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Afterschool Sports Participation and Psychological Needs Fulfillment in Physical Education among Filipino High School Students

Jonathan Y. Cagas

University of the Philippines

Diliman, Quezon City, Philippines

Physical education (PE) has long been promoted as an important context to teach lifelong physical activity and other health-related behaviors among young people. However, some students may not be motivated to participate in physical education because of perceived lack of physical competence or sports experience. Research has shown that students who participate in afterschool sports are generally more motivated in PE compared with their nonsports participant peers. Knowledge on how afterschool sports participation is associated with motivation specifically psychological needs fulfillment in PE among Filipino students is limited. Hence, this study compared levels of basic needs fulfillment, perceived autonomy support, and subjective vitality in PE among students with different afterschool sports experiences. A total of 408 students (age: $M = 13.97$; $SD = 1.38$) studying in two public high schools in Metro Manila participated in this study. Results indicated that afterschool sports participation is associated with students' needs fulfillment, autonomy support, and subjective well-being in PE. Findings suggest that special attention should be given to students who do not participate in afterschool sports and ensure that they have positive experiences in physical education. Recommendations for practice based on self-determination framework are discussed.

Keywords: afterschool sports, basic needs, psychological needs, needs fulfillment, self-determination, motivation, physical education

INTRODUCTION

Regular sports participation during childhood and adolescence has been shown to have positive influences on the young persons' physical activity later in life (Telama, Yang, Hirvensalo, & Raitakari, 2006). It may reduce their risk of developing metabolic syndromes, and it equips them with skills that would help them cope with job pressures in the future (Yang et al., 2009). Youth participating in afterschool sports, or extracurricular sports activities, has also been found to have higher self-efficacy, prosocial behavior, and sense of responsibility (Carreras-Ponsoda, Carbonell, Cortell-Tormo, Fuster-Lloret, & Andreu-Cabrera, 2012).

Physical education (PE) plays an important role in promoting lifelong physical activity to young people (Bryan, Sims, Hester, & Dunaway, 2013), and this includes encouraging students to participate in afterschool sports. One of the aims of PE is to teach children and adolescents fundamental skills of various sports activities so that they may enjoy sports and physical activities in their free time (National Association for Sports and Physical Education, 2004). Research has shown that children who enjoy learning these various sports skills in PE are most likely to continue participating in sports even after school and when they become adults (Telama et al., 2006).

Previous studies indicated that students who participate in afterschool sports generally have higher motivation (Goudas, Dermitzaki, Bagiatis, 2001; Koka & Hein, 2003; Shen, 2012) and psychological needs satisfaction in PE than nonparticipants (Viira & Koka, 2012). According to self-determination theory (SDT: Deci & Ryan, 2000), these three basic psychological needs are the needs for competence, relatedness, and autonomy. Self-determination theory argues that these needs are innate to every individual; universal across gender, age, and culture; and essential nutriments for psychological growth and well-being (Ryan & Deci, 2002). A study by Cagas and Hassandra (2014) on the basic psychological needs in PE among Filipino high school students provided initial support for SDT's usefulness as a framework in understanding motivation in Filipino culture. A student's psychological needs in PE are fulfilled when he/she perceives that he/she is capable to do the activities in class (competence), senses that he/she has options and choices on which activities to perform (autonomy), and feels that he/she belongs and connects to his/her peers (relatedness).

Viira and Koka (2012) examined the differences in fulfillment of three

basic needs, perceived teacher-autonomy support, and other motivational constructs among Estonian students with and without afterschool sports experience. They found that boys who had afterschool sports experience reported higher levels of perceived autonomy support, competence needs, relatedness needs, and autonomy needs fulfillment than those who had no afterschool sports experience. Moreover, they also reported that girls who participate in afterschool sports reported higher levels of autonomy and competence needs fulfillment than their nonparticipant peers. Their results echoed earlier findings that afterschool physical activity participants experienced higher competence, relatedness, and autonomy needs fulfillment than nonparticipants (Coulter, Panayiotou, Patterson, Borchardt, & Shen, 2008; Ntoumanis, Barkoukis, & Thøgersen-Ntoumani, 2009).

