Baseball in 2014, and so on. It is considered one of the most important factors to achieve athletic team's goals and objectives in sport organizations since a coach is a key personnel who can significantly affect the overall team's performance at the playing field(Ha, 1996). Also, the sport and athletic leadership influence on the organizational effectiveness via organizing athletic team's resources (i.e., team cohesion, team efficacy and team performance) fairly and properly (Lee, 2000).

Barrow(1977) defined as "the leadership as a person influences on another person to reach a goal," and Kim(1992) defined it as "the sport and athletic leadership is a skill or process that influences on the athletes to achieve a team goal with their voluntary and enthusiastic effort."Organizational behaviors and leadership studies in sport management and business focused on such following areas as a trait approach, a behavior approach, a contingency and situational approach including personality of sports coach(Sage, 1975), a form of sports coach's decision making (Lenk, 1977), an instructional behavior of sports coach(Smith, Smool, & Hunt, 1977), responsible leadership (Waldman &Balven, 2014), and Fiedler(1967)'s contingency theory verification in sport and athletic situation(Inciong, 1974). Multidimensional Model of Leadership (MML)developed by

Chelladurai and Carron (1978) suggests that leader behavior occurs as a result of organizational constraints(required behavior) and personality, ability, and experience. Researchers have actively explored about transformational leadership and transactional leadership as a new type of leadership.

There has been an effort to apply managerial leadership theories into sport setting in the past. However, it has not been quite successful due to the lack of construct validity and contamination effect of a situational factor infused in each different leadership theory (Lee, 2000). More importantly, previous research on sport and athletic leadership disclosed its limitation since it is predominantly based on a dichotomous approach method and excessively utilized a quantitative methodology (Ha & Koo, 1997). As a new direction of sport and athletic leadership study, Quinn(1988) proposed the competing values leadership theory by introducing new way of combination of holistic, dynamic, and generative concepts in order to differentiate itself from the various existing leadership theories which have been derived from purposive, static, and entropic values(see Figure 1).

Competing Values Leadership Model

The main function of the competing values leadership model was to evaluate organizational effectiveness, organization culture, and individual leadership behavior. It also helped categorize organizations on the basis of complex, dynamic, and contradictory systems where members of the organizations were asked to follow. As figure 1 describes, organizational cultures of competing values leadership model vary along two dimensions in terms of the extent to which they favor flexibility over control, and an internal focus over an external focus (Quinn, 1988). His leadership model was interpreted as unique in a way that such factors as holistic, dynamic, and generative dimensions have been incorporated. More specifically, he identified four organizational cultures and the foundational value of this model and was successful to transform and develop them into four competing values leadership dimensions.

Competing values leadership approach is ideal, unique, and desirable in the following perspectives. First of all, the construct has been meant to carry conflicting messages. For instance, members want their organizations not only to be adaptable and flexible, but also be stable and controlled concurrently; an emphasis is imposed on the value of human resources as well as a premium on efficiency, planning, and goal-setting (Quinn, 1988). Secondly, this model explains that these competing dimensions are not mutually exclusive, but potentially can coexist in an organization where some dimensions may out-weight others (Quinn, 1988). With this being said, Quinn (1988) recommended an optimal balance among four competing values simultaneously pursuing apparently contradictory objectives and structural imperatives and asserted that approaches at the extremes are likely to be dysfunctional.
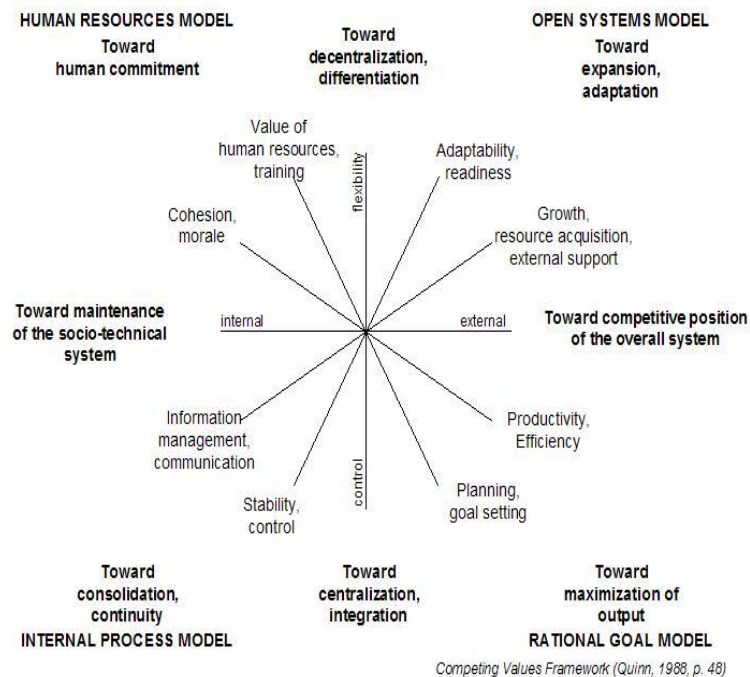
Figure 1. Competing Values Framework (Quinn, 1988)

