

Pre-and-In-Class Practical Lesson Habits of Selected University Physical Education Students in Ghana: Implications for Health and Physical Education

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Abstract

Habits formed during schooling are probably the strongest that influence individuals throughout life. It is always the intention of curriculum planners that, habits formed by students as a result of schooling be positive to promote healthy lifestyle in the future. However, nothing is documented on the pre-practical physical activity habits of physical education (PE) students in universities in Ghana. The paper focused on common physical activity behaviours exhibited and the food products consumed by the students prior to and during PE practical lessons. We conveniently sampled 112 level 100-300 University of Cape Coast PE students during the 2012/2013 academic year. We developed a questionnaire to gather data for this study. We found that only 24% (n=27) of the students practice three times and over, the techniques taught in class before the next class. Also, 36% (n=40) of the students reported not using appropriate protective gears during practical classes. Beside, 35% (n=39) of the students would not do post-activity stretching without lecturers' supervision. Of the products consumed, 9% (n=10) and 6% (n=7) take energy drinks prior to and during PE classes, respectively. Other 2% (n=2) take in alcoholic beverages before classes. However, 30% (33) consume nothing prior to morning practical lessons. Many university PE students in Ghana engage in many unhealthy habits that need attention. This paper discusses how this new knowledge can assist professionals in Health and PE to moderate the habits acquired and practiced by students while at school.

Key Words: Pre-practical activity, pre-practical food consumption, physical education, physical activity habits.

1. Introduction

What students do before and during classes can become their habits throughout life as the school environment provides relatively "free" setting for such individuals. Physical education (PE) students at universities are prepared to teach basic, secondary and colleges of education. Diet and physical activity (PA) behaviours students cultivate during the course of their training do not only influence the students' life in the near future, but their academic performance as well (Fairclough & Stratton 2005). Negative habits such as smoking, alcohol in-take and sedentary lifestyle, cultivated during schooling or youthful ages can be sources of a serious unhealthy living during adulthood (Ancarani et al. 2013; Cherpitel et al. 2013; Fornicola 2007; Miller 2008; O'Brien et al. 2008; Simões et al. 2008). Students also learn or practice previous class activities; they eat, drink or carry any form of food to classes (Kazemi et al. 2005). Positive behaviours (formed) are likely to promote healthy adult life.

Adaptation of physically active lifestyle at the youth stage is evidenced to promote lifelong active living (Colbert et al. 2004), that is beneficial to the individual's physical, psychological and social well-being and the well-being of the society in general (Colbert et al. 2004; Vanhees et al. 2005). Active PA lifestyle facilitates teaching and learning, develops motor skills and active muscle tone and facilitates acquisition of both simple and complex skills (Krombholz 2013). The "bell" for promoting youth PA is now sounding more and louder than ever before because the evidence is clear that not only does PA promote healthy body composition, social cohesion, self-image and esteem, and general health (Moran & Vedanthan 2013; Poobalan 2012), participation in regular PA also promotes academic performance (Ahamed et al. 2007; Ardoy et al. 2013; Trudeau & Shephard 2008). Feeling good and enjoying oneself rather than to promote one's health, for example, is one factor that motivates youth to regularly engage in PA (Poobalan, et al. 2012). Accordingly about 28% of youth 18–25 year olds achieved recommended levels of PA that decreased with age. Moreover, an estimated 22% were overweight or obese, also associated with more males than the females. Therefore, PA, even in academic environment such as PE classes, should be enjoyable enough to give and sustain the enjoyment required by the participants. Research evidence also revealed that PA is positively related to higher educational status among both genders and in all populations (Finger 2012). Thus, it is expected that university PE students would venture more into PA as it is not just for promotion of health and vitality but for demonstration of professionalism.

