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Assessing the Motivation of First-year Undergraduate Students for Physical Fitness Workout and Contextual Differences at Bahir Dar University

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ABSTRACT: Motivation can be seen as a major factor in improving physical exercise behavior among people. Evaluating the motivational of university students towards physical fitness workout is important to implement intervention strategies' to increase their motivationlevel for their personal development and achievement of individual goals.This study aimed to assess university first-year undergraduate students' motivations for engaging in physical fitness workout and how those motivations related to contextual factors. The study used a cross-sectional survey design consisted of 323 sample students at Bahir Dar University. The majority age of the students (n= 216, 66.9%) were 20 years old. The adapted Exercise Self-Regulation Questionnaire (SRQ-E) was used to measure the motivation for physical fitness workout. The results were analyzed using descriptive statistics and t tests. The results show that overall mean of students' motivation for physical fitness workout was below the average (2.85). The mean scores of most few motivational variables show significant statistical difference across the students religion, and residential status ($p<.05$).As far as major field was concerned, there was a statistically significant difference between natural and social science students in the two motivational variables: identified regulation and external motivation ($p<.05$,Cohen's d= -.123 & -.027). To understand the motivation of freshman students for physical fitness workout in universities, future research needs to consider the direct effect of some other contextual variables.

Keywords/phrases : Contextual factors, first-year undergraduate students, motivation, and physical fitness workout

INTRODUCTION

Background of the study

Physical fitness exercise is a subclass of Physical Education and Sports Science that is intended, structured, and purposeful to improve physical fitness traits and enhance the quality of life among students (Lucy,2015; WHO, 2010). At present, there is a concrete report that reveals the numerous and holistic functions of physical exercise for youngsters who regularly exercise it (Warburton, Taunton, Bredin, &Isserow, 2016). Physical exercise has also been proved to be important in preventing and treating heart-related complications and reducing death from several chronic diseases (Lee, et al., 2012; Naci & Ioannidis, 2015). The absence of physical exercise in human's life has been linked to many types of cancers (Leandro, et al., 2018), neurological syndromes such as dementia (Larson, Wang, and Bowen, 2006; Eric, et al., 2006), and psychological complications, particularly depression, (Roh, Hong, Lee, Lee & Chang 2019). This implies that physical exercise is an effective and cost-effective strategy to have better psychological health, efficient body organs, and productive citizens.

Given the holistic values of physical exercise and its roles it in promoting a healthy lifestyle, particularly for the youth, it deserves special consideration, (Capranica& Millard-Stafford, 2011; Lee, et al., 2012; Lucy et al, 2015). However, sedentary lifestyle during adolescence can expose people to various health complications in the later age. According to research, leading an inactive lifestyleincreases the risk of developing high blood pressure, heart-related disease, osteoporosis, type II diabetes, and breast as well as colon cancer (Garrett, et al., 2004). An inactive lifestyle is a major cause of the development of high blood pressure, heart-related disease, osteoporosis, type II diabetes, and breast as well as colon cancer (Garrett, et al., 2004). Contrary to

this, Studies have also shown that students who regularly engaged in physical exercise and games have better cognitive ability, physical capability, self-confidence, clarity of self-concept, emotional regulation, and well-being (Eime, et al., 2013; Lee, et al.,2012; Naci & Ioannidis, 2015; WHO, 2010).

Cognizant of its importance, physical fitness workout is included as a subsection of physical education and sports in universities of Ethiopia. Physical fitness workout as well as exercise is a major protective means for most physical, social, spiritual, and occupational-related disorders, laying the base for lifetime wellbeing (Ribeiro& Milanez, 2011). It is essential to identify the different factors (e.g., intrinsic motivation, concern for the perceived value of physical exercise, and social related factors) that affect students' participation in physical exercise workouts (Lewis, et al., 2016; Babic, et al., 2014).