Competing Values Leadership Scale

The competing values leadership theory originated from the general business sector, not in sport setting. There needs an essential process to get competing values leadership theory applied properly into a sport setting. Kim (1992) developed Competing Values Leadership Scale for Sport (COVALSS) based on competing values leadership theory (Quinn, 1988) and Multidimensional Model of Leadership (Chelladurai, 1978). The construct validity of COVALSS has been confirmed by the confirmatory factor analysis (Ha & Koo, 1997). According to the revised scale of COVALSS (Ha& Koo, 1997),it consists of the following six roles, including innovative researcher role, mediating broker role, authoritative director role, mentor role, calculating executioner role, and analytic manager role. Furthermore, if more than four roles of the above are indicated by having higher points than its average, it can be regarded as effective leadership (see Figure 2).
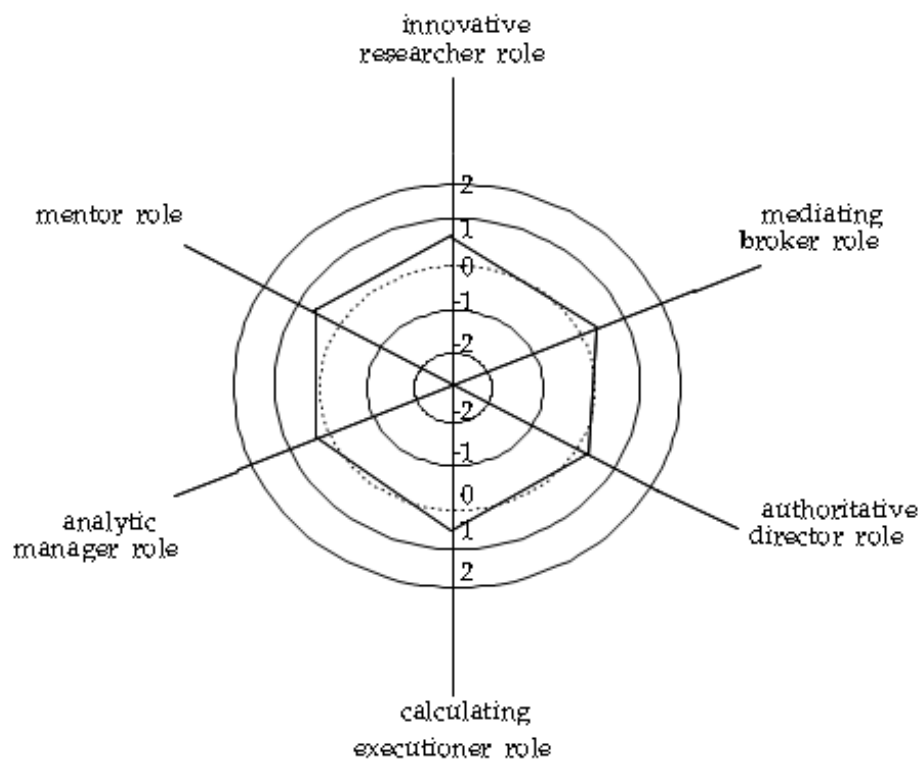
Figure 2. Ideal Leadership Profile (Ha, 1996)

The COVALSS (Ha, 1996; Kim, 1992) has been introduced to and wisely utilized in sport setting. Classified by study subjects, the competing values leadership theory was used by judo coaches (Ahn, 1997), professional baseball coaches (Lee, 2000), one-on-one physical match coaches (Ha, 2000), a business table tennis team coaches (Kim, 2005; Suk, 2007), ice-hockey coaches (Lee, 2008), CEO of professional sport teams (Lee, 2009), golf coaches (Kim, 2009), taekwondo coaches (Choi& Kim, 2001), and middle and high school athletic team coaches (Park, 2007). Notwithstanding the abundance of studies, competing values leadership theory has not yet been applied into coached in intercollegiate athletics.

On the other hand, Quinn(1988) suggested that the competing leadership model theory could be used to measure not only effectiveness of coaching leadership behavior but also organizational effectiveness. Many of the problems of concepts representing organizational effectiveness and sub-factors are still being discussed and are multidimensional. Campbell(1977) listed 30 kinds of basic criteria to measure organizational effectiveness in which may be changed variously under the different situations. The first step of understanding the organizational effectiveness is defined by "level of achieving organizational goal"(Etzioni, 1964), and it can be measured by how often it can achieve the organizational goals and objectives in its given situations. Steers(1975) organized 14 kinds of measurement criteria based on 17 previous types of studies about the organizational effectiveness from 1957 to 1974. However, due to the definition and nature of organizational effectiveness in which mostly occurred in the field of management, it was difficult to apply organizational behaviors and leadership theories into sport and athletic teams.

Concept of Cohesion

Park (2007) found that team cohesion was quite affected by coach's leadership with the sample of junior-high and high school student-athletes. Carron, Brawley, and Widmeyer (1998) defined cohesion as a dynamic process in which is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs. Furthermore, its operational definition has been made to include individual and group dimensions of both task and social cohesion by consisting of four dimensions in their conceptualization: Individual Attraction to the Group—Task, Individual

Attraction to the Group–-Social, Group Integration–Task, and Group Integration–-Social (Carron, Widmeyer& Brawley, 1985).

Cultural Dimension

Numerous studies support that it is meaningful to consider cultural dimension since it may explain a systematic pattern of an individual's and a group's ideas, thoughts and even behaviors. Yi and Park (2003) found that people with different cultural backgrounds were more likely to have different attitudes and styles of decision making in negotiation, bargaining processes, and problem solving in various social settings mainly due to the different value systems. Moreover, literature suggests the results of psychological studies and research cannot be generalized without a significant consideration of cultural dimension. Stevenson and Stigler (1992) examined in their cross cultural study on the achievement beliefs, for example, that there was more belief in malleable intelligence those in the Asian culture than in their American counterparts. While many academicians agree with the importance of a cross-cultural study, only a few cross-cultural studies have been done in the domain of sport and athletics. In fact, it has been found that cultural dimension had a significant effect on the preferred leadership and coaching efficacy (Celladurai, Imamura, Yamaguchi, Oinuma, &Miyauchi, 1988; Lee & Kim, 2005).Hofstede (2001) also stressed the value of cultural dimension in his motivation study for physical activities.