Participation in PE classes places high physiological demand for energy on the students. PE practical activities are physically vigorous in nature and a typical class last for more than two hours. The demand for energy is the predefining factor for what students consume prior to and during physical energy demanding practical lessons. In addition, high concentration is demanded for practical lessons. Thus, the kind of food students eat prior to and during practical PE lessons play vital roles in the performance of their class activities. Additionally, nutritional habits can be formed as a result of what students are eating and drinking to and during classes. Georgiou et al. (1997) reported that university students of both genders smoke and as a result are at risk for some chronic illnesses because of poorer health habits. Besides, Yahia et al. (2008) found that alcohol intake and smoking were not too common among some group of university students. However, these studies did not report the situation in which students were likely to smoke; whether to classes or not. In addition, a nutritional intervention study aimed at decreasing the intake of soft drinks among students of Chicago revealed that there was a decrease on soft drink consumption (Ha 2009). These give evidence that many university students consume soft drinks prior to or even during classes. Nonetheless, Ha and colleagues did not indicate whether these students take in the drinks before or during classes. Moreover, our observations as PE tutors over the years suggest that PE students indulge in some behaviours that might not necessarily yield both health and academic benefits to them as students and their academic work, and that their health now and in future could be at risk. Beside the detrimental effects on teaching and learning, these behaviours when noticed by the general public may have some dire consequences on the image of the profession as PE and as teachers. Perhaps these students are the future image or ambassadors of the PE profession since they are being trained as such (Ministry of Education, Science and Sports, 2008). Additionally, these PE students are being trained to take charge of training other children in the near future. With this in mind, the student trainees' behaviours should be of outmost important to the institutions or teachers training them. For this, empirical evidence is needed to understand these students' behaviours and appropriate interventions lay out to avert possible future mishaps. However, there is no available study that has explored students' PA and food consumption habits prior to and during practical lessons. Therefore, the study purposed to find out; (1) what common physical activity behaviours are exhibited prior to practical lessons by PE students of UCC? and (2) what common food products are consumed prior to and during practical lessons by PE students of UCC?

2. METHODS

2.1 Participants

A survey of 112 undergraduate (2012/2013) levels 100 (23), 200 (43) and 300 (46) PE students of the University of Cape Coast were conveniently sampled for this study. Of the 112 PE students, 103 (92%) males and 9 (8%) females participated in the study. The age of participants ranged from 20-50 years ($M = 28.79$; $SD = 5.03$). Besides, the weight of the students ranged from 45-87kg ($M = 65.62$; $SD = 7.45$).

2.2 Dependent Measure and Data Analysis

A 16 closed-ended item questionnaire was used to collect data for this study. The questionnaire developed by the researchers collected participants' demographics information such as age, gender, degree level and weight. The instrument also solicited information on the types of substances students consume before and during practical lessons, the number of times they practice (on their own), techniques learnt in practical classes and how frequent they do so. In addition, the questionnaire solicited information on whether the students warmed-up, cooled-down, performed pre and post lesson stretching when lecturers were not available to supervise them. The questionnaire yielded reliability coefficient (KR) of .78. Frequency counts and percentage analyses were used to describe participants' demographic information and the pre-during practical PE lesson behaviours of the students.

2.3 Procedure

The study was ethically approved by the Institutional Review Board (IRB) of University Cape Coast. The Head of Department, Health, Physical Education and Recreation (HPER) also granted the permission for this survey. Participation in this study was completely voluntary as the participants were assured of confidentiality and anonymity. Before completing the survey, every participant signed an informed consent that described the purpose of the study and the extent of participants' involvement.

3. Results

We used frequency and percentage analyses to provide answers to the research questions. The analyses revealed that only 24.1% (27) of the students practiced three or more times (on their own) techniques taught in previous PE practical classes. Another 26.8% (30) practiced twice, with most of them (49.1%) practicing only once. Also, 35.7% (40) conferred not using appropriate protective gears during PE practical classes. In addition, 34.8% (39) and 25.9% (29) did not do post-activity stretching and cool down respectively, after practical classes without the supervision of their lecturers (see data in Table 1).

