



DECISIONAL BALANCE SCALE FOR COLLEGE STUDENTS' LEVEL OF MOTIVATION IN PHYSICAL ACTIVITY

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ABSTRACT

Background: Physical activity is a human kinetics of the musculoskeletal systems that requires the use of energy for improved physiological and psychological wellness and healthy lifestyle. This study only aimed at the measurement, evaluation and scoring of decisional balance scale for college students' level of motivation in physical activity. **Methods:** Decisional Balance Scale Questionnaire (DBSQ) was adopted as survey instrument. The variables were analyzed using IBM.SPSSv.23 Statistics, with sampled participants of 500, having a response rate of 100% and a mean and standard deviation (SD) age of 28.5 ± 9.5 ranged from 19-38 years selected using a simple random sampling method. **Results:** A significant difference was recorded for all tested variables in the results with disadvantages (cons) scoring highest [$F = 47.360$ with sig. ($\leq .001$), $t = 6.882$ with 2-tailed sig. ($\leq .001$)] and advantages (pros.) scoring lowest [$F = 18.167$ with sig. ($\leq .001$), $t = -3.248$ with 2-tailed sig. ($.001$)], in tables 3, 4 & 5 respectively. The results were tested @ significance level of $p < 0.05$. **Conclusion and Recommendation:** In conclusion, the greater majority of the overall participants responded more to disadvantages (cons) of the decisions to exercise, which means lesser determination to engage in physical activity. Recommendation was made that, a mandatory course/programme in physical education/literacy be instituted to help educate the pros and cons of physical activity for all college students before graduation to guarantee motivation.

KEYWORDS : Decisional Balance, Physical Activity, Physical Education and Motivation

Introduction

Physical activity is a human kinetics produced by the musculoskeletal systems, Bebeley et al. (2017), which when undertaken regularly from moderate to vigorous physical activities improves physiological and psychological health and wellness of an individual. However, the basic aerobic endurance training that will be somehow sufficient for children, adolescents and adults for effective approach in the improvement of maximum volume of oxygen for sustainable physical activity referencing the advantages, is by applying the endurance high intensity interval training, Bebeley (2015), which can be implemented in schools and colleges during physical education and literacy lessons, thereby leading to the exposure of pupils and students to weight designed physical education programmes i.e. physical literacy, health and physical education literacy, Bebeley (2016) and nutrition education, by helping them improve their motor fitness level components that include speed, agility, reaction time and power, Bebeley (2015), with regards sustainable future participation in physical activity with special focus on the advantages (pros.) during adulthood and old age. And that by allotting enough time to the teaching and learning of physical education activities, Bebeley (2016); Bebeley et al. (2011), during and outside school/college hours, will help greatly with sustainable future participation in physical activity. With regards attention, it is but vital to give due attention to the teaching and learning of physical education activities, Bebeley et al. (2017), conducting seminars, training workshops and holding focus group discussions amongst pupils and students in the areas of physical fitness, activity/exercise, health education, knowledge about the none usage of drugs and wellness literacy with respect to ageing, Bebeley et al. (2016), for sustainable involvement and motivation in physical activity in schools and colleges, is of outmost importance for effective growth and development of physical activity for adolescents as well as adults.

Physical activity being a sub category of physical education, is an educational programme that teaches pupils and students, the physique of human kinetics produced by the musculoskeletal systems, which when undertaken regularly from moderate to vigorous physical activity (MVPA) improves not only the

physiological, but also the psychosocial health, and it is of significance to the holistic wellbeing of an individual, Bebeley et al. (2017), especially giving due attention to the teaching and learning of physical education in schools and colleges to improve it literacy level, which by implication also includes physical activity, Bebeley et al. (2017). Nonetheless, autonomy in self-determination rather than rewards and threats, will help improve greatly the motivational level of college students in physical activity, Bebeley et al. (2017), with respect to sustainable future participation growth in line with the advantages (pros.) regarding physical activity. Therefore, a mandatory institution of a programme or course in physical literacy or education for all college students before graduation will help improve and guarantee motivational level in physical activity, Bebeley et al. (2017), which is the most prominent factor that stimulate and maintain individuals' participation in physical activity. And by determining the individuals' motivation for an activity, health professionals such as physical and public health educators, can use this knowledge to create awareness and develop effective interventions to motivate the public to engage in physical activity (PA) more often, Chowdhury (2012), thereby not only increasing the advantages (pros.) of physical activity (PA), but also help individuals, communities and the environment to reduce lifestyle-related illnesses.

