

## Behavioural Regulation Motives of Pediatrics Physical Activity : A Non-Communicable Disease Prevention and Control Strategy

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### Abstract

**Aim:** The purpose of this study was to study Behavioural Regulation Motives of Pediatrics Physical Activity: A Non Communicable Disease Prevention and Control Strategy. **Material and Method:** Revised Behavioural Regulation and Motives for Physical Activity Questionnaire (R-BRMPAQ) was the accepted research instrument used in the study. The variables were measured and assessed using the SPSS version 23 package, with a cross-sectional average mean of  $15.0 \pm 3.0$  and a one hundred percent answer rate with participants of two hundred and four (204), extending from 12-to-18 years using a random sample model of selection. **Results:** Majority of the children were more into physical activity due to extrinsic motivation with a sum of squares ( $SoS = 76.579 \ \& \ 16.013$ ) having a functional value of ( $F = 2.169 \ \& \ 0.885$ ), significant at ( $Sig. = 0.120 \ \& \ 0.349$ ) and intrinsic motivation with a sum of squares ( $SoS = 25.923$ ) having a functional value of ( $F = 2.276$ ), significant at ( $Sig. = 0.108$ ). Also, majority of the children were more into physical activity due to appearance motive with a sum of squares ( $SoS = 31.941 \ \& \ 15.373$ ) having a functional value of ( $F = 10.081 \ \& \ 21.862$ ), significant at ( $Sig. = <0.001 \ \& \ <0.001$ ) and enjoyment motive with a sum of squares ( $SoS = 1.281$ ) having a functional value of ( $F = 1.698$ ), significant at ( $Sig. = 0.194$ ). **Conclusion:** That behavioural regulation of pediatrics physical activity under survey is duly attracted to extrinsic and intrinsic motivations, when measured and assessed under school, sex and age. In addition, physical activity motives of pediatrics under survey are duly attracted to appearance and enjoyment motives. Hence, strongly recommended that, for sustainable pediatrics physical activity, behavioural regulation motives must be emphasized.

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### Introduction

Physical movement is a key essential element in human day to day activities that is supported by bodily compartments such as muscles, ligaments and tendons. Physical activity can also be associated with the fundamentals of rational, bodily, shared and emotional wellbeing, with sole aim of keeping the openness of everyday performances of children and adolescents, deprived of

undeserved collapse (Bebeley, Foday & Baio, 2021). Lack of muscle building in children and adolescents is a key factor in dysfunctional behavioural motives but corrective and constructive processes almost thus allow children and adolescents to participate freely in daily uninterrupted workout according to their specific motivations (Bebeley, Conteh & Baio, 2021). Therefore, the continuous sections will set out a framework for corrective actions linked to children and adolescents as well as behavioural motives for workout (Bebeley, Conteh & Baio, 2021). Pediatrics physical activity, however, is an essential element in archiving maintainable robustness of the reasoning, psychomotor, societal and emotional measures, thereby preserving ease of daily doings of children without undue weariness (Bebeley, Tucker & Conteh, 2020). Children and adolescents do respond to daily physical activity repetitive as largely compared to adults in Sierra Leone (Bebeley, Conteh & Laggao, 2020). The monitoring, measurement, assessment and investigation of functional movement is possible through physical activity repetitive (Bebeley, Conteh & Laggao, 2020). The investigation of screening for human functional movement is key and it is possible through the medium of prearranged physical activity performances under the guidance and supervision of an exercise physiologist and a health and nutrition educator (Bebeley, Conteh & Laggao, 2020). The behavioural motives of physical inactivity or sedentary actions amongst children and adolescents serve, as a reagent for lack of ease due to non-communicable diseases like obesity, insomnia, undue fatigue and arthritis (Bebeley, Conteh & Laggao, 2020). Arthritis for example is an epidemic disease largely due to physical inactivity or sedentary actions that can be reduced or modified through the prearranged physical activity information mentioned here in (Bebeley, Conteh & Laggao, 2020). As a precautionary measure, it is but important to consider the behavioural regulation motives and factors for children and adolescents physical activity as a need when it comes to non-communicable diseases such as asthmatic conditions (Bebeley, 2016a), depressive mood (Bebeley, 2016c) muscle cramps, atrophy, weaknesses and maximum oxygen consumption (Bebeley, 2016b; Bebeley, 2016d; Bebeley, 2015), agreeing with the essentials of regular muscle contraction and relaxation during physical activity, as a procedural consideration in public health education (Bebeley, Conteh & Gendemeh, 2018; Bebeley, Wu & Liu, 2017c; Tucker, Bebeley & Laggao, 2017). Also, health resources, epidemiological services, motor skills training programmes, physical literacy (Bebeley, Conteh & Laggao, 2018; Bebeley, Laggao & Conteh, 2018; Bebeley & Laggao, 2011; Bebeley, Laggao & Tucker, 2017a; Tucker, Bebeley & Conteh, 2017; Tucker, Bebeley & Conteh, 2018; Bebeley, Tucker & Conteh, 2019a; Bebeley, Tucker & Conteh, 2019b), mental health, aging processes, health education strategy, physical activity, balanced and determined decisions (Bebeley, Laggao & Tucker, 2017b; Bebeley, Wu & Liu, 2016b; Bebeley, Laggao & Tucker, 2017c; Bebeley, Wu & Liu, 2016c; Bebeley, Laggao & Tucker, 2017d; Bebeley, Liu & Wu, 2017a; Bebeley, Liu & Wu, 2017b; Bebeley, Laggao & Gendemeh, 2018), leisure activities, bodily control to avoid sports injuries in physical education in promoting physical activity for mental health improvement (Bebeley, Liu & Wu, 2017c; Bebeley, Wu & Liu, 2016a; Bebeley, Wu & Liu, 2017a; Bebeley, Wu & Liu, 2017b; Laggao, Bebeley & Tucker, 2017; Bebeley, Wu & Liu, 2018) are all procedural playbook in behavioural regulation motives for pediatrics physical activity and public health education. This study aims to evaluate behavioural regulation motives of pediatrics physical activity – a none communicable disease prevention and control strategy in Sierra Leone.