The earlier mentioned positive effects direct to promotional actions in the young population with the greatest impact on the university students and this is also the time that will meaningfully affect their adulthood (Maldari& Garcia, 2021). At this stage, physiological, socio-emotional and habitual modifications will be established (Connor, et al., 2011). As a result of all these changes, there is a decrease in activity and even withdrawal from exercise (Sinclair, Hamlin, & Steel, 2005). The reduction of physical activity varies unevenly by gender, as this decline is revealed more among females (Han, Dinger, Hull, Randall, Heesch, & Fields, 2008).

In the higher education context, motivation is the most important psychological variable that causes arousal, direction, and maintenance or withdrawal from physical exercise (Iker, Josu& Isabel 2021; Dhurup, 2017: Buckworth, Lee, Reganc, Schneiderd, & Di Clemente, 2007), and it's related to intrinsic, identified, introjection, and or external reward (Ryan & Deci, 2000). The level of motivation of students to attend physical exercise workouts influences their participation (Iker et al., 2021).

Statements of the problem

Scholars of different nations have evaluated the motivation level of students towards physical fitness workout and developed intervention strategies' and influenced their motivation. (Cid, 2002; Landry &Solmon, 2004; Kilpatric, Hebert & Bartholomew, 2005; Jorge, Helio& Roland, 2013; Jones, Karageorghis, Lane, & Bishop, 2017; Iker, et al., 2021; Wei-Yang &Chih-Chao, 2019; Jorge, Helio& Roland, 2013). The scientific literature has shown that there is a higher motivation to physical fitness workout (Jorge, Helio& Roland, 2013; Jones, Karageo rghis, Lane, & Bishop, 2017; Iker, et al., 2021). On the other hand, other studies also report lower motivation (Wei-Yang &Chih-Chao, 2019; Jorge, Helio& Roland, 2013).As far as the knowledge of the researcher is concerned, it is one of the least studied issues, particularly in the Ethiopia and sub-Saharan context. Existing studies also measured the motivation of students for physical exercise, fitness and sports without or with limited consideration of the contextual variables of the participants (Kilpatric, Hebert, & Bartholo mew, 2005; Jorge, Soares, & Roland, 2013; Wei-Yang, &Chih-Chao, 2019).

Males are motivated by intrinsic motives while females by extrinsic motives (Egli, Bland, Melton, & Czech, 2011).Other authors found that females got better scores on motivation than males in intrinsic motivations (Telama, and Yang, 2000; Fortier, Vallerand, Briere, & Proven cher, 1995). In the latter study, the females were sportswomen having athletic experience. Thus, it is important to analyze the motivational differences among university students in terms of their gender and other contextual variables. In the students' motivation literature, contextual variables, particularly the motivation to partici pate in physical exercise workouts, in relation to major area and residence status is not studied yet in a university context. In this study, the author addressed these gaps and assessed motivation for physical fitness workouts in relation to four contextual factors.

The main purpose of this study, therefore, was to analyze the motivation of Bahir Dar University first-year undergraduate students for physical fitness workout and contextual differe nces. More specifically, this study aims to answer the following basic research questions.

(1) What is the motivation of first-year undergraduate students for physical fitness workout at Bahir Dar University?

(2) Is there a statistically significant difference in score of first-year

undergraduate students' motivation for physical fitness workout across contextual variables at Bahir Dar University?

Theoretical Framework

In this study, the authors defined motivation according to the notion of Self Determination Theory (SDT), particularly, contextual motivation. From a psychological perspective, contextual motivation refers to one's motives for participating in a more varied set of related activities, such as physical fitness and sports, within a period of time (Ryan, & Deci, 2002). Consistent with this conceptual definition of motivation, we defined students' motivation as a student's motives for physical fitness workout successfully within the context of sports field or gymnasiums.

Self-determination theory of motivation provides some dimensions along with the sports field or gymnasiums context (Ryan, & Deci, 2002). For students, motivation increases persistence in working with challenging physical fitness workouts and has been shown to influence student's performance, interest and commitment, which commonly contribute for the quality fitness service, in higher educational context (Catherine & Ennis, 2017; Holton, & Swanson, 2020; Knowles, Thompson, & Clayton, 2004). Evaluating the motivation of students to physical fitness workouts is critically important to take measures of their overall performance and health.