Table 1: PE Students' Physical Activity Behaviours at Practical PE Lessons

Physical Activity Behaviours	Frequency (f)	Percentage (%)
Do you use appropriate protective gears during practical lessons		
Yes	72	64.3
No	40	35.7
Would you warm-up before practical lessons without the supervision of your lecturers?		
Yes	106	94.6
No	6	5.4
Would you cool down after practical lessons without the instruction of your lecturers?		
Yes	83	74.1
No	29	25.9
Would you do pre-activity stretching without the supervision of your lecturers?		
Yes	99	88.4
No	13	11.6
Would you do post-activity stretching without the supervision of your lecturers?		
Yes	73	65.2
No	39	34.8

N = 112

Result (Table 2) also revealed that while 29.5% (33) of the students did not take in anything before coming to PE practical classes in the mornings, 42.0% (47), 14.3% (16), 8.9% (10), 3.5% (4) and 1.8% (2) took in mostly water, beverages, energy drinks, soft drinks and alcoholic beverages respectively. Besides the pre-practical

habits reported by the students, 29.5% (33) reported taking in nothing during practical PE classes while 61.6% (69) reported gulping down only water.

Table 2: Products Consumed Prior to and during Practical PE Lessons

Food Consumption	Frequency (f)	Percentage (%)
Which of these do you mostly consume prior to practical lessons?		
Nothing	33	29.5
Water	47	42.0
Beverages	16	14.3
Soft drinks	4	3.5
Energy drinks	10	8.9
Alcoholic beverages	2	1.8
Which of these do you mostly consume during practical lessons?		
Nothing	33	29.5
Water	69	61.6
Soft drinks	3	2.7
Energy drinks	7	6.3

N = 112

We also attempted to find differences on some parameters using chi-square test. However, we found no statistical significance differences in addition to the fact that the sample sizes for some categories were less than five, for which we could not report differences (Babbie 2007; Kazemi et al. 2005; Ofori & Dampson 2011). The rationale for only reporting frequencies is due to the small sample size of the study; making the use of other analyses like Pearson's or Fisher's Exact Test erroneous (Kazemi et al. 2005).

We observed that the students reported many poor physical activity habits prior to practical PE classes. Also, a sizable number (29.5%) reported that they do not take in food or water prior to or during practical PE classes, however, few (10.7%) manifested poor consumption habits such as taking in energy drink and alcohol.

4. Discussion

Many of the students (49.1%) in this study reported poor PA habits prior to practical PE classes. Probably most of the students do not truly understand the benefits of keeping active on both their performance in practical PE classes, promoting their academic performance, and health status now and the near future.

An exploratory study (O'Dea 2003) of some young adults revealed that preference for indoor activities, lack of energy and motivation, inadequate understanding of the benefits of PA on health and time constraints were some barriers enumerated by the participants. However, we agree that students in the universities do not have enough time outside busy lecture schedules, and may be too tired to engage in extra physically tasking activities. Our universities may also not have variety of sporting facilities to encourage many students to participate in PA. O'Dea believed that support from school staff, better planning, time management, education, restructuring the

physical environment, and provision of greater variety of PA will help overcome many barriers to being active. Krombholz (2013) also pointed out that active PA lifestyle among students facilitates teaching and learning as well as develop motor skills and active muscle tone which facilitates acquisition of both simple and complex skills. Other scholars are of the view that not only does PA promote health, it promotes academic performance among students too (Ahamed et al. 2007; Arday et al. 2013; Trudeau & Shephard 2008).

We also observed that many (29.5%) students do not take in anything before and during practical PE classes, however few (10.7%) manifested poor consumption habits in terms of kind of the drinks they consume. We speculate that some of the students are taking energy drinks and alcohol for the “energy” these products are believed to give when consumed. On the other hand majority may not be aware of the negative consequences of not eating, smoking, or taking in energy drink, alcohol and even soft drink just before practical PE classes. Optimal nutrition enhances physical activity, athletic performance and recovery from exercise (American College of Sports Medicine et al. 2007; American Dietetic Association et al. 2009). This knowledge is critical to the choice an individual makes of what to eat and at what time (Savoie et al. 2005). For example, the goal of drinking water or fluid during exercise is to prevent excessive (>2% body weight loss from water deficit) dehydration and excessive changes in electrolyte balance to avert compromised performance (American College of Sports et al. 2007). It is worth noting that inadequate fluid in the body is not the only source of dehydration; a possible cause of learning and performance difficulty. Alcohol and energy drink can produce energy for PA in a very short duration however, they are considered as diuretics. These products can increase the rate of sweating during PA and thus, cause dehydration (Smith et al. 2010; Yahia et al. 2008). In addition, the scent of alcohol perceived by the other class mates on the drinker can make working with such a student agonizing. Besides, attending practical PE class on an empty stomach can grossly compromise teaching and learning. Dehydration is likely to set in with its consequence loss of concentration as a result of tiredness (American Dietetic Association et al. 2009; Trepanowski & Bloomer 2010). These may also lead to injury and other unfriendly behaviours in class. Such knowledge is essential for nutritional decision making; to promote PA performance or otherwise the decision may impair performance.

