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# PHYSICAL ACTIVITY MOTIVE OF COLLEGE STUDENTS: FACTORIAL MOTIVATION FOR HEALTH EXTENSION WORKERS

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## ABSTRACT

*Lifetime physical fitness and wellness could be successful with individual regular physical activity and exercising power of self-determination under physical activity motive, which could require calorie utilization for fitness and healthy lifestyle, whiles physical activity under exercise motive could be linked to public health that relates to utilization of macro-&-micro-nutrients for improved healthy lifestyle. This study aimed at scoring measured and evaluated physical activity motive of college students: factorial motivation for health extension workers. Motive for Physical Activity Measure-Revised Questionnaire (MPAM-RQ) was the survey instrument adopted. IBM-SPSSv.23 Statistics analyzed variables, with mean and standard deviation age of 28.5±9.5, response rate of 100%, sampled participants of N=500, ranged from 19-38 years, selected through simple random sampling method. Significant differences were tested at $p<0.05$, with highest scores recorded as follows: Enjoyment: females (10.92±4.574), Competence: females (15.14±6.167), Appearance: females (10.70±4.992), Fitness: females (8.56±4.371) and Social: females (9.26±2.515). That more males than females were favoured in the survey. That majority of participants responded to appearance motive, followed by fitness motive, which however displayed evidence of self-determination motive for physical activity for lifetime motor fitness skill development and wellness. It was recommended that college administrators, clinicians, physical and public health educators should jointly collaborate in motivating college students especially undergraduates to offer modules relating to lifetime physical fitness and wellness programmes for healthy lifestyle.*

***Keywords:*** *Physical activity, physical education, health extension and health education.*

## 1. INTRODUCTION

In health extension under public health education, physical activity is a major factor in dealing with preventive health issues for individuals in the global index. Sierra Leone is no exception and could be expressed in variety of ways. Physical activity could be expressed as human movement(s) trajected by musculoskeletal systems. When it is undertaken regularly from moderate to vigorous, devoid of injuries to tissues of muscles, ligaments, tendons, joints and bones. It could improve physiological and psychological health, which is of significance to the holistic wellbeing of individuals. It could be more positive and productive as well as functional if due attention and recognition is accorded the teaching and learning of physical health education in schools and colleges to improve physical activity literacy level (Bebeley, Laggao, & Tucker, 2017a; Tucker, Bebeley, & Laggao, 2017a; Tucker, Bebeley, & Conteh, 2017b; Bebeley, 2016a,b,c,d).

Physical activity under wellness acquisition, could be linked to public health and physical education with determinant factors (personal, social and environmental) that could deal with

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human movement(s) of musculoskeletal systems and calorie utilization for improved and sustainable physiological, psychosocial fitness and healthy lifestyle (Bebeley, Liu, & Wu, 2017d; Bebeley, Liu, & Wu, 2017e; Bebeley, Liu, & Wu, 2017f; Bebeley, Wu, & Liu, 2017g; Tucker, et al. 2017a,b).

Physical activity under skill training could require basic aerobic endurance training for children, adolescents, youths and adults for effective approach in improvement of maximum volume of oxygen for sustainable physical activity and fitness development. It could be implemented in schools and colleges especially undergraduates, thereby propelling pupils and students to functional movement skills and screening, designed in physical health education for improving physical fitness motor skill components of speed, agility, reaction time and power. Focusing on advantages, motive, behavioural regulation, self-efficacy and weekly leisure time spent on physical activity during childhood, adolescent age, adulthood and old age (Tucker et al., 2017a,b; Bebeley, Wu, & Liu, 2017b,c,g; Bebeley et al., 2017d,e,f; Bebeley, 2015).

Physical activity is a major player in the development of physical fitness, which could be linked to a well-structured, organized, planned and technically executed physical exercise with bearing to circuit training, which could require maximum volume of oxygen, calorie utilization for fitness, healthy-lifestyle, reduction in cardiovascular related sicknesses and mortality (Bebeley et al., 2017d,e,f,g). Physical activity being an essential element under public health education, if utilized regularly with the required utilization of kilocalories from macro-and-micro nutrients, will greatly help individuals in maintaining healthy lifestyle, decreasing obesity and cardiovascular related sicknesses and mortality (Bebeley, Conteh, & Gendemeh, 2018a; Tucker, Bebeley, & Conteh, 2018; Tucker et al., 2017b; Bebeley et al. 2017g).

