The relationship between exercise and Physical Fitness towards Economic Survival: A Comparative Study of Gender discrimination

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Abstract

Everyone's health is critically important. Managing health problems is just as critical as surviving economically. Any country's economic survival is entirely contingent upon its economic strategy. The study of the relationship between exercise and fitness and its impact on economic survival has as its primary objective educating us about the significance and necessity of exercise and physical fitness in our lives. Exercise and physical activity have unquestionable health benefits. The comparative study of differences in physical fitness and activity between men and women. The study's independent variables include exercise and physical fitness, while the dependent variable is economic survival. The data analysis was performed using AMOS 26v. Because this study contained three hypothesis statements, the results suggested a positive and significant link between the variables.

Keywords: Exercise, Physical Fitness, Economic Survival, Gender Discrimination, Physical Activities, Health Issues, Fitness and Lifestyle.

Introduction

The two critical terms, exercise and physical activity, are inextricably linked. The main distinction between exercise and physical activity is that exercise is a series of planned motions, whereas physical activity is just a series of unplanned movements of bodily components. The exercise entails the movement of your body parts and skeleton to complete specific tasks. Exercise, as well as physical activity, aids in the fat-burning process. Exercise is critical for maintaining a healthy lifestyle. Exercise can be used to treat various health problems, including metabolic disorders, heart disease, and obesity. Exercise enables us to live a healthier lifestyle and keeps us physically and mentally fit (Kariyawasam et al., 2019). Obesity and other health problems are caused by a lack of physical activity and exercise. A physically active person will never get obese. Mental health is intrinsically linked to physical health; if someone is physically active and fit, their mental health will be optimal.

Mental and physical health are necessities in today's environment, achieved through exercising. Economic survival is just as critical as health care. The economic survival of every country is entirely dependent on its economic methodology. Health has a significant impact on a country's economic situation. Any health-related issue has a direct impact on the country's economy. The term "survival" implies that health is the primary determinant of economic stability and that disruptions in the health care system directly impact the broader economy. To ensure economic existence, any country's health care system must be excellent (Afshar et al., 2021). The country with the highest economic survival rate outperforms all social spheres. A stronger economy entails improved management of all country sectors, most notably the health care sector. The economy is the backbone of every country on Earth, and its development entails the growth of the entire economic system (Htut et al., 2018). Economic existence is also inextricably linked to health and fitness. When a country struggles with health difficulties, its economic stability suffers significantly. Any pandemic affects the global economy. We may use the example of covid to understand the economic impact of health better. Every country on the planet is having economic difficulties at the moment. As a result of the covid-19, the responsibilities on the health care system and hospitals have increased, putting economic strain on the economy to meet the requirements (Oketch et al., 2021). Numerous large governments worldwide have provided macroeconomic assistance to aid in the recovery from the recent economic crisis. The economy affected by health problems can only survive if a workable economic plan is developed to deal with the consequences of any pandemic's health concerns. The country's policymakers should

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emphasize developing a feasible economic program to address the issues contributing to economic disruption.

Weight stigma is especially prevalent among school-aged adolescents. The stigma associated with being overweight fosters a negative attitude among individuals. Numerous societies disapprove of people who are either overweight or underweight. In many communities, the weight stigma creates a slew of problems for individuals, such as being overlooked for jobs and other employment. Males and females alike are affected by the weight stigma. This stigma contributes to depression and other mental health problems in individuals. Numerous students are bullied in schools due to their weight (Müller et al., 2021). Other pupils' bullying behavior toward overweight or underweight kids frequently results in mental depression in the individuals.

Many adolescents lose their confidence as a result of peer bullying. Bullying and harassment of people of all genders based on their weight are extremely widespread. Additionally, the weight stigma generates other challenges for individuals, including economic difficulties. The only way to avoid gender discrimination and bullying based on weight is to prevent individuals. Additionally, individuals subjected to weight stigma should make an effort to improve their fitness. Only exercise and physical fitness can assist these individuals in overcoming physical and mental health issues. Exercise has been clinically shown to assist people in overcoming stress and despair. Physical activity and exercise help a person overcome stress and tension. A person's confidence and economic stability can be restored due to good physical and mental health (Shidong et al., 2021).

The primary goal of studying the relationship between exercise and fitness and its effect on economic survival is to help us appreciate the value and necessity of exercise and physical fitness in our life. Exercise and physical activity have unavoidable health benefits. Their health significantly impacts every person's life. Improved health equates to increased mental and physical stability. To help people overcome health difficulties, it is critical to educate them about exercise and physical activity (Qian et al., 2020). Complete knowledge about exercise and the benefits of physical activity will motivate people to stay fit and active.

Economic stability is linked to a country's health department; therefore, we may attain economic stability by enhancing the country's health measures (Heyong et al., 2021). Additionally, any country's development and progress are feasible only if we disregard and conquer all stigmas, whether they are related to weight or gender. No country can tolerate gender discrimination if it wishes to remain economically stable. A stable economy avoids all norms and stigmas and concentrates exclusively on the desired goal.

The critical topic now is how to overcome health problems through exercise and physical activity. How may we address issues of economic survival? The most critical question is eliminating various stigmas associated with obesity and gender discrimination. Additionally, physical activity and exercise while avoiding gender discrimination. How can we overcome health problems using an effective economic management system and program?