METHODS

Design

The study employs a cross-sectional survey design. This design was found suitable to achieve its purposes asit allows the author toevaluate and compare many different variables at the same time with little or no additional cost (Rakesh and Priya, 2019). In this study, the author evaluates the motivation of first year undergraduate students for physical fitness workout and compared their motivation for physical fitness workouts across different contextual variables.

Sampling

The participants of this study were first-year undergraduate students enrolled at Bahir Dar University for the 2021–2022 academic years. Before sampling, the authoridentified the total number of students (1860) as well as number of sections (32) in the university (using a sections list collected from the registrar's office). Then, divided the whole sections in to two groups, natural and social science, based on major fields.Then, 15 sections were randomly selected from each group and a total of 323 students were selected as samples of the study by using systematic random sampling techniques. Table 1 summarizes the demographic characteristics of the research participants.

Table1. Demographic Characteristics of Participants Students (n=323).

Contextual variables	Characteristics	Frequency	Percentage
Age	18	13	4
	19	79	24.5
	20	216	66.9
	Above 20	15	4.6
Gender	Male	170	52.6
	Female	153	47.4
Religion	Orthodox	165	51.1
	Islam	78	24.1
	Protestant	60	18.6
	Catholic	17	5.3
	Others	3	.9
Stream	Natural Science	174	53.9
	Social Science	149	46.1
Residence area	Urban	142	44
	Semi Urban	110	34
	Rural	71	22

As shown in Table 1, most of the participants were male students (52.6 %, n = 170), and the rest were female participants (47.4 %, n = 153). Regarding religion, 51.1% (n = 165) and (24.1%, n= 78) of the students were Orthodox Christians and Muslims respectively. In terms of major area, (53% (n = 174) of the participants involved in the study were from natural science while the remaining ones (46.1 %, n = 149) were from the social sciences. In relation to their residence status before joining the university, most of them (44%, n=142) were from the big cities (capital cities of regional states, zones, and city administrations). The remaining (34 %, n=110) and (22 %, n = 71) were from semi Urban (woreda cities) and rural areas respectively.

Data Collection

This study used an adapted version of the Exercise Self-regulation questionnaire (SRQ-E), a standard instrument created by Ryan and Connell (1989), to measure students' motivation for physical fitness workouts. The instrument includes individual student scores on composite measures in 4 dimensions: intrinsic motivation (3 items), identified regulation (6 items), introjection motivation (3), and external regulation (1item). The motivation question items begin with the statement "Please circle the number that best describes the season why you are engaged in physical fitness workout during physical fitness workout?" Student respondents were given scales ranging from 1 (not at all) to 5 (exactly). An example of the intrinsic motivation item reads as follows – 'because I feel good when doing this workout'.

Before data collection, a verbal consent was obtained from the students in their respective sections. After this, the questionnaire survey was distributed to the 323 participant students. All of the distributed questionnaires were collected with responses properly filled in.

With the purpose of understanding the reliability of the survey instrument, a pilot study was conducted on 106 first-year students who were not part of the main study. Since language expert was involved, there was no major correction in words or phrase of the sentences. However, the expected time and the time required to fill the questionnaire was different. Hence, it helped to know the time required in the actual data collection in advances. Based on the results yielded, the observed values of motivation instrument were equal to .89 or the Sig value or the sig value $\alpha = 0.05$, while the test retests reliability values of the instrument were found to be .89. Based on these data, it can be concluded that the instrument was found valid and reliable. So it can be concluded that the test of the instrument have a high level of consis tency in the administration of the tests given.

Data Analysis

In this study, descriptive statistics analysis methods were employed. Specifically, the study uses frequency and percentage to analyze the demographic characteristics of the students and mean to analyze the motivation of the students for physical fitness workout. Besides, based on contextual characteristics, group differences in students' motivation for physical fitness workouts were examined using an independent sample t-test. In doing so, SPSS version 25 software was used.