5. Implications for Health and Physical Education

This study revealed that many students do not practice techniques taught at PE classes on their own. In effect, these students are not physically active enough. Moreover, most of the students attend morning practical PE classes on empty stomach and some engage in unhealthy consumption practices such as smoking, drinking both alcohol and energy drinks before PE lectures.

Perhaps since the students attend PE practical classes they think exercising on their own is not necessarily important since they are likely to get the benefits in class. However, practicing at leisure times the activities taught in class is a self-cultivating habit that may foster life-long PA behaviour (So-Young 2013); a behaviour many are trumpeting (American College of Sports Medicine et al. 2007; American Dietetic Association et al. 2009; Colbert et al. 2004; van Stralen 2010). Some of these behaviours were evident in our study, but can cast a slur on the PE profession when they are demonstrated in professional practice. Already PE as an academic subject is struggling to get the required number of students to admit into the second cycle and tertiary institutions in Ghana. Coupled with this, the subject is not given the needed attention and allocation it deserves as an academic subject, especially at the second cycle level by the school administrators (Ocansey 2012). The plausible reason as stressed by Ocansey (2012) is that many school administrators perceive PE as not important subject on the school time table, coupled with some negative attitudes of the PE professionals on the field.

The professionals in health and PE have the greatest opportunity to moderate the habits students acquire and practice as they are in school and possibly in future. Students can be assisted to form healthy habits such as PA, proper dieting, avoiding smoking and energy drink consumption via what we call student-activity-inventory. Series of student-activity-inventory can be created for students to log-in foods they eat prior to and during practical lessons especially. Also, students can take inventory of the number and types of PA they do throughout a month or the whole semester. These inventories, we believe will make the students more conscious of their diets, PA and other health compromising habits. Additionally, teaching that create a more “holistic” individual rather than a professional health and PE teacher can be more emphasized at lecture rooms. Teaching that incorporate and target individual student’s personal behaviour is very much needed to produce teachers who will be ambassadors of the profession. Thus the lecture theatre serves as an appealing medium for delivering efficiently health information that address nutritional and physical activity behaviours (So-Young 2013).

6. Conclusion

We concluded that many university PE students (in Ghana) engage in many unhealthy habits that need attention. In addition, we observed that many PE students in this study demonstrated poor physical activity habits prior to

practical PE classes. For example, many of the students do not practice, on their own, activities taught in PE classes. Thus, teaching and learning of practical PE may not be achieving its full potential because of some of these unhealthy habits. Besides, personal health or life of the students and the image of the profession of PE and/or health education may be in some danger in the near future. Personal behaviour modification strategies need to be taught and reemphasized in lecture rooms. Students should be taught and encouraged to eat appropriately before and during practical lessons.

7. Limitations and Future Considerations

This is the first empirical research that attempted to explore university PE students' PA and nutrition habits; prior to and during practical PE lessons. The results have given us some indications into PE students' PA and nutritional behaviours, especially just before and during practical classes. We believe this will stimulate research interests into pre-practical lesson PA and nutrition habits of other students whose academic programmes or courses involve practical lesson.

The participants in this study were from UCC only and do not represent the entire university PE students in Ghana. Most of the students might have under reported their PA and nutrition habits to please the researchers (Fisher, 1993; Lelkes, Krosnick, Marx, Judd & Park, 2011) who are lecturers of the participants. Therefore, the result and the interpretations of this study should be treated with some caution. This research needs to be extended to cover PE students in other analogous institutions in Ghana. Nutritional knowledge and practices of university PE students need to be investigated.

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