



## UNDERSTANDING COLLEGE STUDENTS PHYSICAL ACTIVITY DECISION: MOTIVATIONAL FOCUS FOR PHYSICAL ACTIVITY EPIDEMIOLOGY.

### Public Health Education

<b>Samuel Joseph Bebeley*</b>	PhD, Department of Human Kinetics and Health Education, School of Education, Njala University, Sierra Leone.*Corresponding Author
<b>Samuel Augustine Laggao</b>	PhD, Department of Human Kinetics and Health Education, School of Education, Njala University, Sierra Leone.
<b>Michael Conteh</b>	Department of Human Kinetics and Health Education, School of Education, Njala University, Sierra Leone.

### ABSTRACT

**Background:** Physical activity being named by WHO and CDC as a public health factor could be more successful with individual regular exercises ranged from mild, moderate or vigorous under physical activity decision of transtheoretical model, through the utilization of macro-&-micro-nutrients for a healthy lifestyle. Thereby emphasizing on promoting the social, physical, moral and intellectual abilities of individuals. This study aimed at scoring measured and evaluated decision of understanding college students' physical activity: motivational focus for physical activity epidemiology.

**Methods:** Decisional Balance Scale Questionnaire (DBSQ) was the survey instrument adopted. IBM-SPSSv.23 Statistics analyzed variables, with mean and standard deviation age (28.5±9.5), response rate (100%), and with sampled participants (N=500), ranged from (19-38) years, selected through simple random sampling (SRS) method.

**Results:** Significant differences were tested at ( $P < 0.05$ ), with highest scores recorded as follows: Wellness Advantage: females (5.23±2.632), Fitness Advantage: females (3.58±1.752), Psych Disadvantage: males (7.98±1.753) and Stress Disadvantage: males (4.76±1.673).

**Conclusion and Recommendation:** That majority of the students responded to wellness advantage decision to physical activity, followed by fitness advantage. That more males than females were favoured in the research. That transtheoretical model decision for physical activity alongside lifetime motor fitness skill development and wellness was evidenced. It was however, recommended that college administrators, clinicians, physical activity epidemiologists, exercise physiologists and public health educators should jointly collaborate in motivating students to offer modules relating to lifetime physical fitness and wellness for healthy lifestyle before graduation.

### KEYWORDS

Health Education, Physical Activity, Physical Education and Public Health

### 1. INTRODUCTION

Physical activity under physical activity epidemiology and public health education, is a major player in issues of preventive health regarding individual physical inactivity in the global index of which college students are no exception and if not executed regularly could pose a significant threat of but not limited to cardiovascular related diseases and can be talked about in variety of ways. Physical activity being a subcategory of physical education (education of and through the physical) is an educational system that enlightens students about the physique of human movements, which is produced by musculoskeletal systems, and when undertaken regularly from mild, moderate, to vigorous, improves not only physiological, but also psychosocial health and wellness (intellectual, spiritual and social) of individuals.<sup>[12][13][14][20][23][8]</sup> Physical activity favoured by autonomy in self-determination for wellness and motor fitness skill development rather than rewards, threats and coarse could help improve greatly motivational level of individuals in physical activity and motor fitness skill development with respect to sustainable growth alongside advantages (pros.), motive, behavioural regulation, self-efficacy and weekly leisure time spent on physical activity, which could be complemented by mandatory institution of programmes, seminars, workshops, discussions, adopting and allotting enough time to teaching & learning of physical health education before graduation to guarantee motivation in physical activity and motor fitness skill development as one of the fundamentals in sustainable physical activity for children, adolescents, youths as well as adults i.e. young, old and aged.<sup>[9][21][4][21][1][3][8]</sup>

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).<sup>[14][20][23][24]</sup>

