

Physical Exercises and Diets as Predictors for Weight Maintenance in the Fifth Industrial Revolution (5IR) Among Colleges of Education Students in Oyo, Oyo State.

By

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Abstract

This study investigated physical exercises and diets as predictors for weight maintenance in the fifth industrial revolution (5IR) among Emmanuel Alayande College of Education students in Oyo, Oyo State. The descriptive survey research design was adopted in this study. Three hundred (300) respondents were selected through multistage sampling techniques. Three instruments were designed by the researcher for data collection: Physical Exercises Scale ($r=0.81$), Diets Scale ($r=0.85$), and Weight Management Scale ($r=0.79$). The descriptive statistics of frequency counts and percentages were used for analyzing demographic data of the respondents, while the inferential statistic of multiple regression was used to test the hypotheses at 0.05 alpha level. The finding revealed that physical exercises and diets were both relatively and compositely significant predictors of weight management among the participants. Based on the findings of the study, it is recommended that the College management should include physical exercises in the academic programmes of the college as well as provide diet education for every student in order to keep them informed of their dietary needs with their effects.

Key Words: Physical exercises, Diets, Weight maintenance, Students

Introduction

The prevalence rate of overweight and obesity has been progressively increasing at an average of 0.3%-0.8% per year, according to the World Health Organization (WHO, 2015). A study in southwestern Nigeria indicated a high prevalence of overweight and obesity among Nigerian adults in Emmanuel, Oyedele, Gimba, Goshit, Gaji, and Dashen (2015). Rapidly changing lifestyles (predominantly sedentary) and calorie-rich diets are increasingly the occurrence of overweight and obesity. Regular physical activity is a well-established protective factor for the

prevention and treatment of the leading non-communicable diseases (NCDs), namely heart disease, stroke, diabetes, and breast and colon cancer WHO, 2018).

However, there has been a rise in the variety of therapeutic interventions to address this epidemic. Most notable among these interventions have been protocols that attempt to change the body composition, most often through total mass reduction, that is weight loss, resulting in hypocaloric dieting, or involvement in general exercise and physical activity. The focus is based on the implication that body mass is equal in the equation of body mass, obesity, and disease (Centers for Disease Control and, CDC, 2013). Varady, Bhutani, Klempel, and Kroeger (2011) have previously noted that there were limited differences in results for absolute changes in body composition with comparison between the various methodologies employed for the treatment of weight issues in individuals who are overweight, which necessitate weight maintenance.

Weight maintenance implies keeping a weight that has been achieved by treatment interventions or by one's personal efforts (Gina, 2017). There is currently no consensus on what classifies successful weight maintenance in terms of the amount of weight lost or duration of maintenance. Examples of definitions include 'achieving an intentional weight loss of at least 10% of initial body weight and maintaining this body weight for at least one year, or 'losing at least 5% of baseline body weight between baseline and follow-up, and maintaining that weight or less for a further two years' (Gina, 2017). High physical activity (PA) levels or exercise training (ET) is an integral part of any treatment plan for obese individuals, regardless of weight loss goals, and is associated with numerous Cardiovascular (CV) benefits, (Damon, Neil, Carl, Conrad, and Timothy (2014). Many researchers have argued that a decline in PA both in occupational and recreational settings play a significant role in the increase in obesity rates over the last three decades. Diets that are high in total and saturated fat, cholesterol, and energy, low fibers are associated with cardiovascular diseases and diabetes which tend to increase body weight (Gaines, 2011).

The typical college student's diet is high in fat and sodium and low in fruits and vegetables with a high consumption of fast food (Gaines, 2011). Fruits and vegetables are rich in dietary fiber as well as vitamins, minerals, and phytochemicals, which further aid in weight loss and maintenance. Research revealed that consistent consumption of high-nutrient quality foods result in high health benefits. High-nutrient foods, such as fruits and vegetables, may help prevent the development of

hypertension, coronary artery disease, stroke, and some types of cancers. Increasing intake of fruits and vegetables promotes satiety as well as hydration of which combat obesity and aid weight loss, particularly when combined with caloric restrictions (Gaines, 2011).