In another development, physical activity favoured by autonomy in self-determination for wellness and motor fitness skill development. It could be complemented by mandatory institution of programs such as- seminars and workshops. Discussions, adopting and allotting enough time to teaching and learning of physical health education before graduation to help improve and guarantee motivational level in physical activity and motor fitness skill development as one of the fundamental factors that could help greatly with sustainable future participation in physical activity for children, adolescents, youths as well as adults (Bebeley et al., 2017a; Laggao, Bebeley, & Tucker, 2017; Bebeley, 2016a,b,c,d; Bebeley & Laggao, 2011).

Motivation as a key player in sustainability of physical activity, could be linked to the science of psychology that deals with internal process (intrinsic motivation) and external process (extrinsic motivation), with factors of nature i.e. inborn tendencies acquired by individuals before birth - innate abilities and nurture i.e. environmental tendencies acquired by individuals after birth that could have the ability, power, focus, intellect and potential to initiates, ignites, guides, maintains goal-oriented physical activity and explain behaviours that involves holistic forces (emotional, social and cognitive) that activate behavioural direction of individual desires, needs and actions, including psychomotor learning (physique i.e. physical activity), affective learning (moral i.e. abstinence) and cognitive learning (intelligence quotient i.e. knowledge acquisition) (Bebeley et al., 2017f,g; Tucker et al., 2017a,b). Hence, in determining individual motivation for physical activity (PA) and motor fitness skill development, health professionals i.e. clinicians, physical and public health educators, could apply this knowledge to inform and promote awareness, develop effective and efficient initiative that could motivate the general public especially children, adolescents, youths and adults to frequently and constantly engage in PA for improved motor fitness skill development (Bebeley et al., 2017d,e,f,g) sound mind and healthy body by adhering to some health education principles of practicing abstinence from: eating disorders (anorexia nervosa, bulimia nervosa and binge eating disorders), non-usage of drugs (cigarette smoking, alcohol consumption and performance enhancing drugs), diseases associated with unsafe sexual practices (HIV/AIDS, syphilis and gonorrhea), (Bebeley, Laggao, & Tucker,

2017ci; Bebeley, Wu, & Liu, 2016ciii; Bebeley, Wu, & Liu, 2016cii) understanding about: knowing and monitoring of vital signs (heart rate, blood pressure and body mass index), preventing sport injuries (achilles tendinitis, runner's knee/patellofemoral pain syndrome and shin splints), health literacy level of asthma (due environmental, physical and medical conditions), health literacy level of muscle atrophy (due physical, medical and exercise factors), contraindications of muscle weakness (due central fatigue, peripheral fatigue and lactic acid), health education literacy level of stress (due cognitive, emotional and physical factors), physical education literacy level (due developmental, humanistic and fitness factors), measurement level of (maximum volume of oxygen consumption), effects of (physical education programme on motor fitness), physical literacy level (due locomotor-&-body, sending and receiving skills) and pupils' knowledge level about the contraindications of cardiovascular diseases of the heart (dilated cardiomyopathy, hypertensive heart disease and pulmonary heart disease), (Bebeley, Laggao, & Tucker, 2017cii; Bebeley, Wu, & Liu, 2016ci; Bebeley, 2016a,b,c,d; Bebeley et al. 2017a; Bebeley, 2015; Bebeley & Laggao, 2011; Laggao et al., 2017; Bebeley, Laggao, & Tucker, 2017) which not only increase advantages (pros.), motive, behavioural regulation, self-efficacy and weekly leisure time spent on physical activity, but also help individuals, communities, environment and the public to control and reduce obesity, lifestyle-related sicknesses and mortality (Bebeley et al., 2017b,c,d,e,f,g).

This study aimed at scoring measured and evaluated physical activity motive of college students: factorial motivation for health extension workers, by maintaining healthy lifestyle and reducing cardiovascular related sicknesses and mortality amongst college students, cased at Njala University and Eastern Polytechnic in Sierra Leone.

## 2. METHODS AND MATERIALS

### 2.1 Respondents

The survey sampled participants of N=500, with mean and standard deviation age of 28.5±9.5 with 100% response rate, with age ranged from 19-38 years, selected mainly amongst undergraduates, from two tertiary institutions, using a process of simple random sampling (SRS) method.