Participation in regular physical activity is a health behavior which is associated with good physical and psychological well-being (Biddle & Mutrie, 2008). Despite PE's role in promoting lifelong physical activity participation, it is still considered a low-priority subject (Dwyer et al., 2003). In the Philippines, Filipino children and adolescents are becoming insufficiently active (FNRI-DOST, 2008), and this makes them 'at-risk' of developing lifestyle-related diseases during adulthood. Hence, research understanding Filipino students' motivation in PE and its correlates is timely. Results of such studies can provide knowledge base for interventions aimed at promoting sports and physical activity participation among young Filipinos.

The present study aimed to determine if levels of basic needs satisfaction, perceived autonomy support, and subjective vitality in PE are different among students with and without afterschool sports participation. Gender differences are also examined. Based on previous literature (e.g., Viira & Koka, 2012), the hypothesis is that students who participate in afterschool sports perceive their teacher to be more autonomy-supportive and experience higher needs fulfillment and subjective vitality in PE compared with their nonafterschool sports participant peers. In addition, boys will report higher needs fulfillment in PE than girls.

METHODOLOGY

Participants

Participants were 408 students (192 boys; 216 girls) from two public high schools in Metro Manila. Age ranged from 11 to 19 years ($M = 13.97$; $SD = 1.38$). All four year levels were represented adequately (27.2% in 1st year, 22.8% in 2nd, 24.8% in 3rd, and 25.2% in 4th year). Of these 408 students, only 137 (33.6%) reported to participate in afterschool sports. Out of this 137, 75 (54.70%) were boys, and 62 (45.30%) were girls. Frequency of participation was on average two times a week and for about 60 minutes per session.

Students listed a total of 29 different sports activities that they participate in. Basketball (29.9%), badminton (26.3%), and volleyball (20.4%) were the 3 most mentioned. For boys, the top 3 sports were basketball (52.0%), badminton (25.3%), and volleyball (14.7%). While for girls, the top 3 activities were volleyball, (27.4%), badminton (27.4%), and soccer (12.9%) or table tennis (12.9%).

Measures

All instruments were translated to conversational Filipino using a standard translation procedure. Validity and reliability of these translated instruments were reported in Cagas and Hassandra (2014).

Psychological Needs Fulfillment. The Filipino version of the Basic Psychological Needs in Physical Education scale (BPNPE: Vlachopoulos et al., 2011; Cagas & Hassandra, 2014) was used to measure students' level of needs fulfillment in PE. The original 12-item BPNPE scale was reduced to 10 items based on the study of Cagas and Hassandra (2014). The subscales are needs fulfillment for competence (4 items; $\alpha = .83$), relatedness (4 items; $\alpha = .76$), and autonomy (2 items; $\alpha = .64$).

Perceived Autonomy Support. This was measured using the abbreviated 6-item version of the Health Orientation Climate Questionnaire (Williams, Grow, Freedman, Ryan, & Deci, 1996) modified slightly to suit the PE context (Vlachopoulos et al., 2011). Internal consistency of this modified scale has been reported to range from 0.81 (Vlachopoulos, 2012) to 0.93 (Hagger et al., 2003). In this study, Cronbach's alpha coefficient of the scale was adequate at $\alpha = .76$.

Subjective Vitality. The 7-item Subjective Vitality Scale was also used in this study. It is designed as a proxy measure of well-being (Ryan & Frederick, 1997). Bostic, Rubio, and Hood (2000) suggested that deleting item 2 would increase the effectiveness of the scale hence it was not included in computing the composite score for vitality. Internal consistency reliability of this scale is more than acceptable at $\alpha = .88$.

Procedure

A letter requesting to conduct research study in public high schools was sent to the Department of Education Quezon City Division Office. After the permit was released, the author contacted the principals of 2 target institutions and requested the dates for data gathering.

At the day of data collection, the students were instructed to answer the questionnaire as honestly as they could. The respondents were also informed that their participation in the study was voluntary and that they may choose not to answer the questionnaires. They were instructed to return the questionnaires unmarked at the end of the period if they decided not to participate in the study.