Statement of the Problem

Previous studies have shown that most of the developed countries college students were observed not to engage in physical exercises, and those who engaged were involved in diets that would make them to gain more weight, which could affect their health by predisposing them to obesity because of their lack of knowledge about how and what to diet on, and non-compliance in regular weekly physical exercises. It is on this note that the researcher intends to replicate and ascertain physical exercises and diets as predictors for weight maintenance in the fifth industrial revolution (5ir) among Colleges of Education Students in Oyo, Oyo State.

Objective of the study

The main objective of this study was to examine physical exercises and diets as predictors for weight maintenance in the fifth industrial revolution (5ir) among Colleges of Education Students in Oyo, Oyo State. The specific objectives of this study were:

1. To determine the contribution of physical exercises to weight maintenance among Emmanuel Alayande College of Education Students Oyo.
2. To assess the influence of diets on weight maintenance among Emmanuel Alayande College of Education Students Oyo.
3. To ascertain the combined contribution of physical exercises and diets on weight maintenance among Emmanuel Alayande College of Education Students in Oyo State

Hypotheses

The following hypotheses were tested in this study:

1. Physical exercises and diets will not be significant predictors for weight maintenance in the fifth industrial revolution (5IR) among Emmanuel Alayande College of Education Students Oyo.

2. Physical exercises and diets will not be significant predictors of weight Maintenance in the fifth industrial revolution (5IR) among Emmanuel Alayande College of Education Students, Oyo.

Significance of the Study

This study examined physical exercises and diets as predictors for weight maintenance among college students gave insight into the state of weight maintenance of students in the College and to promote data for lecturers, sport administrators, coaches, and students in this regard.

The study would also provide assistance and encouragement to institutions and community agencies in the areas of health programmes for college students.

The study would also sensitized students on the need to engage in regular physical exercises as a way of maintaining their weight, in particular, and health in general.

The study would create awareness of the need for conformity to dietary intake and its benefits on weight and health status. Finally, the study would serve as a springboard for further research into the state of weight maintenance among college students.

Methodology

The descriptive survey research design was adopted for this study. The population for the study consisted of Emmanuel Alayande College of Education students. The sample size for the study was three hundred (300) respondents through Stratified, quota, and systematic random sampling procedures. In the first stage, students were stratified into six schools. In the second stage, the quota sampling technique was used to allot a percentage to each school based on the sample size and level of enrolment in each school. Finally, the systematic random sampling technique was used to select respondents from each school. The instrument used for data collection was a self-developed questionnaire, which was in two sections (Section A and Section B). Section A is based on demographic data of the respondents. Section B was structured in line with the independent variables of Physical exercises and diets, as well as the dependent variable of weight maintenance. The modified four-point Likert scale of summative rating was used to show the extent of agreement or disagreement. viz: Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) with 4, 3, 2, and 1 values, respectively. The instrument has three scales with reliability values of 0.81 for Physical Exercises Scale (PES), 0.85 for Diets Scale (DS), and

0.79 for Weight Maintenance Scale (WMS) through Cronbach's alpha test-retest, while the instrument has ten (10) items each. The demographic data of the respondents were analyzed with frequency counts and percentages, while inferential statistic of multiple regression was used to test the hypotheses at 0.05 alpha level.

Demographic Characteristics of Respondents:

The distribution of the respondents according to gender revealed that 38% of the respondents were male, which represents 114, while the female counterpart was 186, which represents 62%.

The finding according to age, shows that 151 respondents, who represent 50.3% fall between 16-20years, 122 respondents that represent 40.7% fall between 21-25years, 19 respondents that represent 6.3% fall between 26-30 years, while 8 respondents that represent 2.7% were between 31years and above.

Also, the level of the respondents was shown, 70 respondents that represent 23.3% were in 100level, 150 respondents that represent 50.0% were in 200level, while 80 respondents that represent 26.7% were in 300level

And finally, the finding shows the number of respondents according to their school. 50 respondents that represent 16.7% were in the School of Art and Social Science, 40 respondents that represent 13.3% were in both Early Childhood Care Education (ECCE) and Education respectively, while 30 respondents that represent 10.0% were in Languages. And 70 respondents that represent 23.3% were both in Science and Vocational and Technical Education, respectively.

Testing of Hypotheses

This section dealt with testing and analysis of each formulated hypothesis.