RESEARCH MODEL

Hypothesized Research Model

The main purpose of this study is to examine if there is any difference(s)on the relationships about the variables of competing values leadership, intrinsic motivation, team cohesion, and performance between student-athletes in the United States and their Korean counterparts. In order to answer the research question, competing values leadership dimension(authoritative director role, mentor role, mediating broker role, analytic manager role, calculating executioner role, innovative researcher role) were selected as an independent variable, and intrinsic motivation and team cohesion were selected as intervening variables while athletic performance was selected as a dependent variable, so the modeling that is about relation among them was made for this study(see Figure 3).

Method

Research Participants

A total of 394 student-athletes participants (207 Korean; 187 American) completed the survey. As shown in Table 4, frequency analysis has been conducted separately for Korean and American participants due to the significant differences in characteristics. For Korean student-athletes, more male athletes (n = 188) participated in this study than their female counterparts (n = 128). The average ages of Korean and American participants were 21 years old (n = 70) and 20 years old (n = 62), respectively. More freshmen (n = 71) and soccer players (n = 38) participated in this study than non-freshmen counterparts and other sports for Korean student-athletes. For American student-athletes, 150 participants were white and 39 play rowing.
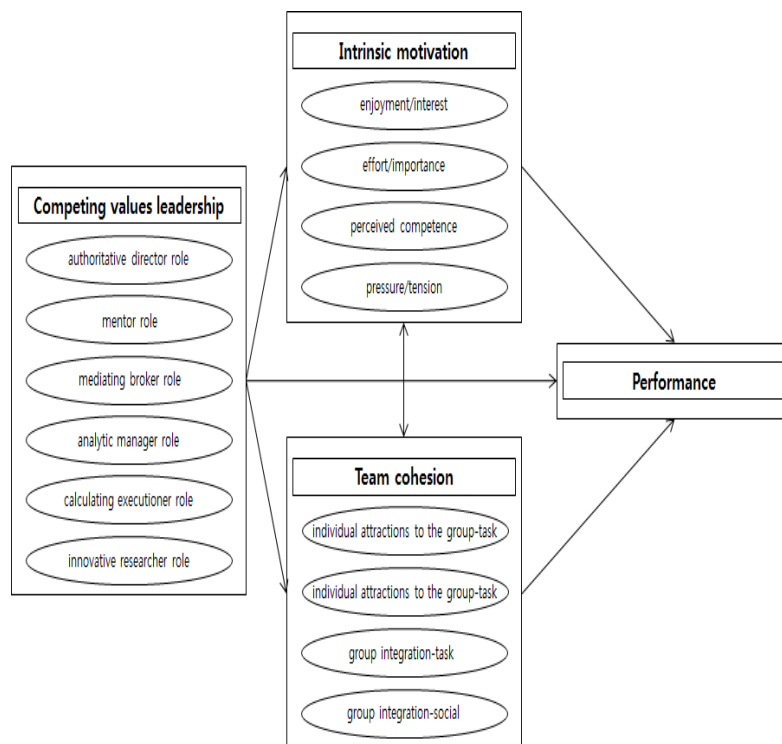
Figure 3. Research Model

Survey Instruments

The research instrument used in this study consists of five components: (a) demographics information, (b) Korean/English language versions of competing values inventory (CVI); and (c) Korean/English language versions of the intrinsic motivation inventory (IMI), (d) Korean/English language versions of the group environment questionnaire (GEQ); and (e) Korean/English language versions of performance inventory (PI). The development of the Korean/English versions of the instruments was made by translation and back-translation procedures due to the unique nature of a cross-cultural study (Hui&Traindis, 1985). As Florenthal and Aviv (2000) suggested, a four-step back-translation method was utilized in this study. The expert group reviewed the contents of all the inventories proposed in this study. Appropriate modifications to format, wording of the items, and the scale instruction were made to maintain conceptual equivalence of the measures between two versions. The validity of the measures was identified and confirmed by content validity analysis of an expert group, an exploratory factor analysis, and a confirmatory factor analysis. The reliability of the measures was measured and confirmed by Cronbach's alpha coefficients.

Intrinsic Motivation Inventory (IMI)

Intrinsic motivation of the participants was assessed by the Korean and English versions of the IMI (McAuley, Duncan, &Tammen, 1989), which were composed of an 18-item sport-specific version. IMI was constructed to measure 4 dimensions of intrinsic motivation: Enjoyment/Interest, Effort/Importance, Perceived Competence, and Pressure/Tension. The 7-point Likert-type scale ranging from strongly disagree (1) to strongly agree (7) remained the same.

