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## The Effect of Ego-Orientation on MILITARY Cadets' Intention for Sport Activity and Performance

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### Abstract

*The purpose of this study to identify the effect of achievement orientation on the military cadets' intention for adherence to sport activities(IASA) and performance in the sport activities(PSA) in the military professional development education. Total 695 military officers were sampled and were administered a battery of questionnaires in April 2015 and 367 subjects of them fully responded to the survey questionnaires. The collected data were analyzed in the structural equation modeling and the results of the analyses were like these: first, the military cadets' ego-orientation had significantly positive effect on their intention for adherence to sport activities, and second, the military cadets' ego-orientation had significantly positive effect on their performance in the sport activities of soccer, fitness, and Taekwondo. The results of this study have many suggestions and implications for research and practice of physical education. First, it is interesting that the effect of ego-orientation is stronger than that of task-orientation because many previous researchers reported contrasting results. That is, most of the precedent studies reported that task-orientation demonstrated more significant effect on the IASA and the PSA than that of ego-orientation because the task-orientation leads athletes to focus more on the dexterity of their performance than an outcome of a match. The contrasting results could be understood that most of the military cadets are familiar with norm-referenced evaluation system to reach up to higher rank, so they care more about the relative position than their skillfulness. Jung(2014)'s study supported the interpretation as military cadets' ego-orientation also had stronger effect on their achievement in academics, military training, and disciplinary evaluation than task-orientation. Second, the results of this study suggest that researchers should concentrate on the context of the evaluation when they conduct a study of comparison of effect between the task and ego-orientation because the magnitude of effect depends on the context of the evaluation rather than the kind of achievement orientation. For example, the task-orientation would have stronger effect than ego-orientation in the context of criterion-referenced evaluation because a student does not need to compete against his or her peers as the score depends on the dexterity of his or her performance. In the context of norm-referenced evaluation, on the contrary, ego-orientation would be acceptable to the learners because they have to defeat other students to have better score. Third, the results of this study indicate that the norm-reference evaluation system in the military academy has profitable effect on the military cadet's academic accomplishment because the cadets tend to make more effort in the competitive situation than in the cooperative situation. This study, however, also suggests that instructors of the physical education need to use norm or criterion-referenced evaluation system to improve the military cadets' performance as well as their participation in the sport activities. The precedent studies in the physical education research suggest that moderately competitive atmosphere in the sport activities would stimulate the learners' concentration and performance, however, too competitive atmosphere would harm their performance.*

**[Keywords]** Military Cadets, Goal Orientation, Intention of Exercise Adherence, Performance, Korea Army

## 1. Introduction

In the contemporary warfare, weapon system has been developed in fast rate and its effect is getting stronger, however, the physical strength of military personnel is still decisive factor[1]. Soldiers may contribute to the accomplishment of combat objectives with physical hardiness. Armed forces of many countries, therefore, emphasize the importance of physical training and sport activity. Researchers reported that physical training and sport activity enhance not only an individual soldier's physical health, but also his or her psychological well-being and cognitive function[2]. The authority of the US Army critically reviewed the reasons of casualties of the Korean War and found out that many cases the soldiers were killed in the combats because of their shortage of physical strength like running, climbing, and beating. The commanders, therefore, prioritize the physical training as the upper rank in their mission list[3]. The authority of Korea Army also makes good effort to augment the soldiers' physical strength and health condition through set up systematic physical training programs[4].

Military cadets, in addition, are prospective defense leaders who have a mission to improve their subordinates' health and physical strength through daily physical training. So their attitude toward the defense physical training may indicate how persistently they would train their subordinates for their physical hardiness[5]. Only few previous studies, however, investigated on the defense physical training in the viewpoint of motivation, but only focused on the military personnel's physical shape.

In contrast, there have been many studies conducted on the college students' intention of exercise in the viewpoint of motivation and goal orientation[6]. Gubatana and Cown(2011)[7] conducted a study on the military cadets' orientation of physical activity, motivation of adherence of sports and reported that those activities significantly predict their success of military training and tactical decision-making[8]. Most of the military academies in many countries prioritize the

defense physical education as the high rank and set a series of curriculum of physical training to enhance their military cadets' physical strength and sport skills. Many experts, however, pointed out that most of the military schools spend a lot of time for physical training and sport activities without a long-term objective or philosophy[9]. In that context, research should be conducted on the military cadets' achievement motivation and IASA. Military cadets, especially, are not professional athletes, but they are leaders of defense physical activity, so they have obligation to complete the assigned curriculum of physical education and activity. In many cases, the psychological orientation of military cadets would determine their effort on the physical activity for their subordinates[10].