Review of the Literature

Yaprak and Kucukkubas (2020) conducted a comparative investigation of gender differences to examine the relationship between economic survival, physical fitness, and exercise.

The data for this purpose were obtained from two groups with varying gender, ages, weights, heights, and physical activities. To this objective, many parameters were constructed to assess gender differences, and it was discovered that there was little meaningful difference in all parameters between the sexes. For the dynamic parameter balance, just a slight variation was noticed. Additionally, Siani and Marley (2021) discovered that economic survival is directly related to an individual's health and physical fitness. With good health and physical fitness, any country's economic sustainability may be maintained.

On the other hand, exercise is also directly related to physical fitness. Genç and Ciğerci (2020) evaluated physical fitness training exercises in various fields of study, including army training and medical training. The author asserted that fitness could be regarded as one of God's greatest benefits. Everyone can execute physical activities well if their mind and body are healthy. The WHO asserted that health might be defined as a state of complete physiological, mental, social, and physical well-being. It is not the absence of disease or disability. Civilization has been aging rapidly in recent years, and many countries are in the late stages of the economic cycle (Tiwari, 2020). Every physical system endures substantial physical changes as humans age. Variations in muscular performance, the pulmonary system, the skeleton system, the sensory system, the cardiopulmonary system, and the nervous system have all been explored due to the rapid growth of humans. This results in the development of numerous other diseases such as hypertension, fitness infections, arthritis, and dementia; and as a result of all this physical unfitness, many individuals are unable to perform their daily tasks properly, which has a direct and significant impact on the country's economic survival (Dhasal & Thakur, 2019).

Additionally, Rutkowski et al. (2019) used the SFT senior fitness test to assess physical fitness in healthy people. The sample data was gathered from various training sessions. This analysis examined 20 healthy females and 12 healthy males between the ages of 19 and 25, and the researcher examined training sessions and SFT as a proxy for physical fitness. It was discovered that exercise training has remarkable

positive effects on PF physical fitness, which directly affects economic survival. Additionally, Mozolev et al. (2020) analyzed physical activities, exercise, and fitness using a comparative analysis of gender discrimination and discovered that exercise increases an individual's stamina regardless of gender. Additionally, Słomka et al. (2018) discovered that economic sustainability is strongly tied to health concerns, as ""a sound body has a sound mind" " fitness is a critical component for economic survival.

While Daulatabad et al. (2020) demonstrate that sports and physical activity have numerous benefits for promoting health, child development, economic survival, and individual well-being. It was discovered that the biological system of the human body would function effectively only when the body is efficient and healthy. Unhealthy folks with chubby bodies are less active than healthy, intelligent individuals. Fatness and physical fitness influence intellectual ability. They are associated with adolescents and children's socioeconomic status. Thus, understanding the psychological effects of obesity requires both fat mass location and fitness components (Hernández-Jaña et al., 2021). According to ŞAHİN et al. (2018), a healthy body enables humans to engage in physical activities effortlessly during leisure time. Thus, muscular strength, organic system growth, stamina, and physical fitness all play a significant part in the performance of exercise, yoga, and other physical activities, which assesses the ability to undertake physical activities.

Additionally, de Melo et al. (2018) investigated whether differences in physical fitness variables between different age groups of primary and secondary school students can be attributed to their educational and home environments, their active participation in physical activity, food habits, daily life yoga exercise, and student' student' anthropometrical structures. Students who engage in daily exercise at home may perform better at their institutions than those who do not (Qian et al., 2020). According to Barsasella et al. (2021), there was a critical need to develop a daily fitness training system for college and high school students. As with a healthy body, kids will serve their country actively, which will benefit the county's economic survival. Whereas Huang et al. (2020) demonstrate that tourism was also an important way to rejuvenate the mind and body. Tourism has a significant impact on a person's physical fitness, since recreational hiking, change of environment, and sporting activities at various recreational locations directly correlate with students' emotional, mental, physical, and mental health and economic prosperity.

Sattler et al. (2018) investigated the association between exercise and physical health and a country's economic growth under epidemic scenarios. It was discovered that the most current pandemic COVID-19 had caused several health difficulties throughout the world, directly impacting the economies of every country. This was the most eloquent demonstration of the favorable correlation between health, fitness, and economy. While Kolijn (2013) argued that effective economic management, health care systems, routine exercise, adequate yoga lessons, and intake of nutritious food are necessary for economic survival.

Methodology

This work used to exercise and physical fitness as the independent variables and economic survival to examine the relationship between exercise and physical fitness and economic survival as the dependent variable. Twenty-five male and twenty-five female respondents provided data. Two independent variables were shortened as EXER (Exercise), PHF (Physical Fitness), and ECOS (Environmental Consciousness) (Economic Survival). However, AMOS 26v was used to evaluate the gathered data. AMOS Software is used to conduct the CFA (Confirmatory Factor Analysis). The study's research framework is as follows:
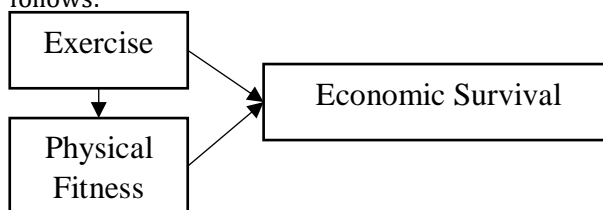
Structure Equation Modeling

The study framework's SEM Model (Structure Equation Model) is provided below. This multivariate technique explores, tests, and assesses the causal link between variables scientifically.

