

Students' Motivation Profiles as Predictors of Physical Activity Participation

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Abstract: The study examined the relationship between the students' motivation profile and physical activity participation. The sample comprised 368 college students both male (n=162, 42.9%) and female (n=216, 57.1%) aged from 15 to 23 years old, with a mean age of 16.83 (SD=1.75) who completed the Perception of Success Questionnaire, Perceived Physical Competence Scale, Sport Motivation Scale and Physical Activity Participation Questionnaire. Descriptive analysis and linear regression analysis were conducted to describe and examine the relationship between achievement goal, self-determination and physical activity participation. Results indicated that students had high task orientation, moderate levels of ego orientation and moderate levels of perceived physical competence. Although students have high levels of both intrinsic and extrinsic motivation, they were more likely to have intrinsic motivation for participation in physical education classes. Physical activity participation was moderate level for this group of students. In terms of the predictive relationship of the variables, gender, task orientation, perceived competence, intrinsic motivation and extrinsic motivation were significantly related with physical activity participation while ego orientation was not significantly related. The results of this study could help teachers to better understand the role of motivation in physical education, which could assist efforts in fostering lifelong physical activity participation.

1 INTRODUCTION

The decline of physical activity among young people has been well reported by researchers (Grunbaum et al., 2004; Sue et al., 2002; Tomkinson 2007). It has been largely recognized that the prevalence of obesity is directly related to this issue of inactivity (James, 2004). As a health measure regular physical activity has become a priority in schools and communities. According to Rink (2009), the best setting to promote and stimulate students to acquire behaviours and knowledge related to adopting a physically active lifestyle is through school physical education. However, in order to successfully promote physical activity to the diverse range of students encountered in physical education classes, a thorough understanding of student motivation is essential (Standage, Duda, & Ntoumanis, 2003). Two theories that have been applied to sport and physical education when it comes to motivation are the Achievement Goal Theory (Nicholls, 1989; Roberts, 2001) and Self-Determination Theory (Ryan & Deci, 2000; 2000a).

The achievement goal theory proposed that an important prerequisite for motivated behavior is a desire to feel competent (Nicholls, 1989). In this theory, there are two perspectives that predominate, one being ego orientation and the other task orientation. When students are task-oriented they judge their ability levels against themselves, while when they need to compare their skills against other students they are ego-oriented (Standage & Treasure, 2002). Perceived physical competence is another concept established by the achievement goal theory, which refers to one's beliefs about the ability to be successful in an achievement domain (Ferrer-Caja & Weiss, 2000). Individuals feel more successful when they have demonstrated competence in an activity. Demonstration of physical competence is the primary focus of individuals in achievement settings, which can be showed via the two goal orientations (Kosma, Cardinal, & Rintala, 2002).

Considerable researches found out that both ego orientation and task orientation are related to perceived physical competence, though, task orientation was pointed out to result in higher perceived competence (Grasten et al., 2012;

Wallhead & Ntoumanis, 2004). In a study by Ommundsen (2005) it was found out that perceived physical competence was one of the strongest predictors of intrinsic motivation in physical education. Moreover, Granero-Gallegos et al (2012) reported that task orientation and perceived physical competence were more correlated with higher physical activity participation.

In the Self-determination Theory, Ryan and Deci (2000) (2000a) explained the existence of different types of motivation, depending on the level of self-determination (i.e. if the origin of the motivation is more or less from within the person), which form a continuum ranging from highest to lowest degrees of self-determination, motivation can be intrinsic, extrinsic, or amotivation. The highest degree of self-determination is found in individuals who are intrinsically motivated, which involves a commitment to the activity because of the pleasure and enjoyment obtained from it, making it an end in itself. The highest degree of self-determination is found in individuals who are intrinsically motivated, they are the ones who perceive the activity as an end in itself and committed to participate because of pure enjoyment and a deep sense of knowledge to learn more from the activity. In intrinsic motivation (to know, to accomplish and to experience stimulation), individuals do an activity to have fun, learn new things or develop their skills. While extrinsic motivation describes situations in which individuals do an activity as a means to achieve certain desirable results (identified regulation, introjected regulation and external regulation). On the other hand, amotivation refers to lack of motivation where no contingency between actions and outcomes is perceived and there is no perceived purpose in engaging in the activity (Ryan & Deci, 2000).

A plethora of studies have shown that students who have higher intrinsic motivation categorized as more self-determined participated more in physical activity (Gallegos et al., 2012; Moreno et al., 2008; Wang et al., 2002). Moreover, self-determined motivation predicted a high intention to be active and to do physical activity (Standage & Treasure, 2002). In the context of physical education, those with self-determined motivational profiles also connect with cooperative learning, positive motivational consequences (interest, effort, satisfaction, fun and high participation) (Ntoumanis, 2002; Wang & Biddle, 2001), and higher physical activity participation (Wang et al., 2002).