Meanwhile, many previous studies suggested that achievement goal orientation is one of the decisive factors influencing the college students' involvement in sport activity and performance[11]. The achievement goal orientation is a standard of evaluation for success or failure of personal accomplishment of objectives and his or her abilities[12]. In the study of sport science, the achievement goal orientation is classified into two kinds: task-orientation and ego-orientation[13]. In sport studies, task-orientation defines the personal success depending on personal proficiency and development of sport skill, meanwhile ego-orientation prioritizes the win at individual match and other people's respect.

In the previous studies, investigators insisted that the goal orientation affect the performance in each sport activity by being combined with motivation and effort toward sport activity[14]. However, goal orientations of both sport athletes and military cadets have not been investigated in Korea. Only Jung(2014)[15] studied the influence of military cadets' goal orientation on their learning strategy, motivation, and academic achievement and revealed significantly positive effect. His study, however, has a limitation on this study because the military cadets' performance and effort in their sport activity was a

small portion of the whole academic achievement, so the result can suggest only restricted implication for this study.

Researchers suggested that learners with task-orientation usually have high level of perceived competence and involvement in the physical activity, on the contrary, the learners with ego-orientation demonstrate lower level of perception of competence and involvement in the sport activity[16]. Kim(2002)[17] suggested a path model that a learner's goal orientation affects the IASA and involvement in the task, and the effort significantly affects the performance of the sport task. In the same context, Yu and Hur(2001)[18] also reported a positive influence of the achievement goal orientation on the sport players' performance and, in detail, the task-orientation significantly affect the athletes' performance and persistence.

The ego-orientation, however, does not necessarily negatively affect the performance of athletes. Some researchers reported that college athletes of Taekwondo with ego-orientation demonstrated better performance and intrinsic competency than those of athletes with task-orientation[19]. Duda(2013)[20] also reported that ego-orientation has positive effect on elite professional athletes' performance because most of them make effort to maintain their skill and reputation. Those previous studies suggest that the effect of achievement goal orientation may vary depending on the kind of sport activity.

Some studies, meanwhile, conducted for military cadets in Korea and abroad concerning the relationship between the military cadets' achievement goal orientation and their performance in the physical activity. Cho and Lee(2002)[21] conducted a study to Korean naval military cadets and reported that ego-orientation showed significantly positive effect on their performance in the sport activity while task-orientation showed insignificant effect. Mastern(2010)[22] investigated the relationship among the rank of the military personnel, involvement in the sport activity, motivation, and their satisfaction. He reported that commissioned officers and cadets

demonstrated significant relationship between ego-orientation and competitive motivation about the sport activity. Chartonneau(2001)[23] reported that military candidates tend to involve more activities and to have positive attitude toward sports if their coaches and leaders exercise transformational leadership for them and induce them to form intrinsic motivation.

Based on the literature, I addressed two research hypotheses:

First, military cadets' ego-orientation will have significantly positive effect on their intention of adherence to sport activities.

Second, military cadets' ego-orientation will have significantly positive effect on their performance of sport activities.

## 2. Method

### 2.1. Subject and procedure

The subjects of this study are 367 senior cadets of Korea Army Academy at Yeongcheon(KAAY). At first, 400 cadets were sampled by the method of simple random sampling and were administered a battery of questionnaires, however, only 367 respondents fully answered the questionnaires. The survey was conducted from February 16, 2015 to March 15, 2015. Fifty two(14.1%) respondents of the sampled subjects majored in physical education and 135 respondents(36.7%) registered in the physical activity clubs for extra-curricular activity. In addition, 327 cadets(89.1%) of the sample passed the fitness test with the highest grade. KAAY is a 2-year military institution educating junior and senior cadets, and senior cadets experienced enough time to take an attitude toward sport activities and to evaluate the instructors' capacity.