This model allows for the calculation of direct and indirect effects associated with pre-defined cause-and-effect relationships. The graphic below illustrates the loadings of variables and items against variables. The error words are used to minimize the possibility of receiving incorrect results.
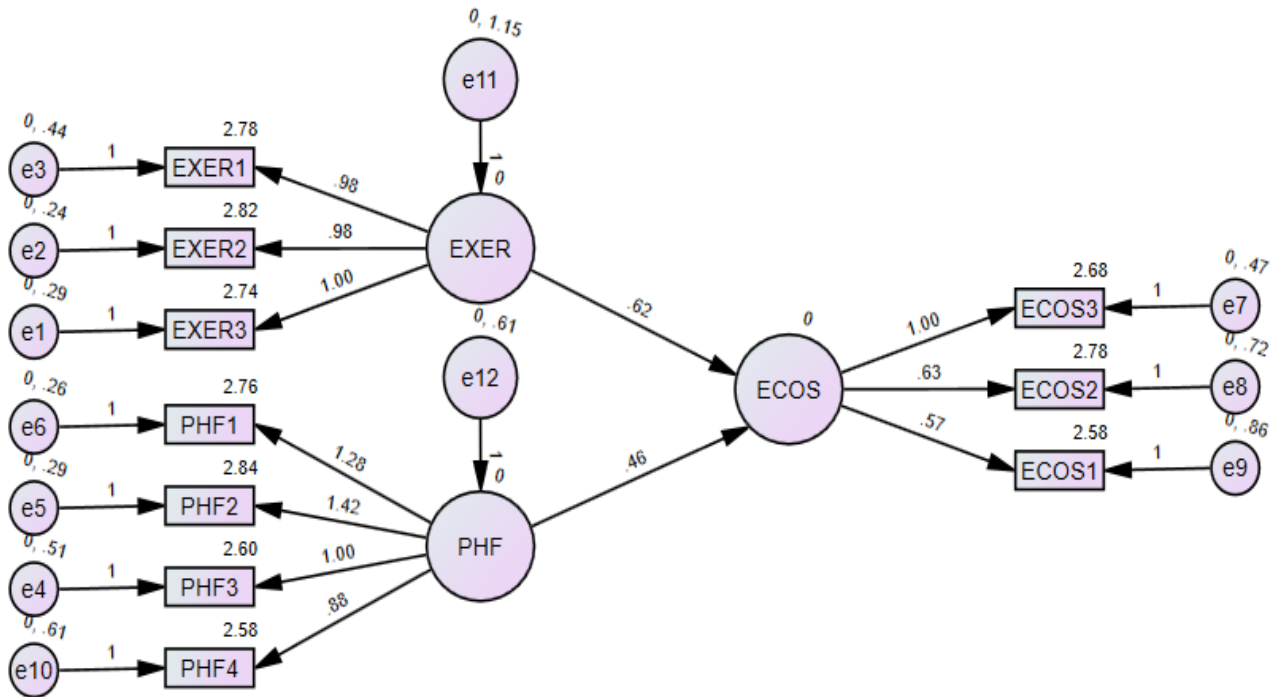
Regression Weights

			Estimate	S.E.	C.R.	P	Label
ECOS	<---	EXER	.620	.105	5.879	***	par_8
ECOS	<---	PHF	.460	.136	3.383	***	par_9
EXER3	<---	EXER	1.000				
EXER2	<---	EXER	.984	.108	9.152	***	par_1
EXER1	<---	EXER	.975	.122	8.028	***	par_2
PHF3	<---	PHF	1.000				
PHF2	<---	PHF	1.000	.228	6.255	***	par_3
PHF1	<---	PHF	1.000	.206	6.212	***	par_4
ECOS3	<---	ECOS	1.000				
ECOS2	<---	ECOS	.630	.187	3.366	***	par_5
ECOS1	<---	ECOS	.569	.198	2.877	.004	par_6
PHF4	<---	PHF	.880	.193	4.560	***	par_7

The given result illustrates the regression weight of each measurement item with ICEPT and SLOPE using estimate values. Exercise (EXER) and Physical Fitness (PHF) are independent variables with estimated values of 1.000 and 0.880 at the ICEPT level and a 100% significant estimated value at the SLOPE level, respectively. ECOS (Economic Survival) is a dependent variable with a confidence interval of 1.000 and 0.569, respectively.