Hypothesis 1: Physical exercises and diets will not be significant predictors for weight maintenance in the fifth industrial revolution (5ir) among Emmanuel Alayande College of Education Students Oyo.

Table 1: Relative contributions of Physical Exercises and Diets as predictors for weight maintenance

	Coefficients				T	Sig.
	Unstandardized		Standardized			
	Coefficients		Coefficients			
	B	Std. Error	Beta	Std. Error		
(Constant)	3.742	.192			9.471	.000
Physical Exercises	.059	.041	.013	.079	1.230	.000
Diets	.084	.052	.095	.058	1.624	.000

Table 1 shows the unstandardized and standardized regression weights of B the standard error of Beta (β), the Beta (β), the value of t for the regression of the independent variable of physical exercises and diets on the dependent variable of weight maintenance, and the P value. The Table 1 above reveals that the B-value of Physical exercises was (.059) and diets was (.084). This shows the level of contribution of physical exercises and diets as they predicted weight maintenance among college students. Their standardized regression weight, Beta (β), was Physical exercises (.013) and diets (.095) showed a relationship between physical exercises, diets, and weight maintenance among college students. Their t -values were physical exercises (1.230) and diets (1.624), at significant levels of Physical exercises (.000) and diets (.000), respectively.

Hypothesis 2: Physical exercises and diets will not be significant predictors of weight Maintenance in the fifth industrial revolution (5ir) among Emmanuel Alayande College of Education Students, Oyo.

Table 2: Composite contributions of Physical exercises and Diets as predictors for weight maintenance

	ANOVA				
	Sum of Squares	Df	Mean Square	F	Sig.
Regression	11.427	2	5.714	1.456	.000
Residual	1165.450	297	3.924		
Total	1176.877	299			

Multiple R = .299

R Square = .110

Adjusted R Square = .073

Table 2 above shows a significant composite contribution of physical exercises and diets as predictors for weight maintenance among Emmanuel Alayande College of Education Students Oyo. It could be observed that the correlation was ($R = .299$). The adjusted R-square indicated that 7.3 % of the variance was accounted for by physical exercises and diets as predictors for weight maintenance among students. Also, the table showed the effectiveness of the prediction with the F-ratio 1.456 and significant alpha (.000).

Discussion of Findings

From the findings of this study, it was revealed that physical exercises and diets had both relative and composite contributions on weight maintenance, which implied that both null hypotheses which stated that physical exercises and diets will not relatively and compositely be predictors of weight maintenance among students of Emmanuel Alayande College of Education was hereby not accepted. The findings of the study were similar to the submission of Damon, Neil, and Carl, Conrad and Timothy (2014), that high physical activity (PA) levels or exercise training (ET) should be an integral part of any treatment plan for obese individuals, regardless of weight loss goals, and is associated with numerous Cardiovascular (CV) benefits. Similarly, Jean-Philippe, Lars, Mads, Jo-Anne, Angelo, and Anders (2011) found that subjects reporting exercise of higher intensities were less likely to gain weight than those reporting low intensity exercises, even after adjusting for baseline Body Mass Index (BMI) and age. Jean-Philippe et al (2011) further, showed that a decline in physical activity in adolescence was related to increases in BMI and skin fold thickness over time.

Similarly, (Gaines, 2011) found that diets high in total and saturated fat, cholesterol, and energy and low fiber are associated with cardiovascular disease and diabetes, which tend to increase body weight. Therefore, college students should avoid such diets to maintain their weights. Also, increasing the intake of fruits and vegetables promotes satiety as well as hydration, both of which combat obesity and aid in weight loss, particularly when combined with caloric restrictions (Gaines, 2011).

Conclusion

Based on the findings of the study, it was concluded that physical exercises and diets had relatively significant predictors of weight maintenance among Emmanuel Alayande College of Education Students, Oyo. It was also concluded that both physical exercises and diets compositely

significantly predictive for weight maintenance among Emmanuel Alayande College of Education Students, Oyo.

Recommendations

Based on the conclusion from this study, the following recommendations were made:

Students should be sensitized to the need to engage in regular physical exercises as a way of maintaining their weight in particular and health in general through road shows, health walks, etc

Students should also be sensitized on the dietary education on the need for conformity to dietary intake and its benefits on their weight and health status through publicity via social media, symposium, seminar, poster etc

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