There is compelling evidence linking both achievement goal and self-determination perspectives to motivated behaviour (Duda & Hall, 2001; Vallerand & Rousseau 2001) and physical activity

participation (Granero-Gallegos et al., 2012; Wang et al., 2002). Therefore, it seems important to analyse all the factors that could influence youngsters' likelihood of becoming physically active by examining the integration of the achievement goal theory and the self-determination theory in the context of physical education.

Based on the aforementioned precedents, the study was designed with the following objectives: a) Explore the profiles of the students in terms of gender, achievement goals, self-determination, and physical activity participation; and b) examine the predictive utility of both achievement goal and self-determination on the physical activity participation of students beyond the PE class. According to the findings, implications were drawn for physical educators. It is hoped that the findings of the study could assist the physical educators in shaping the class environment, which could assist efforts in fostering lifelong physical activity participation among young people.

2 METHODS

2.1 Study Design and Participants

A random sample of three hundred seventy eight first year college students in six universities in Central Luzon, Philippines both male (n=162, 42.9%) and female (n=216, 57.1%) participated in this cross-sectional survey design study. In general, the age range was between 15 to 23 years old, with a mean age of 16.83 (SD=1.75). Participants answered the questionnaire measuring their goal orientation, self-determination, and physical activity participation.

2.2 Instruments Used

To measure goal orientation, the *Perception of Success Questionnaire* (Roberts et al., 1998) was used to measure whether students are ego or task oriented in terms of their achievement goal. Moreover, the Physical Self-Perception Profile (Fox & Corbin, 1989) was used to measure the physical competence of the students. For the present study, satisfactory reliability measures were reported for both instruments.

In measuring self-determination, the *Sport Motivation Scale* by Pelletier et al. (1995) adapted to PE was used to measure motivation. The scale consists of 24 items measuring the two levels of motivation from intrinsic to extrinsic motivation. The

instrument was satisfactory reliable for the present study.

To assess physical activity participation outside of school PE, the *Physical Activity Participation Checklist* by Wang et al. (2002) was adopted to measure time spent in physical activity. The internal reliability coefficient of the instrument was satisfactory for the present sample.

2.3 Data Analysis

The statistical analysis was conducted in the following order: descriptive statistics, examination of reliability measures of each subscale and linear regression analyses. Prior to statistical analyses, the normality and missing values were examined. A *p*-value 0.05 was set as the criterion of statistical significance. Statistical analysis was completed with the Statistical Package for the Social Sciences software (2008), version 17.0.

3 RESULTS AND DISCUSSION

Descriptive analyses such as the means and standard deviations of the overall sample are shown in Table 1. Generally, students had high task orientation, moderate levels of ego orientation and moderate levels of perceived physical competence. Although students have high levels of both intrinsic and extrinsic motivation, they were more likely to have intrinsic motivation for participation in physical education classes. Physical activity participation was moderate level for this group of students.

Table 1: Means and standard deviations for study variables.

Variable	Mean	SD	
Task	3.92	0.85	0.90
Ego	2.75	0.84	0.81
Perceived competence	2.88	0.95	0.89
Intrinsic Motivation (IM)	3.52	0.80	0.88
Extrinsic Motivation (EM)	3.43	0.72	0.86
Physical activity participation (PA)	2.13	0.69	0.77

Table 2 presents the linear regression analysis of variables predicting physical activity participation. As shown in the table, gender ($\beta = 0.378, p < 0.05$), task orientation ($\beta = 0.154, p < 0.05$), and perceived competence ($\beta = 0.334, p < 0.05$) significantly predict physical activity participation while ego orientation

does not significantly predict physical activity participation ($\beta = 0.038, p > 0.05$).

Gender (male) significantly predicts physical activity participation which supported previous findings by Polman et al. (2004), that male have higher physical activity participation than female. In connection, Moreno et al. (2010) reported that higher levels of physical activity participation could be attributed to a greater preference of males for PE and sports than females since school respondents have more facilities for sports. In addition, Cervello et al. (2004) argued that females do not have the same opportunities to engage in physical activities compared to boys.

The data also showed that perceived physical competence has a positive effect on the respondents' physical activity participation. Similarly, Wang et al. (2002) have found out a positive relationship between perceived physical competence and physical activity participation. In connection, previous research has revealed that perceived physical competence is linked with intrinsic motivation (Deci & Ryan, 2000; Ommundsen, 2005), enjoyment in physical activity (Biddle et al., 2003). It was well documented that the youth have high physical competence are more likely to enjoy the activity than those reported to have lower levels of physical competence (Ferrer-Caja & Weiss, 2000). Enjoyment is an intrinsic element associated with exercise motivation to engage in physical activity (PA) (Dishman et al., 2005). In a study targeting students in the U.S. at grades four to twelve by Sallis et al. (1999), PE enjoyment was one of the strongest and most consistent correlates of physical activity.