AMOS Confirmatory Factor Analysis (CFA)

The confirmatory factor analysis test is used to verify that the factors loading on the model variables is correct and identify any issues or inconsistencies in the factors loading on the items and the model fit. Due to the required values in the result, as indicated in the table, the values recovered from the confirmatory factor analysis result are acceptable, indicating that the model is fit and acceptable.
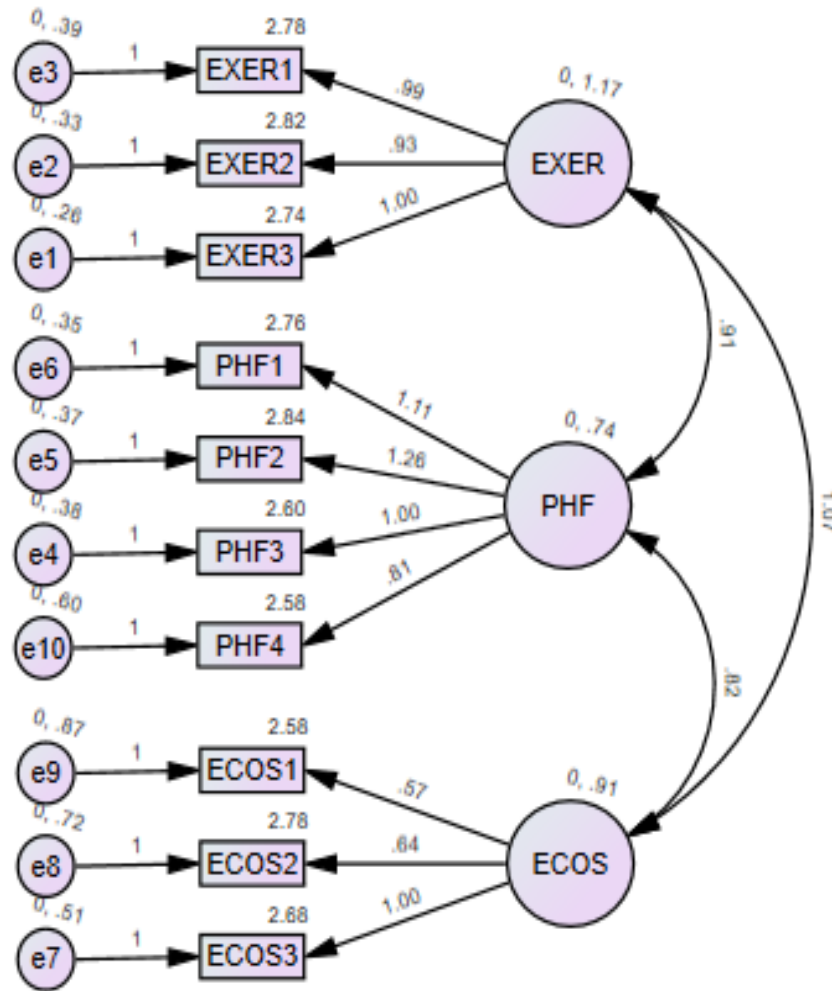
Assessment of Normality

Variable	Min	Max	skew	c.r.	Kurtosis	c.r.
PHF4	1.000	5.000	.159	.459	-.834	-1.204
ECOS1	1.000	5.000	.319	.920	-.674	-.972
ECOS2	1.000	5.000	.238	.686	-.500	-.721
ECOS3	1.000	5.000	.281	.810	-.828	-1.195
PHF1	1.000	5.000	.058	.168	-1.042	-1.504
PHF2	1.000	5.000	.305	.882	-1.057	-1.525
PHF3	1.000	5.000	.445	1.286	-.653	-.943
EXER1	1.000	5.000	.233	.672	-1.021	-1.474
EXER2	1.000	5.000	.124	.357	-.854	-1.233
EXER3	1.000	5.000	.510	1.473	-.707	-1.021
Multivariate					10.097	2.304

The table above summarises the findings from the normalcy test for each independent dependent and mediator variable. The output includes the minimum and maximum values and skew and kurtosis information. Based on the results, the EXER (Exercise) variable has a minimum value of 1.00 and a maximum value of 5.00. The c.r. value for EXER ranges from -1.474 to -1.021, while the kurtosis value ranges from -1.021 to -0.707. The total

normalcy analysis demonstrates a negative link between each variable. Physical Fitness (PHF) has a correlation coefficient of 0.882 to 1.286 and a kurtosis value of -0.653 to -1.057. The skewness score of 0.058 to 0.445 indicates a positive influence. According to normality analysis, the multivariate values of kurtosis and c.r. of PHF its rate are -0.653 and -0.943, respectively.

Factor Covariances

	PHF4	ECOS1	ECOS2	ECOS3	PHF1	PHF2	PHF3	EXER1	EXER2	EXER3
PHF4	1.084									
ECOS1	.524	1.164								
ECOS2	.468	.548	1.092							
ECOS3	.566	.466	.550	1.418						
PHF1	.739	.559	.387	.923	1.262					
PHF2	.713	.753	.645	1.029	1.122	1.534				
PHF3	.572	.512	.612	.812	.764	.876	1.120			
EXER1	.768	.608	.612	1.090	1.027	1.185	.892	1.532		
EXER2	.724	.444	.620	1.002	.917	.951	.928	1.120	1.348	
EXER3	.711	.571	.783	1.057	.978	1.158	.976	1.083	1.133	1.432

The preceding result compares the covariance and variance estimation matrices using supplied values. Additionally, the output includes a description of the covariance analysis for each variable. The covariance ratio indicates that the positive and significant variance ratios are 0.468 and 0.978, respectively, at the rate level. The findings indicate a statistically significant and positive link between the variables. Variance is another example. It has a covariance of 0.466 and a degree of variance of 1.164. The mean indicates that the degree of significance for each variable at each rating point is 0.000.