To decrease the influence of social desirability, the PE teachers were requested to leave the room for the duration of the data collection. Students were also assured that the questionnaires would remain anonymous and in no way can be traced back to them. Upon submission of the completed instrument, the students were also asked to fold the questionnaire in half and to drop their papers in an unmarked box located near the exit. This ensures that even the researcher would not be able to identify the students who completed the survey. The students took 20 to 30 minutes to complete the questionnaire.

Data Analysis

Preliminary examination of descriptive statistics, alpha coefficients, and correlations among all variables was conducted to check initial reliability and validity of the instruments. A multivariate analysis of variance (MANOVA) was used to test possible group differences (i.e., with versus without afterschool sports participation) in all study variables. All assumptions for this multivariate test were met (e.g., sample size, normality, outliers).

RESULTS

Descriptive statistics and internal consistency reliability coefficients are presented in Table 1. Mean scores of all five variables were above the midpoint value of 4.0 (except autonomy need) implying that the students in general have positive experiences in their PE classes.

Table 1. Descriptive Statistics of 3 Needs Fulfillment, Perceived Autonomy Support, and Subjective Vitality.

Variable	N	Mean	SD	α	Skewness	Kurtosis
Competence Need (COM)	408	5.10	1.28	.83	-.79	.33
Relatedness Need (REL)	408	5.39	1.23	.76	-.72	-.18
Autonomy Need (AUT)	408	4.09	1.66	.64	-.13	-.88
Autonomy Support (PAS)	408	5.63	0.98	.76	-1.02	1.57
Subjective Vitality (VIT)	408	5.72	1.10	.88	-1.15	1.67

Note. PAS (6 items). COM (4 items). REL (4 items). AUT (2 items). VIT (6 items).

To determine which of the three basic needs was rated highest by the participants, a repeated measures ANOVA was conducted. Results showed that significant difference was observed among the three basic needs fulfillment, $F(2,406) = 146.50$, $p = 0.000$. Posthoc analyses indicated significant difference between REL and COM, $p = .000$, REL and AUT, $p = .000$, and between COM and AUT, $p = .000$.

Differences in Basic Needs, Perceived Autonomy Support, and Subjective Vitality

A one-way between groups multivariate analysis of variance (MANOVA) was conducted to determine differences in all 5 study variables. Assumptions of normality, linearity, and univariate outliers were satisfied. However, seven cases (1.72%) were detected as multivariate outliers with Mahalanobis distance values greater than $\chi^2(5) = 20.52$, $p = .001$. These outliers were removed from data set reducing the sample size to 401. The COM, REL, AUT, PAS, and VIT were entered as dependent variables and afterschool sports participation as independent variable.

Table 2. Descriptive Statistics of All 5 Study Variables by Afterschool Sports Participation in Boys (n = 188) and Girls (n = 213)

Overall With (n = 136) Without (n = 265)								
	M	SD	M	SD	M	SD	F	η^2
COM	5.10	1.28	5.32	1.20	5.02	1.26	*5.03	.012
Boys			5.41	1.19	4.99	1.19	5.49	.029
Girls			5.21	1.21	5.05	1.31	.69	.003
REL	5.40	1.22	5.39	1.26	5.40	1.20	.01	.000
Boys			5.34	1.37	5.34	1.18	.00	.000
Girls			5.46	1.13	5.45	1.22	.00	.000
AUT	4.09	1.66	4.31	1.67	3.99	1.63	3.38	.008
Boys			4.34	1.77	4.02	1.66	1.53	.008
Girls			4.28	1.54	3.97	1.61	1.67	.008
PAS	5.65	.93	5.78	.85	5.58	.96	*3.84	.010
Boys			5.71	.95	5.45	1.02	3.13	.017
Girls			5.85	.71	5.68	.91	1.65	.008
VIT	5.74	1.06	5.62	1.12	5.97	.89	***10.57	.026
Boys			5.93	.88	5.66	1.16	3.04	.016
Girls			6.02	.90	5.58	1.09	**7.86	.036

Note. N = 401. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Results showed statistical difference between groups on the combined dependent variables, $F(5,395) = 4.12$, $p = .001$, $\Lambda = .95$, $\eta^2 = .05$. Separate univariate analysis of variance showed that significant differences were observed in COM, $F(1,399) = 5.03$, $p < .05$, $\eta^2 = .01$; PAS, $F(1,399) = 3.84$, $p < .05$, $\eta^2 = .01$; and VIT, $F(1,399) = 10.57$, $p = .001$, $\eta^2 = .03$. Results from examining the mean scores suggest that students who do not participate in afterschool sports reported lower levels of competence needs fulfillment, perceived autonomy support, and subjective vitality in PE compared with those who do.