Hence, in determining individual motivation for physical activity (PA) and motor fitness skill development, health professionals i.e. clinicians, physical and public health educators, and physical activity epidemiologists, could apply this knowledge to make informed judgement 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 physical activity for improved motor fitness skill development,<sup>[12][13][14][20][25]</sup> 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 Gonorrhoea),<sup>[10][16][18]</sup> 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), and Physical Literacy level (due Locomotor-&-Body, Sending and Receiving Skills),<sup>[11][15][11][21][4][9][9][5][8][21]</sup> 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 diseases and mortality.<sup>[19][17][12][13][14][20][6][7]</sup>

Physical activity under skill training development and workout could

require basic aerobic endurance training for pediatrics, adolescents, youths, adults and geriatrics for effective approach in improvement of maximum volume of oxygen for sustainable physical activity and fitness development, which could be implemented in schools and colleges especially undergraduates, thereby propelling 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 (pros.), motive, behavioural regulation, self-efficacy and weekly leisure time spent on physical activity during childhood, adolescent, adulthood and old age.<sup>[23][7][19][17][12][13][14][20][5]</sup> 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 fitness exercise with bearing to circuit training, which requires maximum volume of oxygen and calorie utilization for healthy-lifestyle, reduction in cardiovascular related diseases and mortality.<sup>[12][13][14][20]</sup>

Physical activity being an essential element under physical activity epidemiology and 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 diseases and mortality.<sup>[8][6][25][24][20][7]</sup> Physical activity under wellness acquisition, could be linked to physical activity epidemiology and public health education with determinant factors (personal, social and environmental) that could deal with human movements of musculoskeletal systems and calorie utilization for improved and sustainable physiological, psychosocial fitness and a healthy-lifestyle.<sup>[12][13][14][20][23][7]</sup> And that physical activity devoid of sedentary lifestyle could be expressed as human movements trajected by musculoskeletal systems, which when undertaken regularly from mild, moderate, to vigorous, devoid of injuries to tissues of muscles, ligaments, tendons, joints and bones, could improve physiological and psychological health, which is of significance to the holistic wellbeing of individuals, and could be more positive, productive, effective, efficient, fruitful and functional if due attention and significant recognition is accorded the teaching and learning of physical health education in schools and colleges to improve physical activity literacy level.<sup>[9][23][24][4][2][1][3]</sup>

This study aimed at scoring measured and evaluated decision of understanding college students' physical activity: motivational focus for physical activity epidemiology, looking at reducing cardiovascular related diseases and mortality amongst college students, cased at Njala University and Eastern Polytechnic, Sierra Leone.

**2. MATERIALS AND METHODS**

**Respondents**

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

**Instrumentation**

Decisional Balance Scale Questionnaire (DBSQ) was the survey instrument used, with evidence of validity alongside internal consistency and test-retest reliability whose internal consistency coefficients were acceptable for the pros and cons over the three time periods.<sup>[22]</sup>

**Procedure**

Research participants were tested and scored individually on campus alongside the procedural instructions provided for by the research instrument, using census survey entry and processing (CSEntry. & CSPro.) application software installed in smart phones, tablets and computers.

**Analysis**

Descriptive Statistics Test, Analysis of Variance (ANOVA) Test, T-Test, Chi-Square Test and Partial Correlations Test from IBM-SPSSv.23 Statistics were used to compute, analyze and compare survey findings with Cronbach's Alpha Reliability (0.592) at significant value P<0.05.

**3. RESULTS**

Key differences observed in descriptive statistics of physical activity decision by sex, were recorded with psych disadvantage scoring

highest geometric and arithmetic mean of males [(7.70) & (7.98±1.753)] and females [(6.86) & (7.36±2.290)] in tables 1&2.

