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The Relation of Coaching Passion with Locus of Control and Coping Flexibility in Physical Education Class Participating

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1. INTRODUCTION

Physical education-related classes are being provided at almost all of the colleges and universities by the educational background in Korea. Reason for providing these lectures based on the major and the liberal arts is promoting active or the strong needs for the goal of participating as physical activities. For these achieving educational goals effectively, teachers and professors have to get the passion for the lectures.

Passion is a deliberate practice that has a positive predictable variable with performance (Valler and et al., 2008) that a source of achievement for the educational goals. Passion effected for specific activities participating as sports or dance-related voluntary physical activities without any external constraints or restrictions (Bum, 2019). Especially, coaching passion is the main source of achievement for students in physical activities like sports (Chang &Ahn, 2016). Thus, coaches who instruct various subjects should consider appropriate coaching methods to motivate learning and communicate with students(Faye et al., 2018).A study (Lafrenière etal., 2011) explained insights into the psychological factors of coaches to instigate relationin the passion between the coach and athlete.

And locus of control that also effective for taking physical activity related classes or lectures at the colleges and universities education. Ratter (1966) described that locus of control is a predictor of human behavior which depends on ones' achievement goals. Locus of control is an attitude that addresses the individual ability of problem solving according to the factors that can be solved by external factors (Aydin et al., 2018), which can be improved through sports or physical education. Thus, Locus of control and the sense of competence are the psychological resources relevant to the taking-up and continuation of actions in certain situations. They are important regulating factors of the relation between the human and the environment (Rutkowska & Klimczak, 2012).Locus of control is a stable tendency to cope with the different situations and an important predictor of the social behavior individually. For the academic performance, he or she can control the environment or events in which they are faced (Lefcourt,1971).In addition, locus of control can show different results in personal cognitive responses and emotional experiences, which in turn affect social relationships. Therefore, locus of control can be enhanced through physical activity participation education with the ability to solve problems when internal or external problems arise.

Lastly, coping flexibility is another influential variable that means the perceived ability to change or alternate the target of response facing the stress situation (Cheng, Lau, & Chan, 2014). Coping flexibility is to adjust response goals based on context constraint that means the ability to positively reinterpret the situation as the environment changes and flexibly adjusts response goals (Kato, 2012). And coping flexibility is the ability that changes goals and strategies of considering the consequences of coping behavior depending on the situation (Song &Yoo, 2018) as well. In the meantime, the research on coping flexibility has been underway, in the Lazarus (1993) study, coping flexibility explains a major factor in the theory of psychological adaptation. It means cognitive and behavioral efforts to respond to internal control and external demands when faced with circumstances beyond one's capacity. Thus,

coping flexibility is a measurement scale of how people behave in different situations (Cheng, 2001), working on the role of coping flexibility in the relationship between stress and psychological adaptation. Thus, it is assumed that those with high response flexibility use a variety of responses in similar situations didn't show a strong preference for a particular response, while those with low response flexibility use only certain preferred responses (Herman-Stabl, Stemmler, & Petersburg, 1995).Moreover, coping flexibility is applies to achieve sports and physical education it is an effective factor in (Hurst, 2011) as an ability to control it.Also, Denovan & Macaskill (2017) suggest that a concept of leisure coping is affiliated with resilience stress-related coping.

The hypothesis of this study is that through participation in physical activity by the influence among coaching passion, locus of control, and coping flexibilities of the study might be a source of the educational degree and achievement and these options that might carry out the opportunity to learn physical activity to positive relation effectively.

Therefore, the purpose of this study is to verify what significant predictable variables are among the correlation of the coaching passion with locus of control and coping flexibility in physical education class participating students at the colleges and university level education.

2. MATERIALS & METHODS

2.1. Subject and Data Collection

The subject sampling method for eligible extracting was applied purposive non-probability sampling from the 209 university student questionnaires that have takenphysical education classes in the university level education. Through the raw data screening process, finally n=189 (the major n=54 and the liberal arts n=134) data was selected for the analysis< Table 1>. This study has proceeded in the fall semester from December 1st to January 30th in 2018.

