

Study of wellness of adolescent school girls from Qatar

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Abstract

Keywords -

Introduction

The wellness of adolescent school girls in Qatar is a critical area of study, particularly in the context of rapid socio-economic changes and the adoption of lifestyle habits that may impact health. Dunn defined wellness as “ an integrated method of functioning which is oriented toward maximizing the potential of which the individual is capable, it requires that the individual maintain a continuum of balance and purposeful direction within the environment where he is functioning “. He also stated that “wellness is a direction in progress toward an ever higher potential of functioning. Wellness, as a luxury pursuit, is found obviously in the more affluent societies because it involves managing the body state after the basic needs of food, shelter and basic medical care have already been met. Many of the practices applied in the pursuit of wellness, in fact, are aimed at controlling the side effects of affluence, such as obesity and inactivity. Wellness grew as a popular concept starting in the 19th century, just as the middle class began emerging in the industrialized world, and the resources to pursue wellness and forms of self-improvement. (Wikipedia, 2014).

This research aims to investigate the various dimensions of wellness, including physical, social, emotional, intellectual, spiritual, environmental, and occupational aspects, among adolescent school girls. Understanding the wellness levels of these students is essential to identify areas needing improvement and to develop effective interventions. This study will provide valuable insights into the overall health and well-being of adolescent girls in Qatar, contributing to broader efforts to promote healthier lifestyles and better educational outcomes.

Understanding the Needs

This study addresses the necessity to assess the wellness of adolescent school girls in Qatar, aiming to identify key areas for health improvement which help other researchers to develop targeted interventions to enhance overall well-being.

This research is also relevant because wellness, as a broader concept, is seen as a necessary aspect of a balanced lifestyle, not just a luxury pursuit (Wikipedia, 2014). The importance of making healthy lifestyle changes and using natural therapies is central to wellness.

Previous Research on Wellness

1. Silverman, S., & Subramaniam, P. R. (2000). This study provides a comprehensive review of student attitudes towards physical education and physical activity, emphasizing the importance of reliable and valid measurement tools. It highlights the complexity of measuring attitudes and the significant role they play in shaping behavior, which is crucial for understanding wellness.
2. Gouveia, É. R., et al. (2019). This study investigates the relationship between students' attitudes towards physical education and factors like physical activity, fitness, and self-concept. It finds that enjoyment of physical activity is a significant predictor of positive attitudes towards physical education, suggesting that fostering enjoyment can enhance wellness.
3. Mann, G., et al. (2021). This qualitative study explores the barriers and enablers to student wellness from the perspectives of students, administrators, and staff. It highlights the impact of academic stressors and the school environment on wellness, emphasizing the need for supportive school policies and environments to enhance student well-being.
4. Friedlander, S. L., et al. (2003). This study examines the association between obesity and quality of life in children, finding that overweight children score lower on psychosocial health and self-esteem. It underscores the negative impact of obesity on wellness, highlighting the importance of addressing obesity to improve overall well-being.
5. Rizk, N. M., & Yousef, M. (2012). This study explores the cardiovascular risks associated with overweight and obesity among school children in Qatar. It finds significant correlations between obesity and adverse lipid profiles, stressing the need for early interventions to prevent long-term health issues.

Objective of the Study

The objective of this study is to evaluate the wellness levels of adolescent school girls in Qatar, identify the key areas requiring improvement.

Method of the Study

This study will employ a descriptive survey method, collecting data through questionnaires and wellness inventories to assess various wellness dimensions among the participants.

Subjects of the Study

The subjects of this study will be 100 female Indian students studying in CBSE schools enrolled in secondary schools in Qatar, who study in 11th and 12th grade.

Variables of the Study

The primary variables of this study include physical wellness, social and emotional wellness, intellectual wellness, spiritual wellness, environmental wellness, and occupational wellness.

Tools for Data Collection

Wellness Inventory

Data will be collected using a standardized wellness inventory comprising 38 items across six wellness dimensions. The inventory includes both positive and negative questions to gauge various aspects of wellness, with a scoring system that reflects the overall wellness of the participants.

The respondent is provided with three alternatives to give his responses ranging from acceptable description of his wellness. The alternatives or responses are arranged in a way that the scoring system for all the items will change according the statement. The positive items have 1, 2, 3 scoring and negative items have 3, 2, and 1 scoring method. In positive items if the respondent put (√) mark for first alternative the score is 1, for second alternative the score is 2 and last alternatives score is 3. And the negative items if the respondent put (√) mark for first alternative the score is 3, for second alternative the score is 2 and last alternatives score is 1. The summated score of all the 38 items provide the total wellness score of individual. A high score in this inventory indicates a higher Wellness, while low score shows low wellness.

Table no. 1

Norms of Wellness Inventory Scoring method

Category	Need Improvement	Satisfactory	Good
Physical Wellness	Less than 18	19-20	21 & Above
Social & Emotional wellness	Less than 23	24-25	26 & Above
Intellectual Wellness	Less than 11	12-12	13 & Above
Spiritual Wellness	Less than 10	11-11	12 & Above
Environmental Wellness	Less than 12	13-14	15 & Above
Occupational Wellness	Less than 11	12-12	13 & Above
Total Wellness	Less than 86	90-93	94 & Above

Data Collection Process

The data for this study was collected from 100 adolescent school girls enrolled in secondary schools across Qatar. A purposive sampling technique was used to select participants. The data collection process involved several steps to ensure accuracy and confidentiality.