Group Environment Questionnaire (GEQ)

Group cohesion was assessed through the Group Environment Questionnaire (Carron et al., 1985). The GEQ consist of 18 items that assessed 4 dimensions of cohesion: Group Integration–Task (GI-T; 5 items), which measured the individual's perception about the degree of unity in the team as a collective group around its goals and objectives; Group Integration–Social (GI-S; 4 items), which measured the individual's perception about the degree of social unity in the team as a collective group; Individual Attractions to the Group–Task (ATG-T; 4 items), which measured the individual's perception about his or her own involvement in task oriented aspects of the group; and Individual Attractions to the Group–Social (ATG-S; 5 items), which

measured the individual's perception about his or her own involvement in social aspects of the group. Each item was assessed on a 9-point continuum ranging from strongly disagree to strongly agree.

Performance Measures

Performance is even more difficult to assess as it consists of many different components and sport events with different traits. The instrument used in this study was performance inventory (Mamassis&Doganis, 2004). This measure consists of a set of 8 questions, each related to a different aspect of performance. Specifically, each student-athlete was asked to appraise his or her performance on a five-point scale (1 being "not good at all" and 5 being "very good") on the following aspects: 1) his or her physical feelings; 2) quality of technique; 3) timing and rhythm; 4) concentration; 5) amount of effort exerted; 6) mental attitude and thoughts; 7) level of self-confidence during the match; and 8) comparison of his or her performance with what he or she expected to play, given the opponent. An overall performance score was obtained by summation of scores of 8 items.

Validity and Reliability

Validity and reliability of the instruments were measured. Confirmatory factor analysis was conducted followed by exploratory factor analysis and Cronbach alpha's test. Cronbachalpla coefficients ranged from .69 to .94.

Results of Exploratory Factor Analysis

Table 1. Results of Exploratory Factor Analysis of Leadership

Factor	Question #	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Mentor Role	Q36	.808	.193	.061	-.009	.109	.163
	Q12	.796	.224	.072	-.019	.126	.147
	Q24	.783	.122	.015	-.016	.264	.155
	Q18	.770	.196	.023	-.034	.226	.022
	Q6	.678	.305	.013	.077	.032	.316
	Q30	.658	.253	-.037	-.011	.292	.215
Calculating Executioner Role	Q7	.060	.757	.087	-.111	.270	.111
	Q31	.400	.650	.007	.008	-.096	.220
	Q19	.306	.641	.029	-.004	.167	.199
	Q13	.516	.602	.004	.042	.044	.048
	Q25	.482	.526	-.021	.121	.216	.185
	Q1	.369	.485	.008	-.007	.390	.167
Innovative Researcher Role	Q2	.035	-.061	.886	.059	-.024	.077
	Q20	.011	.057	.872	.228	-.022	-.045
	Q8	.041	.104	.810	.050	.004	-.012
Authoritative Director Role	Q11	-.007	.083	-.089	.847	.045	-.094
	Q5	.043	-.038	.295	.779	.048	.016
	Q29	-.032	-.094	.168	.771	-.053	.070
Analytic Manager Role	Q22	.183	.071	-.026	.034	.786	.142
	Q10	.339	.243	-.037	.040	.716	.083
	Q28	.343	.470	.028	-.065	.512	.086
Mediating Broker Role	Q9	.158	.127	-.053	.041	.107	.839
	Q21	.337	.204	.034	-.055	.205	.642
	Q27	.285	.396	.097	-.035	.054	.552

Cronbach-alpha	.922	.935	.941	.914	.896	.685
Eigenvalues	4.770	3.112	2.360	2.026	2.002	1.861
% of variance	19.874	12.968	9.833	8.443	8.343	7.754
Cumulative %	19.874	32.842	42.676	51.119	59.462	67.215

*Bartlett's Test of Sphericity(Approx. Chi-Square=710.701, df=120, sig=.000)

Principal factors extraction with varimax rotation for Competing Values Leadership (CVL), Intrinsic Motivation Inventory (IMI), and Group Environment Questionnaire (GEQ), was performed to estimate number of factors through SPSS FACTOR on 36 items, 18 items, and 18 items, for a sample of 394 student-athletes, respectively. Based on the principal factors extraction for CVL, IMI, and GEQ, six factors, three factors, and two factors were extracted respectively and Cronbach alpha ranged from .69 to .96. However, principal factors extraction for Performance Measures with 8 items was not conducted and Cronbach alpha was .96. With a cut of .49 for inclusion of a variable in interpretation of a factor, 12 of 36 items for CVL, 7 of 18 items for IMI, and 6 of 18 items for GEQ did not load on any factor and thus were deleted. All factors were internally consistent and well defined by the variables

Table 2. Results of Exploratory Factor Analysis of Motivation

Factor	Question #	Factor 1	Factor 2	Factor 3
Enjoyment/Interest	Q15	.909	.098	.106
	Q7	.841	.052	.426
	Q8	.815	-.027	.421
	Q1	.760	.105	.535
Effort/Importance	Q3	-.024	.893	.256
	Q6	-.003	.889	.205
	Q4	.083	.846	.184
	Q11	.166	.845	-.220
Perceived Competence	Q14	.295	.102	.814
	Q12	.291	.123	.751
	Q2	.428	.229	.748
Cronbach-alpha		.935	.896	.841
Eigen values		3.167	3.122	2.632
% of variance		28.790	28.381	23.925
Cumulative %		28.790	57.171	81.096

Kaiser-Meyer-Olkin Measure of Sampling Adequacy=.854
Bartlett's Test of Sphericity(Approx. Chi-Square=3072.771, df=55, sig=.000)