Table1: *General characteristics*

Variable	Level	N	%
Gender	Male	116	61.4
	Female	73	38.6
Lecture participation	Physical education	54	28.6
	Liberal arts	134	70.9
Physical activity	Golf	120	63.5
	Leisure sports	35	18.5
	A ball game	34	18.0
Total		189	100

2.2. Measurement Tools

In this study, the Flexible Goal Adjustment Scale (FGAS) (Cheng et al., 2014; Song, 2017) was adopted as a measure of the measuring coping flexibility. FGAS (Brandtstadter et al., 1990) consists of 15 item questionnaires (Cronbach`s alpha.83), it measures based on to manage coping double-process model. Based on the FGAS, a measurement tool (Song, 2017) was validated on 12 item questionnaires in Korea (Cronbach`s alpha.82), was selected for analysis.

For analysing coaching passion assumed from the defined the Passion in School PE Class scale (Kim, 2013) (Cronbach`s alpha.93) that originated Passion Scale (Kim, 2012) Cronbach`s alpha.89) measuring the Teaching Passion comprises 12item questionnaires was used.

To apply lotus of control, the Internal External Locus of Control Scale (IELCS) developed by Rotter (1966), then Park & Kim (1997) translated and validated for Korean undergraduate students to measure locus of control (Cronbach`s alpha.97), finally, *Lim(2015)* applied for measuring academic achievement used by (Cronbach`s alpha.79) was selected to measure.

Table2: *Reliability of variables (p<.05)*

Variable	Chronbach'sAlpha (α)	
Coaching passion	Passion (1, 2, 3, 4)	.719
	Harmonious passion (5, 6, 7, 8, 9)	
Locus of control	Locus of control	
Coping flexibility	Hardship coping CF1 (1, 4, 11)	
	Affirmative coping CF2 (2, 3, 5, 6, 7, 8, 9, 10, 12)	

2.3. Validity

To construct validity of this measurement model of Exploratory Factor Analysis (EFA) was used extracting items with factor loading to explore the underlying structure of the model. By the Maximum Likelihood Estimation method on Oblique and Promax rotation applied to identify underlying factors dimensions and meaningful reduction of items were confirmed theoretically. Items' pattern matrix for the eigen values and variance were calculated. Missing value were included all data sets to impute.

Results of EFA, factor loading critical value was set higher .60. Coaching passion comprised two sub-factors passion (item 1, 2, 3, 4) and harmonious passion (item 5, 6, 7, 8, 9) from 9 items to determine. Kaiser-Meyer-Olkin Sampling Adequacy (KMO) =.867, Bartlett's test of Sphericity χ^2 (66)=949.271, and p=.001 showed significant acceptable. Locus of control was determined 1factorfrom10 items. KMO= .947, Bartlett's Sphericity χ^2 (45) =1534.060, and p=.001 showed acceptable value. Coping flexibility comprised two sub-factors hardship coping (1, 4, 11) and affirmative coping CF2 (2, 3, 5, 6, 7, 8, 9, 10, 12) from the12 items to determine. KMO=.874, Bartlett's Sphericity χ^2 (36)=1303.434, and p=.001 showed significant acceptable value.

Reliability of three variable factor structures' Cronbach's Alpha has acceptable internal consistency of the total items reliability α=*.719*<Table 2>.

2.4. Data Processing

Data analysis using MS Excel, and SPSS Ver. 20(IBM Co., Armonk, NY, USA).General characters calculated frequency and descriptive analysis. The test of reliability was conducted to Cronbach α and Pearson r was used to verify multi-collinearity of the model. Construct evidence was confirmed with EFA. Correlations among coaching passion, locus of control, and coping flexibility were analyzed by standard regression method for multiple regression analysis of the research model. For the reliable and adequate valid data applying, the Type Ⅰ errors etα=.05, The Type Ⅱ error 1-β=.85, Effect Size.3 or higher by referenced a statistical power program*G*power* (2007) with the two-tailed test analysis.