### 2.2. Measures

I used three survey questionnaires to collect the data: Task and Ego Orientation in Sport Questionnaire(TEOSQ), Physical Activity Adherence Questionnaire(PAAQ), and Sport Performance Measure(SPM). The TEOSQ was composed of 13 items developed by

Duda & Nicholls(1992)[24] and demonstrated the reliability coefficient of Cronbach Alpha.90. PAAQ was consisted of 7 items inquiring the respondents' intention for continuing their participation in the sport activities and it was developed by Byeon(2014)[25] to measure the respondents' intention to participate and continue in the sport activities, demonstrating the reliability of Cronbach alpha. In addition, SPM was developed by the professors of department of sport education, KAAY to evaluate the military cadets' competence in the soccer, fitness, and Taekwondo.

### 2.3. Data analyses

I analyzed the data in three steps: First, I used structural equation modeling(SEM) with the achievement goal orientation(AGO) as an exogenous latent variable and with the intention for adherence to sport activities(IASA) as an endogenous latent variable. Second, I used the SEM with the AGO as an exogenous latent variable and with the sport performance as the endogenous variable. Third, I used the SEM with AGO as an exogenous latent variable, IASA and performance in each sport activity as endogenous latent variables. I used SPSS 20.0 to analyze the correlation and descriptive statistics, and AMOS 10.0 for SEM.

## 3. Results

### 3.1. Descriptive statistics and correlation

I analyzed the data to compute descriptive statistics of mean and standard deviation of each variable. Task orientation of fitness ( $M=3.44$ ,  $SD=.89$ ) showed the highest mean among the AGO of all sport activities and ego orientation of fitness showed the second highest mean( $M=3.43$ ,  $SD=.90$ ). I also reviewed the correlation matrix among the variables and found out that soccer showed higher correlation with ego-orientation( $r=.36$ ) than correlation with task-orientation( $r=.22$ ), fitness also demonstrated higher correlation with ego-orientation( $r=.39$ ) than correlation with task-orientation( $r=.34$ ). At last, Taekwondo also had higher correlation with ego-orientation( $r=.46$ ) than correlation with task-orientation( $r=.25$ ).

### 3.2. Effect of ego-orientation on intention for adherence to sport activities(IASA)

To test the first research hypothesis, four competing models were addressed: (a) null model with no causal relationships, (b) a model hypothesizing a causal relationship between task-orientation and IASA, (c) a model hypothesizing a causal relationship between ego-orientation and IASA, (d) a model hypothesizing causal relationships among the ego-orientation, task-orientation, and IASA.

Structural equation modeling analyses were conducted and four set of fit indices were computed. The null model demonstrated statistically poor fit( $\chi^2=1098.27$ ,  $df=171$ ,  $CFI=.49$ ,  $TLI=.45$ ), the second model showed slightly improved fit( $\chi^2=852.34$ ,  $df=170$ ,  $CFI=.87$ ,  $TLI=.83$ ), the third model showed highly improved fit( $\chi^2=235.88$ ,  $df=170$ ,  $CFI=.92$ ,  $TLI=.92$ ), and the fourth model demonstrated the best fit( $\chi^2=227.31$ ,  $df=169$ ,  $CFI=.92$ ,  $TLI=.93$ ). Based on the above results, the third model was set as the baseline model because it had more degree of freedom.

Task and ego-orientation were input as exogenous latent variables on the IASA and the effect of the task-orientation was not significant, however, the effect of ego-orientation was positively significant. I found that ego-orientation had the significant effect on the IASA, but did not find whether the significance of the effect was universal for all kind of sport game. As a follow-up analysis, therefore, three alternative models were constructed: (a) a model with ego-orientation as an exogenous latent variable and the IASA of soccer as an endogenous latent variable, (b) a model with ego-orientation as an exogenous latent variable and the IASA of fitness as an endogenous latent variable, (c) a model with ego-orientation as an exogenous latent variable and the IASA of Taekwondo as an endogenous latent variable. The indices of fit of the three models were acceptable; model (c) showed the best fit among the three models( $\chi^2=79.80$ ,  $df=169$ ,  $CFI=.99$ ,  $TLI=.99$ ), model (b) the second best fit( $\chi^2=166.80$ ,  $df=169$ ,  $CFI=.99$ ,  $TLI=.98$ ), model (a) the least fit( $\chi^2=211.27$ ,  $df=169$ ,  $CFI=.98$ ,  $TLI=.97$ ).

Based on the above results, the first research hypothesis was significantly supported.