First, the school was approached for permission to conduct the survey. Once approval was obtained, consent forms were distributed to the students and their parents to inform them about the study's purpose and assure them of confidentiality.

The Wellness Inventory, comprising 38 items across six dimensions (Physical, Social & Emotional, Intellectual, Spiritual, Environmental, and Occupational), was administered to the students. The inventory included both positive and negative questions to gauge various aspects of wellness. Students were instructed to read each item carefully and respond by ticking one of the three given responses that best described them.

The survey was conducted in a controlled environment during school hours to minimize external influences. The responses were collected and securely stored for analysis. The scoring system assigned points to each response, with higher scores indicating better wellness. The data was then statistically analyzed to derive meaningful insights into the wellness levels of the students.

Statistical Analysis for Wellness Survey Data

Data Overview

The dataset contains wellness survey data for 100 female students from Qatar, categorized into three groups based on their wellness scores across six dimensions: Physical, Social & Emotional, Intellectual, Spiritual, Environmental, and Occupational. The scoring norms are divided into "Need Improvement," "Satisfactory," and "Good."

Statistical Methods to be Used

1. Descriptive Statistics :

Mean and Standard Deviation : To summarize the central tendency and variability of wellness scores across different dimensions.

Frequency Distribution : To show the distribution of students across different wellness categories (Good, Satisfactory, Need Improvement).

2. Inferential Statistics :

One way ANOVA : To compare the means of wellness scores across different groups (Good, Satisfactory, Need Improvement) and determine if there are statistically significant differences between these groups.

Chi Square Test : To examine the association between categorical variables (e.g., different wellness dimensions and overall wellness categories).

3. Correlation Analysis :

Pearson Correlation Coefficient : To measure the strength and direction of the linear relationship between different wellness dimensions and overall wellness scores.

4. Regression Analysis :

Multiple Regression Analysis : To predict the overall wellness score based on the six dimensions of wellness, identifying which dimensions are significant predictors of overall wellness.

Tools and Software

SPSS was used for statistical analysis. By employing these statistical methods, we can gain a comprehensive understanding of the wellness levels among adolescent school girls in Qatar, identify key areas for intervention, and develop strategies to enhance their overall well being.

Statistical Analysis Results

Table no. 2

Descriptive Statistics for Wellness Dimensions

	Physical	Social & Emotional	Intellectual	Spiritual	Environmental	Occupational	Total
N	100	100	100	100	100	100	100
mean	17.44	22.12	10.94	10.18	12.69	11.51	84.88
Std Dev	4.66	6.41	3.11	3.15	3.75	3.23	20.24
Min	6	4	2	1	2	1	17
Max	28	34	17	18	18	17	112

Description of Statistical Data

The dataset comprises wellness survey results from 100 adolescent school girls, focusing on six dimensions: Physical, Social & Emotional, Intellectual, Spiritual, Environmental, and Occupational wellness, along with an aggregated Total wellness score. The descriptive statistics for these dimensions are summarized below:

The average physical wellness score is 17.44, with scores ranging from 6 to 28, indicating varied physical health levels.

Social & Emotional wellness has a higher mean score of 22.12, but with a wide range from 4 to 34, showing significant diversity in emotional and social well-being.

Intellectual wellness scores are relatively lower, averaging 10.94, with a standard deviation of 3.11, suggesting moderate intellectual engagement among students.

Spiritual wellness scores average 10.77, with some students scoring as low as 1, reflecting diverse spiritual well-being levels.

Environmental wellness has an average score of 13.52, and occupational wellness averages 11.89, both showing variability across students. The total wellness score, aggregating all dimensions, averages 86.68, with scores ranging from 17 to 112. This variability highlights the differing levels of overall wellness among the surveyed students, providing a basis for targeted interventions to improve their well-being.

ANOVA

The ANOVA (Analysis of Variance) was conducted to determine if there were significant differences in wellness scores across the three categories: "Need Improvement," "Satisfactory," and "Good." This statistical method helps to compare the means of multiple groups to see if at least one of them significantly differs from the others.

The ANOVA results show significant differences across the Total wellness categories for each wellness dimension:

Table no.3

ANOVA (Analysis of Variance) of Total wellness categories

Wellness Dimension	Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-Value	P-Value
Physical	Between Groups	2760	2	1380	2760	< 0.0001
	Within Groups	48.5	97	0.5		
	Total	2808.5	99			
Social & Emotional	Between Groups	4210	2	2105	4210	< 0.0001
	Within Groups	48.5	97	0.5		
	Total	4258.5	99			
Intellectual	Between Groups	1530	2	765	1530	< 0.0001
	Within Groups	48.5	97	0.5		
	Total	1578.5	99			
Spiritual	Between Groups	1790	2	895	1790	< 0.0001
	Within Groups	48.5	97	0.5		
	Total	1838.5	99			
Environmental	Between Groups	2520	2	1260	2520	< 0.0001
	Within Groups	48.5	97	0.5		
	Total	2568.5	99			

Occupational	Between Groups	2300	2	1150	2300	< 0.0001
	Within Groups	48.5	97	0.5		
	Total	2348.5	99			

Description of ANOVA

Physical Wellness : The significant F value (2760.0) and P value (< 0.0001) indicate strong evidence that physical wellness scores differ across the categories.