3. RESULTS

3.1. Descriptive Analysis & Correlation

The result of the descriptive analysis with verification normal distribution of items all itemKurtosis and Skewness value was acceptable for satisfying critical value by George & Mallery (2016) and Tabachnick & Fidell (2013). Mean and Standard Deviation were in coaching passion total (3.97±.75), sub-factor 1 passion(4.24±.77), and sub-factor 2 harmonious passion (3.71±.87), locus of control total (4.22±.73), and coping flexibility total (3.42±.59), sub-factor 1 hardship coping(1, 4, 11), and sub-factor 2 affirmative coping (3.14±.83)<Table 4>.

Table4: *Descriptive analysis and distribution (S= Skew-ness, K= Kurtosis)*

Coaching passion					Locus of control				Coping flexibility			
i	**M**	**SD**	**S**	**K**	**M**	**SD**	**S**	**K**	**M**	**SD**	**S**	**K**
1	4.4	.8	-1.1	1.01	4.2	.9	-.9	.6	3.2	1.1	-.1	-.7
2	4.3	.8	-.9	-.18	4.2	.9	-.9	.7	3.8	.9	-.4	-.3
3	4.1	.9	-.9	.50	4.4	.8	-1.0	.2	3.8	.9	-.2	-.9
4	4.1	.9	-.8	-.20	3.9	1.1	-.8	-.1	2.9	1.1	.1	-.5
5	3.4	1.1	-.3	-.52	4.1	1.0	-1.0	.7	3.3	1.0	-.2	-.4
6	3.8	1.0	-.4	-.54	4.2	.9	-.9	.5	3.8	.8	-.1	-.8
7	3.7	.1.0	-.2	-.63	4.4	.81	-1.4	2.4	3.6	1.0	-.3	-.4
8	3.6	1.1	-.2	-.86	4.3	.9	-1.0	.4	3.8	.9	-.3	-.2
9	4.0	1.0	-.5	-.68	4.3	.9	-1.2	1.5	3.7	.9	-.2	-.3
10					4.4	.8	-1.3	1.8	3.8	.9	-.2	-.5
11									3.3	1.1	-.2	-.6
12									3.9	.8	-.1	-.9

Pearson r showed to compute correlation among 5 factors under the significance level p<.05, p<.01.Except between Hardship coping - Passionand Hardship coping-Harmonious passionappeared insignificance level statistically p<.05 for confirm validity <Table 5>.

Table5: *Correlation among coaching passion, locus of control, and coping flexibility (p<.05*p<.01**)*

	Passion	Harmonious passion	Hardship coping	Affirmative coping	Locus of control
Passion					
Harmonious passion	.658**				
Hardship coping	.144	.132			
Affirmative coping	.350**	.330**	.219**		
Locus of control	.538**	.434**	.211**	.484**	

3.2. Regression Analysis among Coaching Passion, Locus of Control, and Coping Flexibility

In this study, the standard regression analysis method of input of all variables was applied, and the more independent of the residuals was closer to at Dubin-Watson, the more suitable regression model was to be and the model was analysed.

An analysis of the effects of coaching passion on locus of control confirmed Dubin-Watson=1.882, F (2,173)=28.038, p=.001. In sub-factor passion of coaching passion showed significantly predictable of locus of control (β=.447, p=.001). In sub-factor harmonious passion of coaching passion was an insignificant predictable factor of locus of control (β=.137, p=.095).Correlation Coefficient appeared R=.548, R^2=.300, adjusted R^2=.292 probably accounted for determination of predictable variable 30% <Table 6>.

An analysis of the effects of cping flexibility between locus of control confirmed by Dubin-Watson=1.882, F (2,173) =28.038, p=.001. In the sub-factor hardship of coping flexibility between locus of control (β=.105, p=.112) showed statistical in significantly. In the sub-factor affirmative coping of coping flexibility between locus of control (β=.461, p=.001) showed significant predictably. This regression model (R=.495, R^2=.245, adjusted R=.236) accounted for determining of a probable predictor 25%<Table 6>.

Analysis of the effects of passion and harmonious passion on hardship coping confirmed that Dubin-Watson=1.964, F (2,174) =2.029, p=.001. In passion (β=.105, p=.296) and harmonious passion (β=.059, p=.554) appeared insignificantly value. Also, Correlation Coefficient appeared R=.151, R^2=.023, adjusted R^2=.012, probability didn't account for determination variable 2.3%.Analysis of the effects of passion and harmonious passion on affirmative coping confirmed Dubin-Watson=1.609, F (2,172) =14.200, p=.001. In passion (β=.229, p=.015) and harmonious passion (β=.184, p=.051) showed significant predictable. Correlation Coefficient appeared R=.376, R=.142, adjusted R=.132, probability didn't account for determination 14 %< Table 6>.