The previous procedure was repeated to examine boys and girls separately. This procedure was similar to the one performed by Viira and Koka (2012) in their study. All preliminary assumptions were met for both boy and girl data. Results indicated significant difference in 5 study variables in girls, $F(5,207) = 2.54$, $p = .03$, $\Lambda = .94$, $\eta^2 = .06$, but not in boys. Examining the results of the 5 dependent variables separately revealed that only subjective vitality reached statistical significance, $F(1,211) = 7.86$, $p = .006$, $\eta^2 = .04$. More specifically, girls who participated in afterschool

sports ($M = 6.02$, $SD = .90$) reported higher level of subjective vitality in PE compared with their peers who did not have sports experience ($M = 5.58$, $SD = 1.09$).

DISCUSSION

The purpose of this study was to examine if levels of basic psychological needs fulfillment, perceived autonomy support, and subjective vitality were different between students who participate in afterschool sports and those who do not. Findings were consistent with previous researches indicating that students who participate in afterschool sports experience higher competence needs fulfillment in PE, perceived autonomy support, and subjective vitality compared with nonparticipants (Ntoumanis et al., 2009; Viira & Koka, 2012). Viira and Koka (2012) explained that afterschool sports participation influences students' perception of competence in PE probably because these students were already skillful and competent in sports. The authors further explained that PE activities fulfilled students' basic needs for competence, and hence, they felt more energized and alive in class.

In the present study, results suggest that afterschool sports participation may have empowered students to feel more competent and able to do the activities in PE. In addition, these students perceived their PE teachers to be more supportive and provide them with options and choices in class which may have also facilitated their feelings of energy and alertness. On the other hand, students with no afterschool sports experience felt that their PE teachers provide them with fewer options and convey less confidence in their ability to do well in class. They felt that their need for competence was not fulfilled and experienced less vitality in PE. Results further indicate that girls who played sports after school experienced higher subjective vitality in PE compared with their nonactive peers. Filipino adolescents, especially girls, are expected to do household chores after school hours (Tudor-Locke et al., 2003). One possible explanation why girls with afterschool sports participation in this study feel more energized and alert in PE is that the tasks in this setting provide them with opportunities to perform physical activity without thinking of work or pressure. Because of the cross-sectional nature of this study, it can also be argued that girls' experience of high vitality in PE might have led them to participate in afterschool sports. This result is interesting and warrants more investigation.

Bryan and Solmon (2007) discussed several strategies to fulfill students'

psychological needs in PE. To enhance competence, PE teachers can focus on self-improvement, place less emphasis on competition, and provide feedback as well as optimally challenging tasks. To enhance relatedness, PE teachers can convey warmth and care towards the students, be more considerate and compassionate, and be more respectful of students' feelings. Lastly, to enhance autonomy, teachers can provide students with opportunities to choose the activities in class, avoid controlling behaviors, and minimize pressure of performing at a certain level. Filipino PE teachers should aim to provide an environment that will support students' need for competence in PE especially for those with limited sports participation to achieve PE's goal of encouraging students to participate in sports and physical activity outside of school.

SUMMARY

In summary, this study demonstrated that afterschool sports participation plays a role in students' psychological experiences in PE. It supports previous studies indicating that students who participate in afterschool sports experience higher need satisfaction, autonomy support, and vitality in physical education. Physical education teachers are encouraged to support students' psychological needs for competence, relatedness, and autonomy because this facilitates not only their leisure-time physical activity and well-being but their self-determined motivation for learning and academic performance as well (Niemic & Ryan, 2009).

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