### **Materials and Method**

This study sampled two hundred and four participants (n=204) with a median age  $15.0 \pm 3.0$ , response rate of one hundred percent, age range in years – twelve to eighteen (12–to-18), who were carefully selected using a simple random sampling process approach, especially among six (6) Junior Secondary School Children in Bo.

Revised Behavioural Regulation and Motives for Physical Activity Questionnaire (R-BRMFAQ) was the accepted research instrument used in the study, indicating the relevance and reliability that maintained the reliability of Cronbach's Alpha Reliability review (0.760), previously used by Bebeley et al., (Bebeley, Conteh & Laggao, 2018; Bebeley, Wu & Liu, 2017b).

Monitoring, evaluation and substantiation of continuous surveys took place on a case-by-case basis using schools provided for by the resource-based investigation process, with the CSPro survey and census survey entry software included in tablets, smart phones and computers hereafter. Statistical Evaluation Tools such as the Parametric and Non-Parametric Evaluation that adopted the Comparative Analysis Tool, Explanatory Statistics and Differential Analysis were used using IBM-SPSSv.23 Statistics to obtain, evaluate and match the findings of significant value  $P < 0.05$ .

### Results

Analysis of Variance Statistics in Pediatrics Behavioural Regulation in Physical Activity shows that, majority of the children were more into physical activity due to extrinsic motivation with a sum of squares (SoS = 76.579 & 16.013) having a functional value of ( $F = 2.169$  &  $0.885$ ), significant at (Sig. =  $0.120$  &  $0.349$ ) and intrinsic motivation with a sum of squares (SoS = 25.923) having a functional value of ( $F = 2.276$ ), significant at (Sig. =  $0.108$ ) as shown in Table(s) 1, 2 & 3.

**Table 1. Analysis of Variance (ANOVA) of Physical Activity for Behavioural Regulation in Pediatrics by School**

	Sum of Squares	df	Mean Square	F	Sig.
<b>External Regulation</b>	8.762	2	4.381	1.248	.291
<b>Introjected Regulation</b>	5.967	2	2.983	.575	.565
<b>Identified Regulation</b>	17.020	2	8.510	2.557	.083
<b>Intrinsic Motivation</b>	3.562	2	1.781	.301	.741
<b>Extrinsic Motivation</b>	76.579	2	38.289	2.169	.120

**Table 2. Analysis of Variance (ANOVA) of Physical Activity for Behavioural Regulation in Pediatrics by Sex**

	Sum of Squares	df	Mean Square	F	Sig.
<b>External Regulation</b>	.248	1	.248	.070	.792
<b>Introjected Regulation</b>	.074	1	.074	.014	.905
<b>Identified Regulation</b>	10.441	1	10.441	3.106	.081
<b>Intrinsic Motivation</b>	14.592	1	14.592	2.537	.114
<b>Extrinsic Motivation</b>	16.013	1	16.013	.885	.349

**Table 3. Analysis of Variance (ANOVA) of Physical Activity for Behavioural Regulation in Pediatrics by Age**

	Sum of Squares	df	Mean Square	F	Sig.
<b>External Regulation</b>	16.903	2	8.451	2.467	.090
<b>Introjected Regulation</b>	4.742	2	2.371	.456	.635
<b>Identified Regulation</b>	22.950	2	11.475	3.511	.034
<b>Intrinsic Motivation</b>	25.923	2	12.961	2.276	.108
<b>Extrinsic Motivation</b>	17.892	2	8.946	.490	.614