Factor Correlations

	PHF4	ECOS1	ECOS2	ECOS3	PHF1	PHF2	PHF3	EXER1	EXER2	EXER3
PHF4	1.000									
ECOS1	.466	1.000								
ECOS2	.430	.486	1.000							
ECOS3	.456	.363	.442	1.000						
PHF1	.632	.461	.330	.690	1.000					
PHF2	.553	.563	.498	.698	.806	1.000				
PHF3	.519	.448	.553	.644	.643	.668	1.000			
EXER1	.596	.455	.473	.739	.739	.773	.681	1.000		
EXER2	.599	.355	.512	.725	.703	.661	.755	.780	1.000	
EXER3	.571	.442	.626	.742	.727	.781	.771	.731	.816	1.000

Correlation of estimate denotes the interaction of covariance, variance, ICEPT mean, and SLOPE 1.000, which denotes a level of significance of one hundred percent and intercorrelation of each variable. Each correlation estimate has a value of 0.681, 0.755, or 0.771. (for PHF3). The results indicate that the dependent and independent variables have a positive association.

Means

PHF4	ECOS1	ECOS2	ECOS3	PHF1	PHF2	PHF3	EXER1	EXER2	EXER3
2.580	2.580	2.780	2.680	2.760	2.840	2.600	2.780	2.820	2.740

The mean value of each growth curve model connected to Exercise, Physical Fitness and Economic Survival is described in the above result. Each curve's estimated values, standard error value, c.r. values, and probability values are presented in the results. The table above portrays the mean values for Items.

Standardized Regression Weights

	Estimate
EXER3 ← EXER	.904
EXER2 ← EXER	.869
EXER1 ← EXER	.865
PHF3 ← PHF	.813
PHF2 ← PHF	.873

PHF1 ← PHF	.851
ECOS3 ← ECOS	.802
ECOS2 ← ECOS	.583
ECOS1 ← ECOS	.504
PHF4 ← PHF	.671

The table above shows the values for Standardized Regression Weights. The table portrays the estimates for the relationship (cause-and-effect relationship) between measuring items and variables.

Intercepts

	Estimate	S.E.	C.R.	P	Label
EXER3	2.740	.171	16.026	***	par_11
EXER2	2.820	.166	17.005	***	par_12
EXER1	2.780	.177	15.724	***	par_13
PHF3	2.600	.151	17.197	***	par_14
PHF2	2.840	.177	16.049	***	par_15
PHF1	2.760	.161	17.195	***	par_16
ECOS3	2.680	.170	15.756	***	par_17
ECOS2	2.780	.149	18.626	***	par_18
ECOS1	2.580	.154	16.742	***	par_19
PHF4	2.580	.149	17.349	***	par_20

Intercepts are used to describe the estimated values of ICEPT and SLOPE variables. Exercise, Physical Fitness, and Economic Survival results indicate that 0.171 to 0.149 and SLOPE provide a 100 percent significant level result that accepts the alternative hypothesis and rejects the null hypothesis, demonstrating a meaningful association between the three.

Variable Covariances

			Estimate	S.E.	C.R.	P	Label
EXER	<-->	PHF	.914	.220	4.157	***	par_8
ECOS	<-->	EXER	1.066	.252	4.235	***	par_9
ECOS	<-->	PHF	.822	.208	3.949	***	par_10

The given result shows how the covariance estimate matrices are related using specified values. A description of the covariance analysis of relationship between variables EXER←→ PHF, ECOS←→EXER, and ECOS←→PHF is also included in the outcome. According to the covariance ratio, a positive and statistically significant variance ratio with each other at the rate level is 0.000. The findings reveal that the factors have a statistically significant and favorable association.

Variable's Correlations

Minimization History

	Estimate
EXER ←→ PHF	.982
ECOS ←→ EXER	1.033
ECOS ←→ PHF	1.002

The table above shows the estimates of correlation between the variables. The results from the table above portraits the values for EXER←→PHF is 0.982, ECOS ←→ EXER is 1.033, and ECOS ←→ PHF is 1.002.

Variances

	Estimate	S.E.	C.R.	P	Label
EXER	1.170	.288	4.062	***	par_21
PHF	.739	.217	3.410	***	par_22
ECOS	.911	.285	3.191	.001	par_23

The table above shows the intercept, estimates, coefficient of determination, and significant values for Exercise (EXER), Physical Fitness (PHF), and Economic Survival (ECOS). The intercept, estimates, coefficient of determination, and significant values for EXER, PHF, and ECOS are all significant, as EXER is 0.000, PHF is 0.000, and ECOS is 0.001. As a result, the data for the variables is important.

Factor Score Weights

	PHF 4	ECOS 1	ECOS 2	ECOS 3	PHF 1	PHF 2	PHF 3	EXER 1	EXER 2	EXER 3
PHF	.056	.020	.027	.060	.131	.140	.107	.086	.095	.128
EXER	.046	.042	.057	.126	.107	.115	.088	.137	.151	.204
ECOS	.041	.001	.001	.003	.097	.104	.080	.164	.181	.244

The weights assigned to each variable's factor score are listed in Table above. PHF, EXER, and ECOS plot the anticipated weight of each item against the factors. The weights are in the range of +1 to -1. For instance, PHF 4, PHF3, PHF2, and PHF1 all give significant loadings against PHF by providing a 0.056, 0.107, 0.140, and 0.131 load to the variable, respectively.