Table 3. Results of Exploratory Factor Analysis of Cohesiveness

Factor	Question #	Factor 1	Factor 2
	Q13	.918	.196
	Q17	.899	.136
	Q11	.888	.138
	Q1	.874	.320
Group Integration-Social	Q9	.862	.129
	Q3	.843	.316
	Q15	.837	-.072
	Q7	.826	.284
	Q6	.278	.800
Group Integration-Task	Q2	.239	.773
	Q4	.384	.762
	Q14	-.251	.421
Cronbach-alpha		.962	.685
Eigen values		6.384	2.376
% of variance		53.198	19.799
Cumulative %		53.198	72.997

Kaiser-Meyer-Olkin Measure of Sampling Adequacy=.940

Bartlett's Test of Sphericity(Approx. Chi-Square=3521.293, df=66, sig=.000)

Table 4. Results of Confirmatory Factor Analyses for CVL, IMI, and GEQ

Invariant	Factor	NFI	IFI	TLI	CFI	RMSEA
Competing Values Leadership	Six Factors 17 items	.913	.929	.907	.929	.109
Intrinsic Motivation Inventory	Three Factors 11 items	.912	.924	.877	.923	.131
Group Environment Questionnaire	Two Factors 12 items	.928	.942	.928	.942	.108

Table 5. Results of Inter-correlation among variables (n=394)

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1	1											
2	.475 (***)	1										
3	.743 (***)	.070	1									
4	.258 (***)	.874 (***)	-.173 (***)	1								
5	.784 (***)	.171 (**)	.872 (***)	-.016	1							
6	.307 (***)	.692 (***)	.076	.655 (***)	.143 (**)	1						
7	.441 (***)	.125 (*)	.760 (***)	.295 (***)	.682 (***)	-.041	1					
8	.245 (***)	.639 (***)	.019	.598 (***)	.056	.525 (***)	.169 (**)	1				
9	.508 (***)	.092	.666 (***)	-.082	.616 (***)	.114 (*)	.708 (***)	.296 (***)	1			
10	.410 (***)	.530 (***)	.279 (***)	-.494 (***)	.384 (***)	.399 (***)	-.130 (*)	.355 (***)	.276 (***)	1		
11	-.039	.423 (***)	.142 (**)	-.429 (***)	.087	.316 (***)	.134 (*)	.454 (***)	.199 (***)	.422 (***)	1	
12	.140 (*)	.441 (***)	.506 (***)	-.550 (***)	.398 (***)	.292 (***)	.625 (***)	.246 (***)	.491 (***)	.248 (***)	.282 (***)	1

*p<.05, **p<.01, ***p<.001

*1. Mentor Role. 2. Calculating Executioner Role. 3. Innovative Researcher Role. 4. Authoritative Director Role. 5. Analytic Manager Role. 6. Mediating Broker Role. 7. Enjoyment/Interest. 8. Effort/Importance. 9. Perceived Competence. 10. Group Integration-Social. 11. Group Integration-Task. 12. Performance Measures.

Table 6. Model Fit Indices of the Default and Modified Models

Model	X^2	Q	RMSEA	TLI	CFI
Default	677.621	1.780	.070	.887	.912
Modified	498.139	2.767	.063	.919	.928

Table 7. Maximum Likelihood Estimate of Parameter of the Final Model

Path			Estimate	S.E.	C.R.
Mentor Role	→→	Cohesiveness	.194	.058	3.348***
Calculating Executioner Role	→→	Cohesiveness	.128	.049	2.628**
Innovative Researcher Role	→→	Cohesiveness	.040	.038	1.056
Authoritative Director Role	→→	Cohesiveness	-.177	.070	-2.542*
Analytic Manager Role	→→	Cohesiveness	.220	.200	3.899***
Mediating Broker Role	→→	Cohesiveness	1.064	.059	17.993***
Mentor Role	→→	Motivation	.186	.030	2.861**
Calculating Executioner Role	→→	Motivation	1.028	.029	35.735***
Innovative Researcher Role	→→	Motivation	.044	.036	1.248
Authoritative Director Role	→→	Motivation	-.090	.034	-2.617**
Analytic Manager Role	→→	Motivation	.153	.091	1.674
Mediating Broker Role	→→	Motivation	.016	.019	.829
Cohesiveness	→→	Motivation	.163	.051	3.223***
Motivation	→→	Performance	.146	.057	2.582**
Cohesiveness	→→	Performance	.133	.061	2.415*

*$p<.05$,**$p<.01$, ***$p<.001$

Note. L1: Mentor type of leadership, L2: Calculating executioner type of leadership, L3: Innovative type of leadership, L4: Authoritative type of leadership, L5: Analytic type of leadership, L6: Mediating broker type of leadership, C: Cohesion, M: Intrinsic motivation, & P: Performance

Confirmatory Factor Analysis

According to the results of confirmatory factor analysis (CFA) for CVL, 7 items were deleted due to the fact that squared multiple correlations (SMC) were low. Therefore, six factors with 17 items, three factors with 11 items, and two factors with 12 items were confirmed to be the final model for CVL, IMI, and GEQ with moderate model fit indices as shown in Table 3.

Procedures

These procedures were divided to two parts. First, this study examined if there was a difference among the variables of competing values leadership, intrinsic motivation, team cohesion, and performance between student-athletes in Korea and in the Northwestern region of the United States. Second, this study compared the relationships among the variables of competing values leadership, intrinsic motivation, team cohesion, and performance of student-athletes in the northwestern region of the United States and in Korea.

The permission to collect data from the student-athletes was received from University IRB committees. The participants were informed of the purpose of the study and were told that participation was voluntary and their responses would be kept confidential and anonymous. They were encouraged to answer the items as honestly as possible.