Analysis of Variance Statistics in Pediatrics Motives for Physical Activity shows that, majority of the children were more into physical activity due to appearance motive with a sum of squares (SoS = 31.941 & 15.373) having a functional value of ( $F = 10.081$  &  $21.862$ ), significant at ( $Sig. = <0.001$  &  $<0.001$ ) and enjoyment motive with a sum of squares (SoS = 1.281) having a functional value of ( $F = 1.698$ ), significant at ( $Sig. = 0.194$ ) as shown in Table (s) 4, 5 & 6.

**Table 4. Analysis of Variance (ANOVA) for Physical Activity Motives of Pediatrics by School**

	Sum of Squares	df	Mean Square	F	Sig.
Enjoyment Motive	2.706	5	.541	.710	.616
Competence Motive	2.294	5	.459	.656	.657
Appearance Motive	31.941	5	6.388	10.081	<.001
Fitness Motive	.510	5	.102	1.063	.382
Social Motive	.201	5	.040	1.192	.314

**Table 5. Analysis of Variance (ANOVA) for Physical Activity Motives of Pediatrics by Sex**

	Sum of Squares	df	Mean Square	F	Sig.
Enjoyment Motive	.176	1	.176	.232	.630
Competence Motive	<.001	1	<.001	<.001	1.000
Appearance Motive	15.373	1	15.373	21.862	<.001
Fitness Motive	.078	1	.078	.815	.368
Social Motive	.005	1	.005	.144	.705

**Table 6. Analysis of Variance (ANOVA) for Physical Activity Motives of Pediatrics by Age**

	Sum of Squares	df	Mean Square	F	Sig.
Enjoyment Motive	1.281	1	1.281	1.698	.194
Competence Motive	.225	1	.225	.324	.570
Appearance Motive	.294	1	.294	.378	.539
Fitness Motive	<.001	1	<.001	<.001	.983
Social Motive	.117	1	.117	3.499	.063

## Discussion

Physical activity for behavioural regulation in pediatrics when appropriately accomplished, checked and assessed will convey a preventive strategy knowledge for none communicable diseases such as obesity, insomnia, arthritis etc. It assists as educative and reintegration procedures for resourceful drive inequity in children and adolescents, which is mostly due to bodily lethargy in learning institutes such as schools and homes (Bebeley, Conteh & Baio, 2021; Bebeley, Foday & Baio, 2021). Henceforth, this can be established in children and adolescents behavioural regulation motives in physical activity under school based, gender and the age range research among school children as a strategy in none communicable disease prevention.

A critical measurement and assessment of behavioural regulation of pediatrics physical activity as a strategy for none communicable disease prevention and control under school and sex, shows that children's physical activity engagement is meaningfully influenced by extrinsic motivation compared to external regulation, introjected regulation, identified regulation and intrinsic motivation, which suggest that children and adolescents behavioural regulation of physical activity

are externally influenced by others. However, intrinsic motivation under age, shows that children's physical activity engagement is meaningfully influenced by intrinsic motivation compared to external regulation, introjected regulation, identified regulation and extrinsic motivation. This study is directly linked to physical activity motivation of adolescents, which is a public health education monitoring and evaluation investigation, epidemiological surveillance observations on the functioning of children and adolescent physical activity, epidemiological studies of the motivation of children to exercise, and the motivation for primary school students as a public health education survey (Bebeley, Tucker, Conteh, 2019b; Bebeley, Conteh & Laggao, 2020; Bebeley, Tucker & Conteh, 2020; Bebeley, Conteh & Baio, 2021; Bebeley, Foday & Baio, 2021).

A clear measurement and assessment of physical activity motives of pediatrics as a strategy for none communicable disease prevention and control under school and sex, shows that children's physical activity engagement is meaningfully influenced by appearance motive compared to enjoyment motive, competence motive, fitness motive and social motive, which suggest that children and adolescents physical activity motives are externally influenced by appearance. However, enjoyment motive under age, shows that children's physical activity engagement is meaningfully influenced by intrinsic motivation for enjoyment compared to appearance motive, competence motive, fitness motive and social motive. This study is directly linked to physical activity motivation of adolescents, which is a public health education monitoring and evaluation investigation, epidemiological surveillance observations on the functioning of children and adolescent physical activity, epidemiological studies of the motivation of children to exercise, and the motivation for primary school students as a public health education survey (Bebeley, Tucker, Conteh, 2019b; Bebeley, Conteh & Laggao, 2020; Bebeley, Tucker & Conteh, 2020; Bebeley, Conteh & Baio, 2021; Bebeley, Foday & Baio, 2021).