Covariance Matrix

	PHF	EXER	ECOS
PHF	.739		
EXER	.914	1.170	
ECOS	.822	1.066	.911

The table above shows the covariance matrix between the variables. PHF (EXER is 0.914, PHF (ECOS is 0.822, and EXER→ ECOS is 1.066.

Iteration	Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	6		-.662	9999.000	426.050	0	9999.000
1	9		-1.440	1.979	227.094	19	.647
2	9		-1.216	.369	171.161	6	1.035
3	3		-.566	.121	155.888	5	.731
4	0	1609.631		.716	79.798	8	.915

5	0	1217.938	.454	56.522	3	.000
6	0	960.773	.314	52.904	1	.890
7	0	794.489	.045	52.493	1	1.062
8	0	797.031	.005	52.488	1	1.010
9	0	798.233	.000	52.488	1	1.000

The minimization history shows the result of all iterations starting at 0 and finishing at level point 7. The results demonstrate that negative eigenvalues, condition values, smallest eigenvalues, diameter rates, and the F-statistic are all given, along with the ratio analysis of each iteration. The negative eigenvalue is 6, 9, 9, 3, 0, 0, 0, 0, 0, 0, 0, 0, 0. The condition numbers are 1609.631, 1217.938, 960.773, 794.489, 797.031, and 798.233, respectively. The findings indicate that the f statistic values are 426.050, 227.094, 171.161, 155.88, 79.798, 56.522, 52.904, 52.493, and 52.488 for each iteration. The result demonstrates the history of minimization in the form of ratios of 9999.000, 0.647, 1.035, 0.731, 0.915, 0.000, 0.890, 1.062, 1.010, and 1.000, suggesting a favourable connection between variables while evaluating research in Exercise, Physical Fitness, and Economic Survival.

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	33	52.488	32.013		1.640
Saturated model	65	.000	0		
Independence model	20	418.616	45	.000	9.303

The summary of the model fit mentioned above relates to Exercise and Physical Fitness. The model explains both the saturation and independence models and the default mode. Results. NPAR is 33, and each model has a value of 3. The default model has a CMIN value of 52.488, while the saturated model has a value of 0.013 and the independence model has a value of 418.616. Additionally, the result provides the probability values that are 0.000 at the moment and are 100% significant. According to the model mentioned above, the default model's CMIN/DF rate is 1.640, whereas the independence model's rate is 9.303. According to the findings, the CMIN models are appropriate for analysis and study in Exercise and Physical Fitness.

Baseline Comparisons

This resulting model explains why the NFI values for each model are 0.875, 1.000, and 0.000, respectively, whereas the RFI values are 0.824 and 0.000.
However, compared to the default, saturated, and independence models, the TLI and CFI models, with coefficients of 0.923 and 0945, respectively, demonstrate a positive baseline comparison between variables.

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.875	.824	.947	.923	.945
Saturated model	1.000		1.000		1.000

Independence model .000   .000   .000   .000   .000

NCP

Model	NCP	LO 90	HI 90
Default model	20.488	4.457	44.409
Saturated model	.000	.000	.000
Independence model	373.616	311.830	442.866

This result summarises the fitness of each model by displaying the NCP, LO90, and H190 values. The default model produces an NCP value of 2.0.488, whereas the saturated model produces a significant ratio of 0.000. The L090 model represents the NCP performance with values of 4.457 for the default model, 0.000 for the saturated model, and 373.616 for the NCP's Independence Model. The H190 indicates that the 44.409 values in the saturation model of the values model are significant, and that the independence model has a positive hypothesis value of 442.866 for the dependent variable.

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	1.071	.418	.091	.906
Saturated model	.000	.000	.000	.000
Independence model	8.543	7.625	6.364	9.038

The default model's fitness summary has an FMIN value of 1.071, whereas the saturated model has a value of 0.000 and the independence model has a value of 8.543. For each perspective, the F0 model's rate levels are 0.418, 0.000, and 7.625, respectively. Each model has a LO 90 ratio of 0.091, 0.000, and 6.364, showing that the model fitness of each variable is substantial and acceptable. As a result, the default model value for HI 90 is 0.906, the saturated model value is 0.000, and the independent model value is 9.038.

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.114	.053	.168	.044
Independence model	.412	.376	.448	.000

The RMSEA result includes each model's default mode and independence model values. Its RMSEA values are 0.114 and 0.412, respectively, and the LO 90 values for the default and independence models are 0.053 and 0.376, respectively. The results indicate that HI 90 has a.044 positive hypothesis value and 0.000 has a 0.000 PCLOSE rate, showing that each model is significant.

AIC

Model	AIC	BCC
Default model	118.488	137.594
Saturated model	130.000	167.632

Independence model	458.616	470.195

By examining the characteristics of Economic Survival (ECOS) values, the AIC fit summary for Exercise (EXER) and Physical Fitness may be determined (PHF). Each model has an AIC value of 118.488, which is the average AIC values for all models. The saturation model has a parameter value of 130.000, while the independence model has a parameter value of 458.616. As a result, the BCC value is connected to model performance. The default model has a value of 137.594, while the saturated model has a value of 167.632 and the independence model has a value of 470.195.