**Table 1: Descriptive Frequency – Physical Activity Decision by Sex (N=500)**

Physical Activity Decision	Descriptive Frequency Test				
	Wellness Advantage	Fitness Advantage	Psych Disadvantage	Stress Disadvantage	
Males	n	392	392	392	392
	%	78.4	78.4	78.4	78.4
	Mean	3.67	2.59	7.70	4.37
Females	n	108	108	108	108
	%	21.6	21.6	21.6	21.6
	Mean	4.65	3.19	6.86	3.95

**Table 2: Descriptive Statistics – Physical Activity Decision by Sex (N=500)**

Physical Activity Decision	n	Descriptive Statistics Test				
		Mean	Standard Deviation	95%-CI-Mean		
				Lower	Upper	
Wellness Advantage	Males	392	3.97	1.901	3.78	4.16
	Females	108	5.23	2.632	4.73	5.73
Fitness Advantage	Males	392	2.81	1.300	2.68	2.94
	Females	108	3.58	1.752	3.25	3.92
Psych Disadvantage	Males	392	7.98	1.753	7.81	8.16
	Females	108	7.36	2.290	6.92	7.80
Stress Disadvantage	Males	392	4.76	1.673	4.59	4.92
	Females	108	4.40	1.829	4.05	4.75

Note: CI=Confidence Interval

Significant differences observed in ANOVA, t-test, chi-square tests and partial correlations of physical activity decision by sex were recorded as follows: Wellness Advantage F(1,498) = 31.058, t(-5.573) and Fitness Advantage F(1,498) = 25.588, t(-5.058), significant only at 0.05 level, and that all variables recorded singular form of positive correlations in tables 3,4,5&6.

**Table 3: One-way ANOVA - Physical Activity Decision by Sex (N=500)**

Physical Activity Decision	Descriptive Statistics Test				
	Sum of Squares	Mean Square	F	Sig.	
Sex	Wellness Advantage	134.328	134.328	31.058	<.001
	Fitness Advantage	50.811	50.811	25.588	<.001
	Psych Disadvantage	32.656	32.656	9.231	.003
	Stress Disadvantage	10.789	10.789	3.699	.003

Note: df1=1; df2=498

**Table 4: t-Test for Equality of Means – Physical Activity Decision by Sex (N=500)**

Physical Activity Decision	Equality of Means t-Test						
	t	df	Sig. (2-tailed)	Mean Difference	95%-CI Lower Upper		
Sex	Wellness Advantage	-5.573	498	<.001	-1.260	-1.704	-.815
	Fitness Advantage	-5.058	498	<.001	-.775	-1.076	-.474
	Psych Disadvantage	3.038	498	.003	.621	.219	1.023
	Stress Disadvantage	1.923	498	.055	.357	-.008	.722

Note: Critical-Value=1.960

**Table 5: Pearson Chi-Square – Physical Activity Decision by Sex (N=500)**

Physical Activity Decision	Pearson Chi-Square Tests			
	Chi-Square	df	Sig.	
Sex	Wellness Advantage	30.684	5	<.001*
	Fitness Advantage	27.944	4	<.001*
	Psych Disadvantage	13.941	6	.030*
	Stress Disadvantage	06.340	4	.175*

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

Table 6: Partial Correlations – Physical Activity Decision by Sex (N=500)

Physical Activity Decision			Partial Correlations Test			
			Wellness Advantage	Fitness Advantage	Psych Disadvantage	Stress Disadvantage
Sex	Wellness	Correlations	1			
		Sig. (2-tailed)	.			
	Fitness	Correlations	.908	1		
		Sig. (2-tailed)	<.001	.		
	Psych	Correlations	-.512	-.480	1	
		Sig. (2-tailed)	<.001	<.001	.	
	Stress	Correlations	-.324	-.300	.775	1
		Sig. (2-tailed)	<.001	<.001	<.001	.