### **Conclusions**

In conclusion, behavioural regulation of pediatrics physical activity under survey is duly attracted to extrinsic motivation, when measured and assessed under school and sex. And also, duly attracted to intrinsic motivation, when measured and assessed under age range compared to external regulation, introjected regulation and identified regulation respectively. In addition, physical activity motives of pediatrics under survey are duly attracted to appearance motive, when measured and assessed under school and sex. And also, duly attracted to enjoyment motive, when measured and assessed under age range compared to competence motive, fitness motive and social motive respectively. It is therefore, strongly recommended that, for sustainable progressive acceleration of pediatrics and adolescents participation in physical activity as a strategy for none communicable disease prevention and control, behavioural regulation motives under intrinsic motivation, extrinsic motivation, appearance motive and enjoyment motive respectively must be emphasized, when looking at the age bracket of boys and girls in the school setting. Hence, according to Bebeley et al, physical activity must be considered a public health education strategy to further promotes mental health education in institutions such as the home and the school for children and adolescents, which are fundamental to human mental wellness (Bebeley, Foday & Baio, 2021).

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### **Reference(s)**

- 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. (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. (2016a). 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. (2016c). 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. (2016d). 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., Conteh, M. & Baio, M. S. (2021). Junior Secondary School (JSS) Pupils Motives of Physical Activity – A Public Health Education Survey. *International Journal of Physical Education, Sports and Health*. 8(5): 156-162.
- Bebeley, S. J., Conteh, M. & Gendemeh, C. (2018). 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. (2020). Epidemiological Surveillance Screening of Functional Movement in Children and Adolescents Physical Activity. *IOSR Journal of Sports and Physical Education (IOSR-JSPE)*. 7(2): 62-66.
- Bebeley, S. J., Conteh, M. & Laggao, S. A. (2018). Physical Activity Motive of College Students: Factorial Motivation for Health Extension Workers. *Journal of Physical Education Research*. 5(3): 1-7.
- Bebeley, S. J., Foday, M. E. & Baio, M. S. (2021). Physical Activity Motivation of Adolescents: A Public Health Education Monitoring & Evaluation Investigation. *International Journal of Physical Education, Sports and Health*. 8(6): 203-207.
- Bebeley, S. J., Laggao, S. A. & Conteh, M. (2018). Understanding College Students Physical Activity Decision: Motivational Focus for Physical Activity Epidemiology. *International Journal of Scientific Research*. 7(10): 38-40.
- Bebeley, S. J., Laggao, S. A. & Gendemeh, C. (2018). Physical Activity Epidemiology of College Students Physical Exercise Self-Efficacy: Motivational Drive for Health Education Promotion. *Journal of Physical Education Research*. 5(4): 33-40.
- 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. (2017b). 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. (2017c). 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., Laggao, S. A. & Tucker, H. J. (2017d). Pupils' Knowledge Level about the Contraindications of Cardiovascular Diseases of the Heart as Health Education Strategy in Preventive Health. *Journal of Exercise Science & Physiotherapy*. 13(2). 1-12.
- Bebeley, S. J., Liu, Y. & Wu, Y. (2017a). 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. (2017b). 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. (2017c). 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., Tucker, H. J. & Conteh, M. (2019a). Physical Activity Motivation: Epidemiological Surveillance of College Students in Sierra Leone. *Journal of Physical Education Research*. 6(2): 01-40.
- Bebeley, S. J., Tucker, H. J. & Conteh, M. (2019b). Epidemiological Surveillance of College Students Physical Activity Motivation. *IOSR Journal of Sports and Physical Education (IOSR-JSPE)*. 6(6): 13-18.

- Bebeley, S. J., Tucker, H. J. & Conteh, M. (2020). Physical Activity Motives of Pediatrics – An Epidemiological Study. *IOSR Journal of Sports and Physical Education (IOSR-JSPE)*. 7(4): 01-05.
- Bebeley, S. J., Wu, Y. & Liu, Y. (2016a). 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. (2016b). 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. (2016c). 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. (2017a). 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. (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. (2017c). Motivational Level of College Students' in Physical Activity: A Concern for Public Health Education. *International Journal of Science and Research*. 6(10): 816-821.
- Bebeley, S. J., Wu, Y. & Liu, Y. (2018). Motivation of Physical Activity amongst College Students in Sierra Leone. A Published Doctoral Thesis in the School of Physical Education and Sports Training; Shanghai University of Sport (SUS).
- 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.
- Tucker, H. J., Bebeley, S. J. & Conteh, M. (2017). 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.
- Tucker, H. J., Bebeley, S. J. & Laggao, S. A. (2017). 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.

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