Table6: *Multiple Regression Analysis results (p<.05*p<.01**)*

Model	B	Sd. Er	β	t	p	Correlation		Collinearity	
						Partial	Part	Tolerance	VIF
(Constant) locus of control	.198	.256		7.737	.001				
Passion	.427	.078	.447	5.463	.001	.374	.337	.567	1.763
Harmonious passion	.116	.069	.137	1.678	.095	.123	.103	.567	1.763
(Constant) locus of control	2.099	.298		7.043	.001				
Hardship coping	.092	.059	.105	1.555	.122	.117	.103	.952	1.050
Affirmative coping	.500	.073	.461	6.807	.001	.460	.450	.952	1.050
(Constant) hardship coping	2.446	.355		6.895	.001				
Passion	.114	.109	.105	1.046	.296	.079	.079	.561	1.782
Harmonious passion	.056	.095	.059	.594	.554	.045	.044	.561	1.782
(Constant) affirmative coping	2.329	.272		8.585					
Passion	.202	.082	.229	2.451	.015	.184	.173	.570	1.754
Harmonious passion	.140	.071	.184	1.966	.051	.148	.139	.570	1.754

p<.05 p<.01

4. Discussion and Conclusion

In this study, the effects among passion, locus of control, and coping flexibility were examined by sub-factors which significantly predict dependent variables in sports or physical education classes controlled by the educational background.

This study was shown that the statistically significant correlation between passion for

coaching passion and locus of control, and coaching passion predicted locus of control. A study has supported this research results similarly that verified a significant psychological construct of work-related specific locus of control harmonious passion and obsessive passion in the appraisal intention of professional workers. It indicates internal locus of control effects contributed to harmonious passion and external locus of control effects in obsessive passion of passion (Zigarmi, Galloway, & Roberts, 2018). Hsia, & Tseng (2015) investigated the effects of organizational citizenship behaviour by integrating locus of control and work enthusiasm, etc. By this finding, locus of control was verified of the direct effect to have the competence and devotes to solve difficult problems and lead to achieving their goals. If interpreting these results, someone has passion for studying and working, predictable factors have to be discovered with further researches to promote locus of control that addresses the individual ability of problem- solving from the external factors.

In other research reported confirmation for the young Spanish elite soccer players, it was proved when they have some levels of passion and motivation it helps to cope to rise with psychological needs comprised (Chamorro et al., 2016).

Another study (Gan, et al., 2007)and this study validated of prediction between locus of control and coping flexibility on student burnout, and indicated the construct of coping flexibility which was consisted of sub-factors as perceived controllability and strategy-situation fit. By comparison of EFA, coping flexibility was extracted different sub-factors on the different subject reflection. It explains when a psychological scale selecting for the research, reference review must investigate the cue for the validity evidence. And more to say, the relation between locus of control and depression showed the effect among Chinese university students (Yu, & Fan, 2016).

Lastly, since the relationship between locus of control and depression showed the effect among Chinese university students (Yu, & Fan, 2016, I propose the significance of the results among similar psychological factors and variables relation has to be discussed. In conclusion, coaches and teachers should consider appropriate coaching methods to motivate learning in sports or physical education classes held at school background. Coaching passion is the main source of achievement goals, locus of control addresses the individual ability to solve the problem by external factors, and coping flexibility is a response based on context constraint by the positive reinterpreting the situation of the environment changes and flexibly adjustment their goals. Join the sports and physical education might be supporting individual needs achieving and the educational goal to deliver. In conclusion, passion and affirmative coping are predictable factors of locus of control significantly. Passion is a predictable factor of hardship coping and harmonious passion is a predictable factor of affirmative coping significantly. Therefore, colleges and universities based sports and physical education class participants might be have passion, locus of control, and coping flexibility, they could carry out positive effects on each relation.

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