RESULTS

In order to understand freshman students' motivation for physical fitness workout in Bahir Dar University, descriptive statistics was used. Results obtained in this manner are presented in Table 2.

Table2. Summary Descriptive Result: Students Motivation Variables (n=323)

Motivational Variables	Minimum	Maximum	Mean (SD)
Intrinsic Motivation	1	5	2.97 (±1.01)
Identified Regulation	1	5	3.58 (±1.06)
Introjection Motivation	1	5	2.39 (±1.38)
External Motivation	1	5	2.47 (±1.47)
		Total Average	2.85 (±1.73)

Note. SD= Standard Deviation

Table 2 shows the overall mean of students' motivation level for physical fitness workout. As it can be seen from the table, the overall mean (2.85), with a standard deviation of 1.73, was below the average mean (mean=2.85±1.73). Most of the motivational variables were also below the average mean. Only the mean of identified regulat ion score (3.58), with a standard devi ation of ±1.06, was found a bit higher than the average mean implying that most of the sample students had clearly identified the multidim ensional benefits of physical exercise workout. However, students' motivations for the fitness workout were negatively influenced by intrinsic motivation as well as introjection and external motivation.

Following this, the mean scores across the contextual variables, i.e., gender, religion, major area, and students region of residential status, were compared. The purpose was to test measure whether or not there was a significant statistical difference among each component. The independent t-test results obtained in this regard are presented in Table 3.

As can be seen in Table 3, the mean scores of most motivational variables did not show statistically significant differences as a function of gender (p<.05). This means that there were no significant motivational differences between male and female first year undergraduate students for learning physical fitness workouts.

In relation to religion, there was no statistically significant difference in scores of motivations for physical fitness workout among Orthodox Christian and Muslim students (p<.05). There was, however, a statistically signif icant difference in introjection motivation (p <. 05, Cohen's d = .334) implying that Orthodox Christians were more motivated for physical fitness workout than Muslims in introjection motivation.

Table 3. Summary of Perceived Motivation Scores between Sample Student Participants across Gender, Religion, major area, residence status and (n=323)

Variable	Male (n= 231)	Female (n=170)	*DF*	t value	F	P	Cohen's d
	M (SD)	M (SD)					
IM	3.02 (.93)	2.91(1.09)	321	.95	3.75	.05	.109
IR	3.52 (1.09)	3.64 (1.02)	321	-.93	1.67	.19	-.114
INM	2.55 (1.34)	2.20 (1.42)	321	2.27	1.11	.29	.244
EM	2.56 (1.47)	2.37 (1.46)	321	1.13	1.11	.29	.13
	Orthodox (n= 165)	Muslim (n=78)	*DF*	t value	F	P.	Cohen's d
	M (SD)	(SD)					
IM	3.033 (1.01)	2.75 (1.08)	241	1.96	1.50	.22	.271
IR	3.60 (1.10)	3.46 (.93)	241	.95	3.38	.06	.137
INM	2.50 (1.39)	2.06 (1.24)	241	2.40	4.20	.04*	.334
EM	2.38 (1.46)	2.32 (1.38)	241	.34	2.20	.13	.042
	Natural Science (n= 174)	Social Science (n=149)	*DF*	t value	F	P.	Cohen's d
	M (SD)	M (SD)					
IM	2.96 (1.03)	2.97 (1.00)	321	-.12	.33	.56	-.01
IR	3.52 (1.14)	3.65 (.96)	321	-1.07	5.42	.02*	-.123
INM	2.37 (1.35)	2.41 (1.43)	321	-.27	.99	.32	-.029
EM	2.45 (1.55)	2.49 (1.36)	321	-.22	8.64	.02*	-.027
	Urban (n= 142)	Semi urban (n=71)	t value	F	P.		Cohen's d
	M (SD)	M (SD)					
IM	3.05 (.93)	2.91(1.11)	250	1.06	4.65	.03*	-.13
IR	3.52 (1.06)	3.64 (1.10)	250	-.90	.12	.72	-1.03
INM	2.17 (1.30)	2.54 (1.44)	250	-2.12	2.34	.12	-.27
EM	2.52 (1.50)	2.44 (1.46)	250	.437	.52	.47	.05