RESULTS

Correlation Analysis of Leadership, Motivation, Cohesiveness, Performance

The correlations among the continuous variables of Leadership, Motivation, Cohesiveness, and Performance were analyzed before testing the hypothesized model with Leadership as being exogenous variable and Motivation, Psychological skills, Cohesiveness, and Performance as being endogenous variables.

Pearson correlation was conducted to identify if there were multi-correlations among the variables. As you can see Table 7, no variables were highly and negatively correlated ($-.55 < r < -.78$, $ps < .05$) and thus it met the minimal requirement for testing the causal relationship among the continuous variables.

According to inter-correlations among the 12 variables, the moderate correlations exist ranging from -.55 to -.78 and thus it met the minimal requirement to measure the causal relationships among the variables.

Test of the Structural Equation Model

The hypothesized structural equation model consists of 8 latent variables (mentor role, calculating executioner role, innovative researcher role, authoritative director role, analytic manager role, mediating broker role, intrinsic motivation, and cohesiveness) and 1 observed variable of performance. Indices extracted from EFA and CFA were used in order to measure the validity of the construct of the proposed model.

Model Fit Testing

Overall fit of the proposed model can be measured by comparing estimate covariance matrix and input covariance matrix. The smaller the difference between estimate and input covariance matrix, the better the fit. Hong (2000) asserted TLI (Tucker-Lewis Index), CFI, RMSEA (Roof Mean Square Error of Approximation) depict degree of simplicity of the model without being sensitive to the sample size. Thus, TLI, CFI, and RMSEA were used to measure the overall model fit. According to Bagozzi and Dhokakia (2002), the good model fit should meet the following requirements: (1) RMSEA is smaller than .08 and bigger than .05, and (2) TLI and CFI are bigger than .90. Due to the fact that RMSEA was .073, TLI was .889, and CFI was .902 in this study, the modifications of the proposed model were executed. The main reason that the proposed model was not fit is because coefficient estimate is meaningless and covariance of estimate error still occurs. Therefore, the proposed model should be modified. There are four ways to improve the inadequate indices. Firstly, the item can be associated with other factor, secondly, the item can be deleted, thirdly, the item can be related to several other factors, and fourthly, correlation of estimate error can be used. In this study the second method was utilized and thus motivation (effort factor) was deleted due to the fact that SMC (Squared Multiple Correlations) was low. Table 6 indicates the model fit indices of both the default and modified model. The model fit indices of the modified model were improved with RMSEA = .063, TLI = .919, and CFI = .928 and thus it was accepted to be a final model for this study.

Table 8 describes estimate, standard error, and critical region obtained from the maximum likelihood estimate of parameter. The regression coefficient of latent variable for observed variable was from -.177 to 1.028 and thus the relationship between predictable and conceptual variables proves the hypothesized relationship. Standard error was at least .019 to .200 that allowed the model to be accepted as an appropriate one. Figure 5 describes path coefficients of the modified model.

Multiple Group Invariance Testing across Nationality

Invariance testing across nationality was conducted to see if there was any difference on the path coefficients of the final structural equation model between Korean and American student-athletes. Multiple group invariance testing is often used as a tool to verify if path coefficients of one group are different from those of other group. Kim, Kim, and Hong (2009) asserted that measurement invariance restraints and equivalence restrains are required to compare path coefficients obtained from multiple group invariance testing. Firstly, mentor role, calculating executioner role, innovative researcher role, authoritative director role, analytic manager role, mediating broker role, intrinsic motivation, and cohesiveness which are observed variables were identified in order to verify configural invariance across nationality while latent variable of performance was not compared. The overall model fit that allows the correlations among all the latent variables and predict the estimate of parameter proved to be suitable with [Korean: χ^2(125, N=207)=365.254,