#### 4. DISCUSSION

Understanding college students physical activity decision that is transtheoretically based (advantages and disadvantages) under physical activity epidemiology, is an aspect of a model design to measure physical activity (PA) regarding lifetime physical fitness and wellness decision.<sup>[12]</sup> Under wellness advantage, college students' physical activity epidemiology shows that, greater majority of respondents do physical activity because of physical wellness, which is about maintaining physical wellbeing as a motivational factor for physical activity.<sup>[12]</sup> Under fitness advantage, college students' physical activity epidemiology shows that, majority of respondents do physical activity because of physical fitness, which focuses on maintaining lifetime body fitness as a motivational factor for physical activity.<sup>[12]</sup> Under psych disadvantage, college students' physical activity epidemiology shows that, some respondents refuse to do physical activity because of the psycho attitude people associate with it, and it is a none-motivational factor for physical activity.<sup>[12]</sup> And under stress disadvantage, college students' physical activity epidemiology also shows that, some respondents refuse to do physical activity because of it stressful nature, which is another none-motivational factor for sustainable physical activity amongst college students.<sup>[12]</sup>

#### 5. CONCLUSION AND RECOMMENDATION

That majority of the students (more males compare to females favoured in the survey) responded to wellness advantage, followed by fitness advantage, psych and stress disadvantages, which however displayed evidence of college students' physical activity epidemiological decision of transtheoretical model for lifetime fitness, motor skill development and wellness. It was recommended that, college administrators, clinicians, physical activity epidemiologists, exercise physiologists, physical and public health educators should jointly motivate college students especially undergraduates to take part in lifetime physical activity in order to minimize disadvantages and maximize advantages for prevention of obesity, cardiovascular related diseases and for a healthy lifestyle.

#### REFERENCES

- Bebeley, S. J. 2016c. Adolescents' Health Literacy Level of Asthma due Environmental, Physical and Medical Conditions; PARIPEX-Indian Journal of Research: 5(6), 7-9.
- Bebeley, S. J. 2016b. Adolescents' Health Literacy Level of Muscle Atrophy due Physical, Medical and Exercise Factors; PARIPEX-Indian Journal of Research 5(5), 7-9
- Bebeley, S. J. 2016d. Adolescents' Health Education Literacy Level of Stress due Cognitive, Emotional and Physical Factors; PARIPEX-Indian Journal of Research: 5(7), 19-21.
- Bebeley, S. J. 2016a. Adolescents' Knowledge about the Contraindications of Muscle Weakness due Central Fatigue, Peripheral Fatigue and Lactic Acid as Health Education Strategy in Lifestyle Management; PARIPEX-Indian Journal of Research 5(4), 2-4
- Bebeley, S. J. 2015. An Investigation into the Measurement Level of Maximum Volume of Oxygen Consumption Using Cooper 12-Minutes Run-Test; Journal of Exercise Science and Physiotherapy: 11(2), 65-75.
- Bebeley, S. J., Conteh, M. & Gendemeh, C. 2018a. Physical Activity amongst College Students: Motivational Requisite for Public Health Education of Behavioural Regulation in Exercise; International Journal of Scientific Research: 7(3), 254-256.
- Bebeley, S. J., Conteh, M. & Laggao, S. A. 2018b. Physical Activity Motive of College Students: Factorial Motivation for Health Extension Workers; Journal of Physical Education Research: 5(3), 1-7.
- Bebeley, S. J. & Laggao, S. A. 2011. Effects of Six-Month Physical Education Programme on Motor Fitness of Primary School Pupils in Sierra Leone; Journal of Nigeria Association for Physical, Health Education, Recreation, Sport and Dance: 2(1), 100-106.
- Bebeley, S. J., Laggao, S. A. & Tucker, H. J. 2017a. Adolescents' Physical Education Literacy Level due Developmental, Humanistic and Fitness Factors; IOSR Journal of Sports and Physical Education (IOSR-JSPE): 4(2), 15-18.
- Bebeley, S. J., Laggao, S. A. & Tucker, H. J. 2017ci. Athletes Abstinence Knowledge from Eating Disorders as Health Education Method in Decreasing Unhealthy Ageing with Reference to Physical & Mental Health; Journal of Exercise Science & Physiotherapy: 13(1), 8-22.
- Bebeley, S. J., Laggao, S. A. & Tucker, H. J. 2017cii. Knowledge of University Athletes about Knowing and Monitoring of Vital Signs as Preventive Strategy in Reducing Early and Unsuccessful Ageing; Journal of Exercise Science and Physiotherapy: 13(1), 31-52.
- Bebeley, S. J., Liu, Y. & Wu, Y. 2017d. Decisional Balance Scale for College Students' Level of Motivation in Physical Activity; Global Journal for Research Analysis: 6(7), 453-455.
- Bebeley, S. J., Liu, Y. & Wu, Y. 2017e. Physical Exercise Self-Efficacy for College