Table 2: Linear regression analyses of variables predicting physical activity participation.

	PA		
	β	R^2	<i>p</i>
Gender	0.378*	7.3%	.000
Task	0.154*	3.5%	.000
Ego	0.028	0.1%	.515
Perceived competence	0.334*	21.0%	.000
Intrinsic Motivation (IM)	0.206*	4.0%	.000
Extrinsic Motivation (EM)	0.247*	5.6%	.000

* $p < 0.05$

4 CONCLUSIONS

The purpose of the study was to explore the profile of the first year college students in terms of achievement goal, self-determination and physical activity participation outside school physical education. Moreover, the study aimed to examine the predictive relationships of gender, achievement goal profiles, and self-determination profiles with the physical activity participation levels outside school physical education lessons of first year college students. Results indicated that students had high task orientation, moderate levels of ego orientation and moderate levels of perceived physical competence. Although students have high levels of both intrinsic and extrinsic motivation, they were more likely to have intrinsic motivation for participation in physical education classes. Physical activity participation was moderate level for this group of students. In terms of the predictive relationship of the variables, gender, task orientation, perceived competence, intrinsic motivation and extrinsic motivation were significantly related with physical activity participation while ego orientation was not significantly related.

The results of the study imply that educational reforms are needed to increase students' motivation to engage and enjoy regular physical activity. Likewise, a "paradigm shift" in terms of teaching-learning process is needed to create a motivational climate that would result to more physically active individuals even beyond the PE class. Exploring the profiles of students in terms of demographic characteristics, achievement goal, self-determination, and physical activity participation; and examining the predictive relationship between the aforementioned variables would provide a better view on how to formulate varied activities that will foster lifelong physical fitness.

Gathered data on achievement goal profile of the respondents imply that PE teachers should be trained on how to structure the PE lesson adapted to the students' achievement goal context (e.g. how to diagnose, appropriate strategy, and authentic assessment). Given that the students are task oriented, teachers should devise activities that would satisfy their achievement goal inclination. Likewise, sufficient time allotment for practice during PE class should be given to students for them to develop physical and psychological maturation on performance.

Results on the self-determination profiles of the respondents suggest that PE teachers should provide a meaningful rationale expressing the importance of partaking in the activity (e.g. to learn to play cooperatively, to have fun, to accomplish the task, for

health benefits) and giving autonomy to the students (e.g. setting of rules, officiating or judging on their own, creating the rubric for evaluation, less supervision from the teacher). In addition, the PE teacher should make learning intrinsically meaningful by designing the lessons and assessment tools focusing on individual gains, improvement, and progress, so that students can develop an appreciation of their abilities, which promote feelings of intrinsic satisfaction and continued interest in physical activity.

Findings on the physical activity participation of the respondents imply that the PE program in-cooperation with the school should provide different physical activities (e.g. sports fest, dance exercise activities, fun run, etc.) apart from the PE class in which students can participate in a long-term basis (1 semester). Furthermore, the content covered in PE class should be conformed to the exercise or sports equipment and facilities of the school and community so that students can continue to practice and engage in physical activities even beyond PE class time. In addition, the content in the curriculum should be adjusted by selecting activities that are geared toward the interest and hobbies of the students which could result to more motivated behavior, this could be done by conducting a survey on the preferred activities by students.

In terms of the relationship of gender to all variables of the study, it is implied that PE teachers should treat males and females differently when designing the curriculum. The current interests of college students in selection of content covered in the PE class, particularly girls, should be taken into account because this may influence their commitment and increase motivation in physical activity participation. An environment that is gender sensitive could be beneficial to motivate girls to engage more in physical activity. By giving students the opportunity to choose their physical activity, girls can become less pressured and be more comfortable in performing their physical activity which can lead to higher motivation to be engaged in physical activity. Additionally, improving and increasing the feedback given to girls could also help them become motivated.

Findings on the predictive relationships between the achievement goal profiles, self-determination profiles, and physical activity participation imply that PE teachers need to be trained and have resources available that will guide them in their attempts to create a motivational adaptive class environment which could enhance motivation and may counteract the present lamented lack of motivation young people have with regard to engaging in physical activity. Additionally, PE teachers and curriculum designers should create a working taxonomy of actions that is adaptive to the achievement goal profiles and self-

determination profiles of students. Implementing any future intervention programs will be greatly facilitated by operational detail that will guide the teacher in selecting appropriate strategies that foster lifelong physical fitness.

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