This study only aimed at the measurement, evaluation and scoring of decisional balance scale (DBS) for college students' level of motivation in physical activity as a result of its public health role in maintaining wellness and healthy lifestyle amongst college students, cased at Njala University and Eastern Polytechnic in Sierra Leone.

Methodology Respondents

The survey was carried out on sampled participants of five hundred ($N=500$) with a 100% response rate and a mean and standard deviation age of 28.5 ± 9.5 ranging from 19-38 years mainly undergraduate students selected through a process of simple random sampling method.

Instrumentation

Decisional Balance Scale Questionnaire (DBSQ), which is used to measure the individual decision to exercise, was the survey instrument used to measure students' motivation to participate in physical activity, with evidence of validity alongside internal consistency and test-retest reliability provided for by Plotnikoff et al. (2001), whose internal consistency coefficients were acceptable for the pros and cons over the three time periods.

Procedure

The sampled participants were each questioned on their respective college campuses within the study scope using the on-the-spot method for evaluation, with respect to the instructions of the research instrument, applying the census survey entry (CSEntry) and census survey processing (CSPro.v.6.3) application software using tablets and smart phones.

Analysis

Descriptive Statistics, Pearson Chi-Square Test, Analysis of Variance, Cross Tabulation and Independent Samples Test from IBM.SPSSv.23 Statistics were used to compute, analyze and compare the findings of the survey using a significant value of P<0.05.

Results

The demographic mean and standard deviation values for weight (62.04±13.497) and height (6.07±0.552) of participants from Njala University is a little lower compared to the weight (69.05±10.908) and height (6.23±0.596) of participants from Eastern Polytechnic. All the sub categories measured, evaluated and scored under decisional balance scale, advantages (pros.) appeared to have the highest score values and percentages in the response rate of the respondents, and disadvantages (cons.) appeared with the lowest score values and percentages in the response rate of the respondents for the option "very true", as slated in table 1.

Table 1: Frequency of Decisional Balance Scale (N=500)

The Decisional Balance Scale (DBS)	Frequency Distribution Responses					
	Very True		Fairly True		Not True	
Advantages (Pros.)						
I would've more energy for family/friends if exercised regularly	308	61.6	93	18.6	99	19.8
I will feel less stressed if exercised regularly	357	71.4	54	10.8	89	17.8
I would've a better mood for the rest of the day if I exercise	383	76.6	42	8.4	75	15.0
I will feel comfortable with my body if exercised regularly	378	75.6	47	9.4	75	15.0
I would've a more positive outlook on life with regular exercise	377	75.4	48	9.6	75	15.0
Disadvantages (Cons.)						
I will feel embarrassed if people saw me exercising	60	12.0	27	5.4	413	82.6
I will feel prevented from spending time with my friends	126	25.2	53	10.6	321	64.2
I will feel uncomfortable or embarrassed in exercise clothes	53	10.6	18	3.6	429	85.8
I would have to learn too much in order to exercise	142	28.4	49	9.8	309	61.8
I would've an extra burden on my significant other with exercise	142	28.4	44	8.8	314	62.8

Regarding the factors measured, evaluated and scored under decisional balance scale with respect to institution, Njala University (NU) respondents scored higher with advantages, compared to Eastern Polytechnic (EP) respondents for the response option "very true". However, only advantages recorded some significance at a level of p<0.05 in Pearson chi-square test as slated in tables 2 and 3 respectively.