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	2.418	2.091	2.906	2.808
Saturated model	2.653	2.653	2.653	3.421
Independence model	9.360	8.099	10.773	9.596

The table above summarises the ECVI value. The default model's ECVI value is 2.418, the saturated model's value is 2.653, and the independence model's value is 9.360. However, the LO 90 model number is 2.091, the saturated model is 2.653, and the independence model is 8.099. The number for the HI 90 Model is 2.906, for the saturation model is 20.654, and for the independence, the model is 10.773.

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	44	50
Independence model	8	9

The table above contains the HOELTER Model's values. HOELTER.05 has a value of 44 for the default model and 8 for the Independence model. Similarly, for the Default Model, the value of HOELTER.01 is 50, whereas for the Independence Model, the number is 9.

Conclusion

References

Economic survival is likewise inextricably connected to physical fitness and health. When a country's health is compromised, so is its economic stability. Any epidemic has a global economic impact. It is vital to educate people about exercise and physical activity to assist them in overcoming health problems. The study of the relationship between exercise and fitness and its effect on economic survival has as its primary objective educating us about the significance and necessity of exercise and physical fitness in our lives. Exercise and physical activity are two key terms that are inextricably linked. The only distinction between exercise and physical activity is that exercise is a series of deliberate motions, whereas physical activity is the unplanned movement of physiological parts. The findings suggested that all three hypotheses were correct, as the link between variables was substantial. Thus, the results suggested that exercise and physical fitness are correlated and that exercise and economic survival are also favorably correlated.

Recommendations

The following are recommendations for future research:
• Future research can incorporate functional fitness and virtual reality training into the equation of physical fitness. As this would improve research somewhat.
• Additionally, this study lacked a comparison of male and female responses. As a result, future studies can include gender comparisons in the analysis section.

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Afshar, N., Dashti, S. G., Te Marvelde, L., Blakely, T., Haydon, A., White, V. M., . . . Thomas, R. J. (2021). Factors explaining socio-economic inequalities in survival from colon cancer: a causal mediation analysis. *Cancer Epidemiology and Prevention Biomarkers, 30*(10), 1807-1815. https://doi.org/10.1158/1055-9965.EPI-21-0222

Barsasella, D., Liu, M. F., Malwade, S., Galvin, C. J., Dhar, E., Chang, C.-C., . . . Syed-Abdul, S. (2021). Effects of virtual reality sessions on the quality of life, happiness, and functional fitness among the older people: a randomized controlled trial from Taiwan. *Computer Methods and Programs in Biomedicine, 200*, 105892. https://doi.org/10.1016/j.cmpb.2020.105892

Daulatabad, V., Kamble, P., Berad, A., & Kate, N. (2020). Comparative study of physical fitness parameters between basketball players and sprinters. *National Journal of Physiology, Pharmacy and Pharmacology, 10*(10), 829-833. http://dx.doi.org/10.5455/njppp.2020.10.05117202018062020

de Melo, G. E. L., Kleiner, A. F. R., Lopes, J. B. P., Dumont, A. J. L., Lazzari, R. D., Galli, M., & Oliveira, C. S. (2018). Effect of virtual reality training on walking distance and physical fitness in individuals with Parkinson's disease. *NeuroRehabilitation, 42*(4), 473-480. https://doi.org/10.3233/NRE-172355

Dhasal, N., & Thakur, A. (2019). COMPARATIVE STUDY OF PHYSICAL FITNESS AND QUALITY OF LIFE IN EXERCISING AND NON-EXERCISING INSTITUTIONALISED ELDERLY. *International Journal of Recent Scientific Research, 10*(05), 32232-32239. https://www.researchgate.net/publication/351657406

Genç, H., & Ciğerci, A. E. (2020). The Effect of the Core Exercises on Body Composition, Selected Strength and

Performance Skills in Child Soccer Players. *International Journal of Applied Exercise Physiology, 9*(6), 101-108. https://www.researchgate.net/publication/342339341

Hernández-Jaña, S., Sanchez-Martinez, J., Solis-Urra, P., Esteban-Cornejo, I., Castro-Piñero, J., Sadarangani, K. P., . . . Cristi-Montero, C. (2021). Mediation Role of Physical Fitness and Its Components on the Association Between Distribution-Related Fat Indicators and Adolescents' Cognitive Performance: Exploring the Influence of School Vulnerability. The Cogni-Action Project. *Frontiers in behavioral neuroscience*, 210. https://doi.org/10.3389/fnbeh.2021.746197

Heyong, W., Su, Y.-Y., Wei, S.-Y., Boleyev, T., Kuo, Y.-K., & Zafar, S. Z. (2021). Nexus between Sportsmen Injuries and Economic Survival in Future Life. *Revista de Psicología del Deporte (Journal of Sport Psychology), 30*(3), 156-167. http://mail.rpd-online.com/index.php/rpd/article/view/482

Htut, T. Z. C., Hiengkaew, V., Jalayondeja, C., & Vongsirinavarat, M. (2018). Effects of physical, virtual reality-based, and brain exercise on physical, cognition, and preference in older persons: a randomized controlled trial. *European Review of Aging and Physical Activity, 15*(1), 1-12. https://doi.org/10.1186/s11556-018-0199-5