Note. IM = Intrinsic motivation, IR = Identified regulation, INM = Introjection motivation, EM = External Motivation, M= Mean, LL = lower limit, UL = Upper limit, SD= Standard Deviation, Significant levels: *p<.05, **p<.01

In terms of major area, there was a statistically significant difference in identified regulation and external motivation (p<.05, Cohen's d= -.123 & -.027). Put differently, students with natural and social science backgrounds were found to have different motivation levels for physical fitness workout only in two motivational variables. Accordingly, the motivation of social science

background students for physical fitness work out was found better than those students from the natural science background. There were no statistically significant differences in the rema ining two motivational variables ($p<.05$).

Concerning residential states of the students, there was no statistically significant difference in most motivational variables among students coming from urban and semi-urban. However, students who came from families living in big cities were found to be more intrinsically motivated to physical fitness workout than those who came from woreda towns ($p<.05$). This indicates that students from big cities were more motivated to physical fitness workout than those who came from woreda towns. This might attribute to their internal feelings.

DISCUSSION

This study examined the motivation of first-year undergraduate students for physical fitness workout and its contextual difference. Unfortunately, as indicated in the results section, the overall mean motivation level of first-year undergraduate students to the exercise under discussion was below the expected mean (2.85). Consequently, the present study has shown that there was no statistically significant difference between students' motivational scoresfor physical fitness workouts across gender, religion and residential area.

Motivation is important factor to be effect tively participating in physical fitness workout. Unfortunately, this study confirmed that the overall mean motivation level of fresh students for physical fitness workout was under expected mean. The finding of this study is similar to previous studies reported by Cruz, (1996), Daley & O'Gara, (1998), Cid, (2002), Landry and Solmon (2004), Kilpatric, Hebert & Bartholomew, 2005Jorge, Helio and Roland (2013), Jones, Karageorghis, Lane, and Bishop, (2017), and Iker, et al., (2021). Contrary, it was inconsistent with the findings reported by Wei-Yang and Chih-Chao (2019), Jorge, Helio and Roland (2013). Besides, it might be also related to psychological, intellectual and emotional difference among the workouts participants (Stewart, Neville, Adrian, James, and Wendy, 2002, Jennifer et al., 2008). Furthermore, behavior and skills of students, the availability of well-furnished exercise facility, and attitude of their society to physical exercise are also among the possible reason associated with motivational difference among workout participants (Stewart, et al., 2002, Jennifer et al., 2008, Seguin et al. (2010).This implies that motivation levels of students for physical fitness related workout are more influenced by external factors than factors related to the students themselves.

In this study, the mean scores of most few motivational variables show significant statistical difference across the students religion, and residential status ($p<.05$). This is not similar to previous research finding. For instance, according to Kilpatric, Hebert and Bartholomew, 2005; Vlachopoulos, 2012; Iker, et al., 2021, males were statistically and significantly more motivated to engage in physical exercise than females. Inversely, other researchers found that females got higher scores in intrinsic motivations than males (Telama& Yang, 2000; Fortier, Vallerand, Brière, &Provencher, 2005). This disparity of results among studies could be linked to age, culture, sexual maturity, and body composition difference (Wickel, Eisenmann &Welk, 2009; Hills, Andersen, and Byrne, 2011; Edward son, Gorely, Pearson, and Atkin, 2012). This indicates that as body composition, fitness, and sexual maturity as well as environment situations changes, the motivation of particular male or female students for physical fitness workout could be changed.