### 2.2 Instrumentation

Motives for Physical Activity Measure-Revised Questionnaire (MPAM-RQ) was used, with evidence of previous research supporting its internal consistency, validity and reliability examining physical activities and associated outcomes (Fredrick & Ryan, 1993).

### 2.3 Procedure

Participants were tested and scored individually within their respective campuses alongside the instructions provided for by the survey instrument, using application software like census survey entry and processing (CSEntry. and CSPro.) installed in smart phones, tablets and computers.

### 2.4 Analysis

Descriptive statistics test, Analysis of Variance (ANOVA), *t*-test, Chi-Square and Partial correlations tests from IBM-SPSSv.23 Statistics were used to compute, analyze and compare survey findings at significant value $p<0.05$, with Cronbach's Alpha Reliability (0.945).

## 3. RESULTS

**Table 1: Descriptive frequency – physical activity motive by sex (N=500)**

| Physical Activity Motive | | Descriptive Frequency Test | | | | |
|---|---|---|---|---|---|---|
| | | *Enjoyment Motive* | *Competence Motive* | *Appearance Motive* | *Fitness Motive* | *Social Motive* |
| Males | N | 392 | 392 | 392 | 392 | 392 |
| | % | 78.4 | 78.4 | 78.4 | 78.4 | 78.4 |
| | Mean | 9.37 | 11.68 | 8.05 | 6.04 | 8.76 |
| Females | N | 108 | 108 | 108 | 108 | 108 |
| | % | 21.6 | 21.6 | 21.6 | 21.6 | 21.6 |
| | Mean | 10.22 | 13.69 | 9.67 | 7.60 | 8.90 |

Key differences observed in descriptive frequency statistics tests of physical activity motive by sex, were recorded with competence motive scoring highest geometric and arithmetic mean of males (11.68 and 13.19±6.338) and females (13.69 and 15.14±6.167) in tables 1 & 2.

**Table 2: Descriptive statistics – physical activity motive by sex (N=500)**

| Physical Activity Motive | | Descriptive Statistics Test | | | | |
|---|---|---|---|---|---|---|
| | | *n* | *Mean* | *Standard Deviation* | *95%-CI-Mean Lower* | *Upper* |
| Enjoyment | Males | 392 | 9.74 | 3.316 | 9.42 | 10.07 |
| | Females | 108 | 10.92 | 4.574 | 10.04 | 11.79 |
| Competence | Males | 392 | 13.19 | 6.338 | 12.56 | 13.82 |
| | Females | 108 | 15.14 | 6.167 | 13.96 | 16.32 |
| Appearance | Males | 392 | 8.58 | 3.519 | 8.23 | 8.93 |
| | Females | 108 | 10.70 | 4.992 | 9.75 | 11.66 |
| Fitness | Males | 392 | 6.49 | 3.025 | 6.19 | 6.80 |
| | Females | 108 | 8.56 | 4.371 | 7.73 | 9.40 |
| Social | Males | 392 | 9.14 | 2.459 | 8.89 | 9.38 |
| | Females | 108 | 9.26 | 2.515 | 8.78 | 9.74 |

***Note: CI=Confidence Interval***

Significant scores observed in ANOVA, *t*-test, chi-square and partial correlations of physical activity motive by sex were recorded as follows: Fitness Motive $F_{(1,498)} = 32.132$, $t(-5.669)$ and Appearance Motive $F_{(1,498)} = 25.352$, $t(-5.035)$, significant only at 0.05 level, and that enjoyment and competence motives recorded complete form of positive correlations in tables 3, 4, 5 & 6.

**Table 3: Analysis of variance – physical activity motive by sex (N=500)**

| Physical Activity Motive | | Analysis of Variance Test | | | |
|---|---|---|---|---|---|
| | | *Sum of Squares* | *Mean Square* | *F* | *Sig.* |
| Sex | Enjoyment Motive | 116.258 | 116.258 | 8.854 | .003 |
| | Competence Motive | 322.003 | 322.003 | 8.108 | .005 |
| | Appearance Motive | 382.211 | 382.211 | 25.352 | <.001 |
| | Fitness Motive | 362.782 | 362.782 | 32.132 | <.001 |
| | Social Motive | 1.303 | 1.303 | .213 | .644 |