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CFI=.918, TLI=.922, RMSEA=.067, Americans: χ^2(125 ,N=187)=297.854, CFI=.929, TLI=.931, RMSEA=.058]. The model fit indices were compared between the default and measurement identity model in which is assumed to have equal factor loadings of latent variables. First and foremost, the model fit indices of the default model was quite satisfactory with [χ^2(251, N=394)=589.478, CFI=.920, TLI=.918 ,RMSEA=.062].
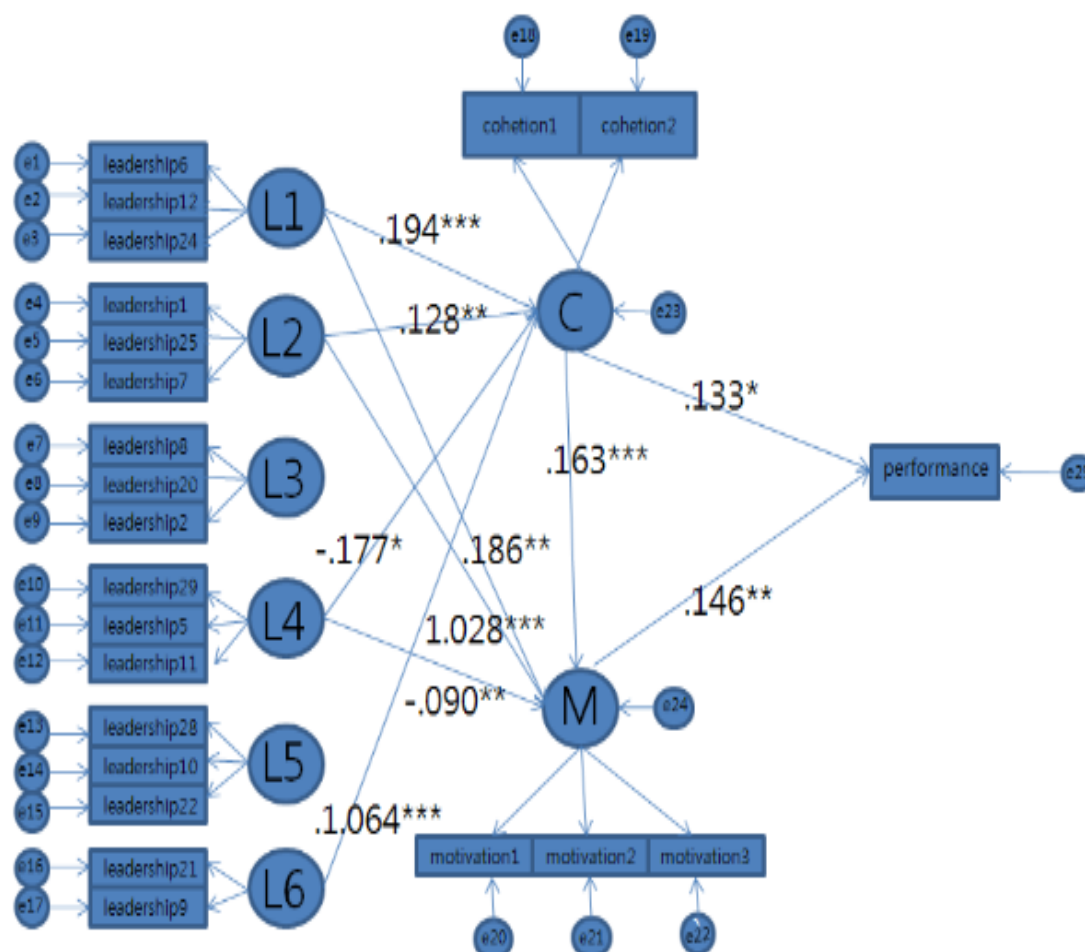

Figure 5. Path Coefficients of Structural Equation Model

Note. L1: Mentor Role, L2: Calculating Executioner Role, L3: Innovative Researcher Role, L4: Authoritative Director Role, L5: Analytic Manager Role, L6: Mediating Broker Role, C: Cohesiveness, M: Intrinsic Motivation, performance: Performance

Verification of Mediating Effect

Sobel verification revealed that Z values obtained from each mediating path is larger than critical region of 1.96, the meaningful mediating effects exist as shown in Table 8.

Table 8. Mediating Effects of Cohesiveness, Intrinsic Motivation, and Performance

Mediating Path						Z
Analytic Manager Role	→	Cohesiveness	→	Performance		5.879***
Mediating Broker Role	→	Cohesiveness	→	Performance		3.247**
Mentor Role	→	Motivation	→	Performance		3.158**
Cohesiveness	→	Motivation	→	Performance		4.952***

**p<.01, ***p<.001

Table 9. Parameter Estimate of Multiple Groups Structural Equation Model (Uniformity constraints applied into factor loadings)

Path			Korean Athletes	American Athletes
Mentor Role	→→→	Team Cohesiveness	.321***(.355)	.286***(.309)
Calculating Executioner Role	→→→	Team Cohesiveness	.052(.041)	.067(.059)
Innovative Researcher Role	→→→	Team Cohesiveness	.290***(.381)	.371***(.467)
Authoritative Director Role	→→→	Team Cohesiveness	-.299***(-.338)	-.211***(-256)
Analytic Manager Role	→→→	Team Cohesiveness	.042(.030)	.186*(.175)
Mediating Broker Role	→→→	Team Cohesiveness	.121*(.110)	.096(.093)
Mentor Role	→→→	Intrinsic Motivation	.120*(.113)	.081(.037)
Calculating Executioner Role	→→→	Intrinsic Motivation	.070(.056)	.045(.034)
Innovative Researcher Role	→→→	Intrinsic Motivation	.129*(.111)	.170**(.150)
Authoritative Director Role	→→→	Intrinsic Motivation	.110*(.107)	-.150**(-.139)
Analytic Manager Role	→→→	Intrinsic Motivation	.017(.015)	.073*(.067)
Mediating Broker Role	→→→	Intrinsic Motivation	.045(.033)	.066(.064)
Team Cohesiveness	→→→	Intrinsic Motivation	.309***(.343)	.375***(.401)
Intrinsic Motivation	→→→	Performance	.096*(.109)	.178*(.212)
Team Cohesiveness	→→→	Performance	.104*(.121)	.145*(.130)

Note. Numbers are non-standardized coefficients and standardized coefficients were presented in parentheses

*p<.05,**p<.01, ***p<.001

Also the measurement invariance that assumed to have equal factor loadings was quite similar with that of the default model. When compared measurement invariance [χ^2(284, N=394)=605.241, CFI=.922, TLI=.924, RMSEA=.060] and configural measurement, measurement invariance (ΔTLI=.006, ΔRMSEA=-.002) has been established since the values of TLI and RMSEA improved that reflected the measurement scales were properly operated between Korean and American student-athletes.

Once the multiple group invariance testing was confirmed [χ^2(321, N=394)=912.887, CFI=.927, TLI=.921, RMSEA=.059], the path coefficients of the structural equation model were identified as shown in Table 9.