In terms of religion, the present study indicates that there was no statistically significant difference between Orthodox Christ ian and Muslim students. Similar findings were also reported by some researchers. For instance, Reeves, Adams, Dubbert, Hickson, and Wyatt (2012) found a non-significant difference in motivation to participate in physical activity among African American students having different religious backgrounds. Another study conducted by Silfee, Haughton, Lemon, Lora, and Rosal (2019) also underlined a positive association between religious background of students and their inclination to physical activity. Moreover, other scholar also examined the positive contribution of both religious practice and physical fitness workouts in the improvement of health and psychological make-up of individuals (Anderson & Pullen, 2013;

Roh, et al., 2019). The Similarity of results might be related to the influence of both religious practice and fitness workouts for better health behaviors (Maureen, 2012). This implies that religion practice of various religions and physical fitness workout has positive contribution to develop fitness, health and wellness.

In this study, no statistically significant difference was found between students who came from urban and semi-urban residences in motivation for physical fitness workout. However in this study, students from urban areas were more intrinsically motivated for phys ical fitness workout than those who came from semi-urban areas of the county, Ethiopia. A similar research finding was reported by Jorge, María, Santiago, Eugenio, and José (2022). On the contrary, Van(2011) explored a higher rate of physical exercise and sports participation in semi-rural areas than in urban areas in the Netherlands. This difference, as suggested by Keenan (2002), might be related to the physical and socio-ecological differences of the study areas.

As far as major area is concerned, the prese nt study has shown that there was a statist ically significant difference between natural and social science background students. The differe nce, however, is only in two motivational varia bles: identified regulation and external motiva tion. As indicated in the results section, no differences were found in the remaining two motivational variables. There have not been studies conducted on this specific context so far. This indicates that the influences of academic discipline or inclination on motivation of stud ents to physical fitness workout were not clearly known. Hence, further investigation is needed across different major area.

Study Limitation

One of the limitations of this study is that the analysis is mainly depending on results from an independent sample t-test. The other limitation of this study was the inclusion of students in a single university. Hence, the motivation, and contextual characteristics of the students may not capture those found in another university of the country. Another limitation of the study is the focus on physical fitness workout. This fails to capture theoretical part of physical fitness course. Future research may wish to examine other indices of physical fitness course in the higher education setting. The other limitation of the study was that due to some reasons, other contextual variables of the students such as age, disability, ethnicity, region, language, and others are not considered in the comparison. Thus, further study is needed regarding the absence or presence of significant difference across different contextual variables

Conclusions and Implications

Motivation is the major psychological factor for active participation and success of student's physical fitness workout. In line with this, understand the motivation level of students for physical fitness workouts is primarily important to design well specific interventions to help them to meet their personal goals, to influence the performance of their instructor in a positive way and to keep the quality of instruction as a whole. Hence, the aim of this study was to evaluate the motivation of fresh students for physical fitness workout and its relation with contextual factors at Bahir Dar University.

Based on the results of the present study, the following conclusions are drawn. Fresh students' motivation for physical fitness workout measured on a 5-point Likert scale was below the average mean. Moreover, there was no significant statistical difference in most contextual variables of the students. Under average motivation for learning the workout is mainly related to introjection and external motiv ation. Consequently, there was no statistically significant difference in most motivational varia bles across gender, religion and residence area difference among the students.

The results of the present study have far-reaching implications. The results, for instance, suggest the need to improve students' motiva tion for physical fitness workout in higher educa tion. For this purpose, it is highly advisable to maximize the quality of physical fitness instruct ion. This, in turn, requires the improvement of instructor's pedagogical competence, better supply of physical fitness facilities, and the impl ementation of workout programs that aimed at strengthening the quality of variables related to motivations.

This study also implies the need to conduct further studies on the issue at hand. Though the present study has brought important lessons vis-à-vis the motivation of freshman students for physical fitness workout, its generalizability is limited at it was conducted only in one univer sity with a sample size of 323 students. Hence, in order to increase the generalizability of the present findings and, perhaps, to broaden our understanding of the issue at hand, it is necessa ry to conduct similar studies targeting more universities and better sample size. Future resea rch should also examine the relationship betwe en students' motivation to physical fitness exerci se and educational quality. Besides, it should give due attention for the investigation of the relationship between student motivation for physical fitness workout and instructors performance.

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