*Note: $df_1=1$; $df_2=498$*

**Table 4: Equality of means – physical activity motive by sex (N=500)**

| Physical Activity Motive | | Equality of Means t-Test | | | | | |
|---|---|---|---|---|---|---|---|
| | | *t* | *df* | *Sig. (2-tailed)* | *Mean Difference* | *95%-CI Lower* | *Upper* |
| Sex | Enjoyment Motive | -2.976 | 498 | .003 | -1.172 | -1.945 | -.398 |
| | Competence Motive | -2.848 | 498 | .005 | -1.950 | -3.296 | -.605 |
| | Appearance Motive | -5.035 | 498 | <.001 | -2.125 | -2.954 | -1.296 |
| | Fitness Motive | -5.669 | 498 | <.001 | -2.070 | -2.787 | -1.352 |
| | Social Motive | -0.462 | 498 | .644 | -.124 | -.652 | .404 |

*Note: critical-value=1.960*

**Table 5: Pearson chi-square – physical activity motive by sex (N=500)**

| Physical Activity Motive | | Pearson Chi-Square Tests | | |
|---|---|---|---|---|
| | | *Chi-Square* | *df* | *Sig.* |
| Sex | Enjoyment Motive | 20.495 | 12 | .058* |
| | Competence Motive | 20.801 | 12 | .053* |
| | Appearance Motive | 36.783 | 10 | <.001* |
| | Fitness Motive | 35.087 | 8 | <.001* |
| | Social Motive | 17.928 | 10 | .056 |

**Chi-Square statistics is significant at .05 level.*

**Table 6: Partial correlations – physical activity motive by sex (N=500)**

| Physical Activity Motive | | | Partial Correlations Test | | | | |
|---|---|---|---|---|---|---|---|
| | | | *Enjoyment Motive* | *Competence Motive* | *Appearance Motive* | *Fitness Motive* | *Social Motive* |
| Sex | Enjoyment | Correlations | 1 | | | | |
| | | Sig. (2-tailed) | . | | | | |
| | Competence | Correlations | .387 | 1 | | | |
| | | Sig. (2-tailed) | <.001 | . | | | |
| | Appearance | Correlations | .666 | .441 | 1 | | |
| | | Sig. (2-tailed) | <.001 | <.001 | . | | |
| | Fitness | Correlations | .680 | .441 | .920 | 1 | |
| | | Sig. (2-tailed) | <.001 | <.001 | <.001 | . | |
| | Social | Correlations | .224 | .330 | -.020 | -.095 | 1 |
| | | Sig. (2-tailed) | <.001 | <.001 | .660 | .034 | . |

## 4. DISCUSSION

Physical activity motive of college students' self-determination (enjoyment, competence, appearance, fitness and social), is a subset of physical health education (PHED) regarding lifetime physical fitness and wellness (Bebeley et al., 2017b). Under appearance motive, physical activity of college students shows that, greater majority of respondents do physical activity because of physical appearances, which is about maintaining physical dexterity (appearance motive) as a motivational factor for physical activity (Bebeley et al., 2017b). Under fitness motive, physical activity of college students shows that, majority of respondents do physical activity because of physical fitness, which focuses on maintaining lifetime body fitness (fitness motive) as a motivational factor for physical activity (Bebeley et al., 2017b). Under competence motive, physical activity of college students shows that, some respondents do physical activity because of professionalism, which is about maintaining professional skills (competence motive) and it is a motivational factor for physical activity (Bebeley et al., 2017b). Under enjoyment motive, physical activity of college students also shows that, some respondents do physical activity because of

interest, which is a key player in maintaining stimulus of participation (enjoyment motive), thus, a motivational factor for physical activity (Bebeley et al., 2017b). Under social motive, physical activity of college students shows that, some respondents do physical activity due to socialization, which is linked to societal interaction (social motive) as a motivational factor for physical activity (Bebeley et al., 2017b).

## 5. CONCLUSION

That males more than females were favoured in the survey. That majority of participants responded to appearance motive, followed by fitness motive, competence motive, enjoyment motive and social motive, which however displayed evidence of self-determination motive of physical activity for lifetime fitness, motor skill development and wellness. It was recommended that, college administrators, clinicians, physical and public health educators should jointly collaborate in motivating college students especially undergraduates to offer modules relating to lifetime physical activity, fitness and wellness programs for prevention of obesity, cardiovascular related diseases and for healthy lifestyle.

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