Table 2: Crosstab Decisional Balance Scale by Institution (N=500)

Decisional Balance Scale (DBS)	Njala University			Eastern Polytechnic		
	Very True	Fairly True	Not True	Very True	Fairly True	Not True
Advantages (Pros.)						
I would've more energy for friends with regular exercise	179	34	37	129	59	62
I will feel less stressed if exercised regularly	197	18	35	160	36	54
I would've a better mood for the day if I exercise	202	13	35	181	29	40
I will feel comfortable with my body if exercised often	192	23	35	186	24	40
I would've positive outlook on life with regular exercise	195	20	35	182	28	40
Disadvantages (Cons.)						
I will feel embarrassed if people saw me exercising	22	7	221	38	20	192
I will feel prevented spending time with friends	40	24	186	86	29	135
I will feel uncomfortable or embarrassed in exercise clothes	21	5	224	32	13	205
I would have to learn too much in order to exercise	36	29	185	106	20	124
I would've an extra burden with exercise	50	15	185	92	29	129

Table 3: Pearson Chi-Square Statistics for Decisional Balance (N=500)

Decisional Balance Scale (DBS)	Pearson Chi-Square Test		
	Chi-square	df	Sig.
Advantages (Pros.)			
I would've more energy for friends with regular exercise	21.150	2	≤.001*
I will feel less stressed if exercised regularly	13.891	2	≤.001*
I would've a better mood for the day if I exercise	7.580	2	.023*
I will feel comfortable with my body if exercised often	.450	2	.799
I would've positive outlook on life with regular exercise	2.115	2	.347
Disadvantages (Cons.)			
I will feel embarrassed if people saw me exercising	12.562	2	.002*
I will feel prevented spending time with friends	25.368	2	≤.001*
I will feel uncomfortable or embarrassed in exercise clothes	6.680	2	.035*
I would have to learn too much in order to exercise	48.202	2	≤.001*
I would've an extra burden with exercise	26.864	2	≤.001*

* The Chi-square statistics is significant at 0.05 levels.

However, in a comparative mean for decisional balance scale (DBS) by institution, Eastern Polytechnic (EP) respondents scored higher mean values with respect to advantages (pros.), with exception to disadvantages (cons), as compared to Njala University (NU) respondents. And with the analysis of variance (ANOVA) and independent samples test for decisional balance scale (DBS) by institution, the highest scores were recorded as follows: advantages (pros.) [F = 18.167 with sig. ≤.001], t = -3.248 with 2-tailed sig. (.001)] and disadvantages (cons) [F = 47.360 with sig. (≤.001), t = 6.882 with 2-tailed sig. (≤.001)], as slated in tables 4, 5 and 6 respectively.

Table 4: Comparative Mean for Decisional Balance Scale by Institution (N=500)

The Decisional Balance Scale (DBS)	Njala University (n=250)		Eastern Polytechnic (n=250)	
	Mean	SD	Mean	SD
Advantages (Pros.)				
I would have more energy for friends	1.43	.737	1.73	.834
I will feel less stressed if exercised	1.35	.714	1.58	.824
I would have a better mood all day if I exercise	1.33	.710	1.44	.754
I will feel comfort with body if exercised regularly	1.37	.718	1.42	.752
I would have positive outlook on life with regular exercise	1.36	.716	1.43	.753
Disadvantages (Cons.)				
I will feel embarrassed if people saw me exercising	2.80	.583	2.62	.737
I will feel prevented spending time with friends	2.58	.752	2.20	.921
I will feel uncomfortable or embarrassed in exercise clothes	2.81	.567	2.69	.686
I would have to learn too much in order to exercise	2.60	.729	2.07	.958
I would've an extra burden with exercise	2.54	.807	2.15	.930

Table 5: Analysis of Variance for Decisional Balance Scale (N=500)

The Decisional Balance Scale (DBS)	Analysis of Variance (ANOVA)				
	Sum of Squares	df	Mean Square	F	Sig.
Advantages (Pros.)					
I would have more energy for friends	11.250	1	11.250	18.16	≤.001
I will feel less stressed if exercised	6.272	1	6.272	10.54	.001
I would have a better mood all day if I exercise	1.352	1	1.352	2.522	.113
I will feel comfort with body if exercised regularly	2.421	1	2.42	4.48	.034
I would have positive outlook on life with regular exercise	.648	1	.648	1.200	.274
Disadvantages (Cons.)					
I will feel embarrassed if people saw me exercising	4.050	1	4.050	9.179	.003
I will feel prevented spending time with friends	18.818	1	18.818	26.61	≤.001
I will feel uncomfortable or embarrassed in exercise clothes	1.800	1	1.800	4.540	.034
I would have to learn too much in order to exercise	34.322	1	34.322	47.36	≤.001
I would've an extra burden with exercise	19.208	1	19.208	25.33	≤.001