Students' Level of Motivation in Physical Activity; International Journal of Science and Research: 6(8), 81-85.

- Bebeley, S. J., Liu, Y. & Wu, Y. 2017f. Weekly Leisure Time Exercise for College Students' Level of Motivation in Physical Activity: A Concern for Physical and Public Health Education; International Journal of Scientific Research: 6(9), 651-654.
- Bebeley, S. J., Wu, Y. & Liu, Y. 2016ci. Athletes' Knowledge about Preventing Sports Injuries as Prime Prevention Strategies in Slowing Ageing Process; Journal of Exercise Science and Physiotherapy: 12(1), 25-37.
- Bebeley, S. J., Wu, Y. & Liu, Y. 2016cii. Athletes' Knowledge about the Non-Usage of Drugs as Prime Prevention Strategies in Slowing Ageing Process; Journal of Exercise Science and Physiotherapy: 12(1), 57-68.
- Bebeley, S. J., Wu, Y. & Liu, Y. 2017c. Behavioural Regulation In Exercise For College Students' Level Of Motivation In Physical Activity; International Journal of Scientific Research: 6(6), 580-583.
- Bebeley, S. J., Wu, Y. & Liu, Y. 2016ciii. Knowledge of Njala Campus Athletes about Abstinence from Diseases Associated with Unsafe Sexual Practices aimed as Primary Prevention Strategy in Minimizing the Process of Ageing; Journal of Exercise Science and Physiotherapy 12(1), 42-56.
- Bebeley, S. J., Wu, Y. & Liu, Y. 2017b. Motives for Physical Activity for College Students' Level of Motivation in Physical Activity; International Journal of Science and Research: 6(5), 2377-2382.
- Bebeley, S. J., Wu, Y. & Liu, Y. 2017g. Motivational Level of College Students' in Physical Activity: A Concern for Public Health Education; International Journal of Science and Research: 6(10), 816-821.
- Laggao, S. A., Bebeley, S. J. & Tucker, H. J. 2017. Adolescents' Physical Literacy Level Due Locomotor-&Body, Sending and Receiving Skills; PARIPEX-Indian Journal of Research: 6(1), 255-257.
- Plotnikoff, R. C., Blanchard, C., Hotz, S. B. & Rhodes, R. 2001. Validation of the decisional balance scales in the exercise domain from the transtheoretical model: A longitudinal test: Measurement in Physical Education and Exercise Science: 5, 191-206.
- Tucker, H. J., Bebeley, S. J. & Laggao, S. A. 2017a. Children and Adolescents' Fitness Skill Level in Physical Activity: A Motivational Concern for Public Health Education; International Journal of Science and Research: 6(11), 18-22.
- Tucker, H. J., Bebeley, S. J. & Conteh, M. 2017b. Motor Skill Level of Children and Adolescents Motivation in Physical Activity: A Major Concern for Public Health and Physical Education; International Journal of Science and Research: 6(12), 482-486.
- Tucker, H. J., Bebeley, S. J. & Conteh, M. 2018. Physical Activity and Motor Fitness Skill Level of Children and Adolescents: A Motivational Factor for Health and Physical Education; International Journal of Science and Research: 7(1), 895-899.