Huang, L., Lei, W., Xu, F., Liu, H., & Yu, L. (2020). Emotional responses and coping strategies in nurses and nursing students during Covid-19 outbreak: A comparative study. *PloS one, 15*(8), e0237303. https://doi.org/10.1371/journal.pone.0237303

Kariyawasam, A., Ariyasinghe, A., Rajaratnam, A., & Subasinghe, P. (2019). Comparative study on skill and health related physical fitness characteristics between national basketball and football players in Sri Lanka. *BMC research notes, 12*(1), 1-5. https://doi.org/10.1186/s13104-019-4434-6

Kolijn, D. (2013). *The relationship between Core Stability and Athletic Performance.* [Bachelor Thesis]. University of Applied Sciences Utrecht. https://hbokennisbank.nl/details/sharekit_hu:oai:surfsharekit.nl:4a0c202f-0bc5-446c-bdae-1a64dfed649c

Mozolev, O., Shorobura, I., Zdanevych, L., Hutsal, L., Marusynets, M., & Kravchuk, L. (2020). Influence of Physical Fitness of Students on the Quality of Leisure Organization in a Sports and Health Tourism. *Revista Românească pentru Educaţie Multidimensională, 12*(2), 117-131. https://doi.org/10.18662/rrem/12.2/269

Müller, D. C., Boeno, F. P., Izquierdo, M., Aagaard, P., Teodoro, J. L., Grazioli, R., . . . Pinto, R. S. (2021). Effects of high-intensity interval training combined with traditional strength or power training on functionality and physical fitness in healthy older men: A randomized controlled trial. *Experimental Gerontology, 149*, 111321. https://doi.org/10.1016/j.exger.2021.111321

Oketch, J. O., Okeyo, W., & Kiruhi, T. (2021). ECONOMIC SURVIVAL THROUGH RESPONSIVE ENTREPRENEURSHIP IN THE ERA OF GLOBAL DISRUPTION. *Machakos University Press*. http://ir.mksu.ac.ke/handle/123456780/8089

Qian, J., McDonough, D. J., & Gao, Z. (2020). The Effectiveness of virtual reality exercise on individual's physiological, psychological and rehabilitative outcomes: A systematic review. *International journal of environmental research and public health, 17*(11), 4133. https://doi.org/10.3390/ijerph17114133

Rutkowski, S., Rutkowska, A., Jastrzębski, D., Racheniuk, H., Pawełczyk, W., & Szczegielniak, J. (2019). Effect of Virtual Reality-Based Rehabilitation on Physical Fitness in Patients with Chronic Obstructive Pulmonary Disease. *Journal of human kinetics, 69*, 149-157. https://sciendo.com/downloadpdf/journals/hukin/69/1/article-p149.pdf

ŞAHİN, G., ÇOŞKUN, A., & APAYDIN, S. (2018). GENÇ-YAŞLI KADINLARDA EGZERSİZİN FİZİKSEL UYGUNLUK VE FONKSİYONEL FİZİKSEL UYGUNLUK YAŞINA ETKİSİ. *SPORMETRE Beden Eğitimi ve Spor Bilimleri Dergisi, 16*(3), 158-165. https://dergipark.org.tr/en/pub/spormetre/issue/68402/1076280

Sattler, K. M., Deane, F. P., Tapsell, L., & Kelly, P. J. (2018). Gender differences in the relationship of weight-based stigmatisation with motivation to exercise and physical activity in overweight individuals. *Health Psychology Open, 5*(1). https://doi.org/10.1177%2F2055102918759691

Shidong, L., Kuo, T.-H., ul Islam, M., Talha, M., Lone, S. A., & Wei, S.-Y. (2021). The impact of Sports Activities on Economic Survival, Social Life of Women, and What do Big Data Analysis reveals about Social Life of Sports Women. *Revista de Psicología del Deporte (Journal of Sport Psychology), 30*(3), 229-241. https://www.rpd-online.com/index.php/rpd/article/view/489

Siani, A., & Marley, S. A. (2021). Impact of the recreational use of virtual reality on physical and mental wellbeing during the Covid-19 lockdown. *Health and technology, 11*(2), 425-435. https://doi.org/10.1007/s12553-021-00528-8

Słomka, K. J., Pawłowski, M., Michalska, J., Kamieniarz, A., Brachman, A., & Juras, G. (2018). Effects of 8-week complex balance training in young alpine skiers: a pilot study. *BioMed Research International, 2018*. https://doi.org/10.1155/2018/6804534

Tiwari, U. (2020). COMPARATIVE STUDY OF SELECTED PHYSICAL FITNESS VARIABLES BETWEEN GOVERNMENT & PRIVATE SCHOOL STUDENTS. *AN INTERNATIONAL BILINGUAL PEER REVIEWED REFEREED*

RESEARCH JOURNAL, 10(38), 140-146. https://www.researchgate.net/profile/Usha-Tiwari/publication/354717108

Yaprak, Y., & Kucukkubas, N. (2020). Gender-related Differences on Physical Fitness Parameters After Core Training Exercises: A Comparative Study. *Progress In Nutrition, 22*(3), e2020028. https://doi.org/10.23751/pn.v22i3.9334