Table 6: Independent Samples Test for Decisional Balance Scale by Institution (N=500)

Decisional Balance Scale (DBS)	Equal Variances Assumed				
	t	df	Sig. 2-tailed	Mean Diff.	95%CI Lower Upper
Advantages (Pros.)					
I would have more energy for friends	-4.262	498	≤.001	-.300	-.438 -.162
I will feel less stressed if exercised	-3.248	498	.001	-.224	-.360 -.088
I would have a better mood all day if I exercise	-1.588	498	.113	-.104	-.233 .025
I will feel comfort with body if exercised regularly	-.669	498	.504	-.044	-.173 .085
I would have positive outlook on life with regular...	-1.095	498	.274	-.072	-.201 .057
Disadvantages (Cons.)					
I will feel embarrassed if people saw me exercising	3.030	498	.003	.180	.063 .297
I will feel prevented spending time with friends	5.159	498	≤.001	.388	.240 .536
I will feel uncomfortable/embarrassed in exercise...	2.131	498	.034	.120	.009 .231
I would have to learn too much in order to exercise	6.882	498	≤.001	.524	.374 .674
I would've an extra burden with exercise	5.033	498	≤.001	.392	.239 .545

Discussion

With all sub categorical options combined (i.e. very true, fairly true and not true), measured, evaluated and comparatively scored under decisional balance scale for participation in physical activity, Eastern

Polytechnic (EP) participants scored higher with advantages (pros.) compared to their Njala University (NU) counterpart. And even with comparative mean by institution (mostly from Eastern Polytechnic), participants responded more positively to the advantages (pros.) as a decisional balance for physical activity (PA), compared to their Njala University participant, showing that physical activity action is more progressive amongst Eastern Polytechnic participants, which according to Plotnikoff et al. (2001), as one begins to exercise and progresses from preparation to action, the advantages (pros.) for exercising begin to outweigh the disadvantages (cons.) on the decisional balance scale. And also, as one moves toward maintenance, one has to concentrate on the advantages (pros.) of exercising to keep the scale tipped in favour of the activity or one might increase their risk of relapse, Plotnikoff et al. (2001), as manifested in the case of Njala University respondents.

However, participants mostly from Njala University (NU) responded in affirmative to disadvantages (cons.) under institution with respect to decisional balance for physical activity (PA) action, which according to Plotnikoff et al. (2001), for most behavioural changes, it is difficult to adhere because the sacrifices and or disadvantages (cons.) are immediate and the benefits and or the advantages (pros.) are not. This is because, during pre-contemplation however, an individual may be easily persuaded by the disadvantages (cons.) of exercising. They may feel that exercise is too hard and not worth the effort. But Sullum et al. (2000) in their findings suggested that, in order to reduce the risk of relapse, practitioners must initially focus on interventions that will reduce the disadvantages (cons.), and once the reduction of the disadvantages (cons.) occur, the focus should be shifted and or moved towards highlighting the advantages (pros.) of doing physical activity or exercise, thereby increasing and maintaining students' level of motivation. In conclusion though, Plotnikoff et al. (2001) in their findings stated that, it is of outmost importance for practitioners to provide strategies in the pre-action stages to decrease the disadvantages (cons.) and in the action and maintenance stages to reinforce the advantages (pros.).

Conclusion and Recommendation

From the point of view of the overall response rate of the respondents from the findings, it was concluded therefore that, the greater majority of the respondents from both institutions clearly responded more in favour of the disadvantages (cons.) surrounding decisional balance scale (DBS) for physical activity (PA) rather than the advantages (pros.), which means lesser determination to engage in physical activity. It was however recommended that, a mandatory course/programme in health and physical education/literacy be instituted to help educate the pros and cons of physical activity for all college students before graduation to guarantee motivation in physical activity during and after.

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