### **3.3. Effect of ego-orientation on the performance in the sport activities (PSA)**

To test the second research hypothesis, four competing models were address: (a) null model with no causal relationships, (b) a model hypothesizing a causal relationship between task-orientation and PSA, (c) a model hypothesizing a causal relationship between ego-orientation and PSA, (d) a model hypothesizing causal relationships among the ego-orientation, task-orientation, and PSA.

Structural equation modeling analyses were conducted and four set of fit indices were computed. The null model demonstrated poorest fit ( $\chi^2=1958.54$ ,  $df=104$ ,  $CFI=.34$ ,  $TLI=.30$ ), the second model showed highly improved but still poor fit ( $\chi^2=386.25$ ,  $df=103$ ,  $CFI=.81$ ,  $TLI=.81$ ), the third model showed reasonable fit ( $\chi^2=281.19$ ,  $df=103$ ,  $CFI=.91$ ,  $TLI=.92$ ), and the fourth model demonstrated the best fit ( $\chi^2=238.68$ ,  $df=102$ ,  $CFI=.93$ ,  $TLI=.94$ ). Based on the above results, the fourth model was selected as a baseline model.

Task and ego-orientation were input as exogenous latent variables on the PSA and the effect of the task-orientation was not significant, however, the effect of ego-orientation was positively significant. I found that ego-orientation had the significant effect on the PSA, but did not find whether the significance of the effect was universal for all kind of sport activities. As a follow-up analysis, therefore, three alternative models were constructed: (a) a model with ego-orientation as an exogenous latent variable and the PSA of soccer as an endogenous latent variable, (b) a model with ego-orientation as an exogenous latent variable and the PSA of fitness as an endogenous latent variable, (c) a model with ego-orientation as an exogenous latent variable and the PSA of Taekwondo as an endogenous latent variable. The indice of fit of the three models were acceptable; model (b) showed the best fit among the three models ( $\chi^2=15.70$ ,

$df=102$ ,  $CFI=.99$ ,  $TLI=.99$ ), model (a) the second best fit ( $\chi^2=19.17$ ,  $df=102$ ,  $CFI=.99$ ,  $TLI=.99$ ), model (c) the least but very decent fit ( $\chi^2=110.16$ ,  $df=102$ ,  $CFI=.94$ ,  $TLI=.95$ ).

Based on the above results, the second research hypothesis was significantly supported.

## **4. Discussion and Conclusion**

The purpose of this study is to identify the effect of achievement orientation on the military cadets' intention for adherence to sport activities and performance in the sport activities. Four hundred senior military cadets were sampled to accomplish the research purpose and 367 subjects of them fully responded to the survey questionnaires. The collected data were analyzed in the structural equation modeling and the results of the analyses were like these: first, the military cadets' ego-orientation had significantly positive effect on their intention for adherence to sport activities, and second, the military cadets' ego-orientation had significantly positive effect on their performance in the sport activities of soccer, fitness, and Taekwondo.

The results of this study have many suggestions and implications for research and practice of physical education. First, it is interesting that the effect of ego-orientation is stronger than that of task-orientation because many previous researchers reported contrasting results. That is, in the most of the precedent studies, task-orientation demonstrated more significant effect on the IASA and the PSA than that of ego-orientation because the task-orientation leads athletes to focus more on the dexterity of their performance than an outcome of a match. The contrasting results could be understood that to higher rank, so they care more about the had stronger effect on their achievement in academics, military training, and disciplinary evaluation than task-orientation[26].

Second, the results of this study suggest that researchers should concentrate on the context of the evaluation when they conduct a study of comparison of effect between the

task and ego-orientation because the magnitude of effect depends on the context of the evaluation rather than the kind of achievement orientation. For example, the task-orientation would have stronger effect than ego-orientation in the context of criterion-referenced evaluation because a student does not need to compete against his or her peers as the score depends on the dexterity of his or her performance. In the context of norm-referenced evaluation, on the contrary, ego-orientation would be acceptable to the learners because they have to defeat other students to have better score.

Third, the results of this study indicate that the norm-referenced evaluation system in the military academy has profitable effect on the military cadet's academic accomplishment because the cadets tend to make more effort in the competitive situation than in the cooperative situation. This study, however, also suggests that instructors of the physical education need to choose norm or criterion-referenced evaluation system to improve the military cadets' performance as well as their participation in the sport activities. The precedent studies in the physical education research suggest that moderately competitive atmosphere in the sport activities would stimulate the learners' concentration and performance, however, too competitive atmosphere would harm their performance[27].

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