When we assessed the estimate of parameters of two groups, mentor role had a positive impact on intrinsic motivation, cohesiveness, and performance and authoritative director role affected negatively motivation, cohesiveness, and performance for Korean student-athletes. Also innovative researcher role influenced positively on intrinsic motivation, cohesiveness and mediating broker role did positively on cohesiveness. For American student-athletes, analytic manager role positively affected intrinsic motivation, cohesiveness, and performance and innovative researcher role did intrinsic motivation, cohesiveness, and performance. In addition, authoritative director role had a negative impact on intrinsic motivation and cohesiveness and finally mentor role affected positively cohesiveness and performance. For both Korean and American student-athletes, intrinsic motivation and cohesiveness had a positive impact on athletic performance.

DISCUSSION

The main purpose of this current study was to identify the relationship among the variables of competing values leadership, team cohesion, intrinsic motivation, and the team performance and also find out if nationality could be an intermediate factor to influence on the relationship between American and Korean college student athletes.

The results showed that mentor role, mediating broker role, calculating executioner role, and analytic manager role made positive impacts on team cohesion while authoritative director role influenced on team cohesion in the opposite way. This supported the previous research in which asserted that there was a significant correlation between the coach's leadership and team cohesion (Carron &Chelladurai, 1981; Kim, 2005; Kim & Park, 2012; Lee & Kim, 2005; Ji, 2007). It is worth noting that authoritative director role can be detrimental to team cohesion. Thus, coaches are encouraged to educate and train their players with care without (or at least) minimize coercion and dictatorship since the authoritative leadership style is more likely to inhibit players from being athletically created while playing and to distract the team cohesion. The results also found that mentor role and calculating executioner role influenced positively on the intrinsic motivation while authoritative dictator role did a negative impact on the intrinsic motivation.

The coach's leadership provides significant impacts to the positive emotions and motivations of players (Goetz, Perkrun, Hall, & Haag, 2006; Kim & Kim, 2010; Kim, 2010) and the positive emotions also affect players' goal setting and revision of strategies in which will eventually help the intrinsic motivation of players. However, the authoritative director type of a coach's leadership hinders the intrinsic motivation of players. Therefore, coaches and athletic leaders are encouraged to build trust with their players in order to enhance players' self-effectiveness and achievement motivation. Furthermore, coaches and athletic leaders are to pay attention to increasing intrinsic motivation of players through the developments of various exercise programs, continuous meetings, and adequate rest.

The relationship of team cohesion, intrinsic motivation, team performance

The results found that team cohesion made a positive impact on intrinsic motivation and team performance. Also intrinsic motivation affects team performance. This is aligned with the previous research findings in which asserted that a group of people with high team cohesion positively influences on the intrinsic motivation (Eys, Hardy, & Carron, 2003; Prapavesis& Carron, 1996) and team performance (Carron et

al, 2002; Choi & Lee, 2006; Huh & Ma, 2013; Heuze et al, 2006). It is assumed to be reasonable to conclude that team cohesion can increase the intrinsic motivation of an individual player and enhance trust and satisfaction level among players and eventually affect team performance to be able to achieve a team's goals and objectives. Therefore, coaches and athletic leaders need to be cognizant of the fact that team cohesion is deeply associated with intrinsic motivation and team performance and thus need to work on how to effectively improve team cohesion.

Analysis of an intermediate factor by nationality of players

This study analyzed the relationship among the variables of competing values leadership. Team cohesion, intrinsic motivation, and team performance by nationality. The results showed that mentor role and innovative researcher role positively contributed to the team cohesion while authoritative director role did negatively regardless of players' nationality. However, analytic management role positively contributed to building team cohesion for American college student-athletes while mediating broker role proved to be an important factor to affect team cohesion for Korean student-athletes. The results described that a coach's and a athletic leader's mentor role in which helps build trust and mutual confidence with players and innovative researcher role in which also helps create and develop new ways of training strategy, tactics, and coaching techniques in a rapidly changing athletic circumstances contributed to improving team cohesion in a positive way.

These results were aligned with Lee and Kim (2005)'s research in a way that American student-athletes were likely to be more satisfied with their exercises when coaches' social status was lower and personal interaction was minimal which was interpreted as American student-athletes had an ability to conduct their own challenges without the specific instructions of the coaches. However, it proved to be that team cohesion was positively influential to the intrinsic motivation and team performance both for American and Korean student-athletes which also supported the previous literature (Eys, Hardy, & Carron, 2003; Carron et al, 2002; Heuze et al, 2006; Prapavesis& Carron, 1996; Rock, 2010). Interestingly, there was no difference between American and Koran student-athletes in a way that team cohesion increases intrinsic motivation and thus team will also perform better.

This study found the cultural difference on the relationship between competing values leadership and team cohesion which is supported by two seminal research of Farmer and Richman (1965) and Negandhi (1974) which asserted that the cultural characteristics influenced on individual attitudes and behaviors. Also Ki (2005) also concluded in his research that Western athletes were more likely to be independent from others, maintain to keep their own personalities within athletics, and emphasize on their own goals and objectives rather than the team's ones. The sport industry is not far from other industries. As Zhou and Tak (2005) found, unique leadership behaviors (i.e., transformational and transactional leadership) are expected in China and Korea. With that being said, coaches and athletic leaders are asked to develop their own leadership styles in reflecting the unique cultural characteristics because team performance was quite dependent on team cohesion and intrinsic motivation in which are significantly affected by coaches' leadership roles.

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