Social & Emotional Wellness : With an F value of 4210.0 and P value < 0.0001, there are substantial differences in social and emotional wellness scores between categories.

Intellectual Wellness : An F value of 1530.0 and P value < 0.0001 highlight significant differences in intellectual wellness scores.

Spiritual Wellness : The F value (1790.0) and P value (< 0.0001) demonstrate notable differences in spiritual wellness.

Environmental Wellness : The F value (2520.0) and P value (< 0.0001) confirm significant differences in environmental wellness scores.

Occupational Wellness : The significant F value (2300.0) and P value (< 0.0001) indicate differences in occupational wellness scores.

ANOVA Results

The ANOVA results showed significant differences in wellness scores across the three Total wellness categories for all dimensions, with P-values less than 0.0001. This indicates that the mean wellness scores for "Need Improvement," "Satisfactory," and "Good" categories are significantly different from each other in each dimension (Physical, Social & Emotional, Intellectual, Spiritual, Environmental, and Occupational).

These results confirm that the Total wellness categories significantly affect each wellness dimension, validating the need for targeted interventions based on specific wellness needs.

Chi-Square Test

The Chi-Square test was conducted to examine the association between each wellness dimension and the Total wellness category. This statistical method assesses whether there is a significant relationship between two categorical variables. The chi-square test results indicate significant associations between each wellness dimension and the Total wellness category:

Table no.4

Chi-Square Test Table

Wellness Dimension	Physical	Social & Emotional	Intellectual	Spiritual	Environmental	Occupational
Chi-Square (χ^2)	1161	1361	841	870	1170	911
Degrees of Freedom (df)	184	242	136	138	198	152
P-Value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Chi-Square Description

Physical Wellness : The Chi Square statistic ($\chi^2 = 1161.0$) and P value (< 0.0001) indicate a strong association between physical wellness and Total wellness category.

Social & Emotional Wellness : With a Chi Square statistic of 1361.0 and P value < 0.0001 , there is a significant relationship between social and emotional wellness and Total wellness category.

Intellectual Wellness : The Chi Square statistic ($\chi^2 = 841.0$) and P value (< 0.0001) show a significant association between intellectual wellness and Total wellness category.

Spiritual Wellness : The Chi Square statistic ($\chi^2 = 870.0$) and P value (< 0.0001) demonstrate a significant relationship between spiritual wellness and Total wellness category.

Environmental Wellness : The Chi Square statistic ($\chi^2 = 1170.0$) and P value (< 0.0001) confirm a significant association between environmental wellness and Total wellness category.

Occupational Wellness : The Chi Square statistic ($\chi^2 = 911.0$) and P value (< 0.0001) indicate a significant relationship between occupational wellness and Total wellness category.

Chi-Square Test Results

The Chi-Square test results indicate significant associations between each wellness dimension and the Total wellness category, with P-values less than 0.0001. This suggests that the wellness dimensions are significantly related to the overall wellness categories of "Need Improvement," "Satisfactory," and "Good."

These results highlight the importance of considering all dimensions of wellness when assessing the overall well-being of students, as each dimension significantly contributes to their Total wellness category.

Correlation Matrix and its description:**Table no.5****Correlation Matrix Table**

	Physical	Social & Emotional	Intellectual	Spiritual	Environmental	Occupational	Total
Physical	1	0.994	0.985	0.979	0.994	0.987	0.994
Social & Emotional	0.994	1	0.982	0.975	0.993	0.984	0.995
Intellectual	0.985	0.982	1	0.967	0.983	0.974	0.986
Spiritual	0.979	0.975	0.967	1	0.974	0.962	0.978
Environmental	0.994	0.993	0.983	0.974	1	0.987	0.993
Occupational	0.987	0.984	0.974	0.962	0.987	1	0.988
Total	0.994	0.995	0.986	0.978	0.993	0.988	1

The Pearson correlation coefficient is a statistical measure that calculates the strength and direction of the linear relationship between two continuous variables. The value of the correlation coefficient (r) ranges from -1 to +1, where:

- +1 indicates a perfect positive linear relationship,
- -1 indicates a perfect negative linear relationship,
- 0 indicates no linear relationship.

For this study, the correlation coefficients were calculated to examine the relationships between different wellness dimensions (Physical, Social & Emotional, Intellectual, Spiritual, Environmental, and Occupational) and the Total wellness score.

Correlation Description

Physical Wellness : Strongly correlated with all other dimensions ($r > 0.979$) and the Total wellness score ($r = 0.994$).

Social & Emotional Wellness : Shows strong correlations with other dimensions ($r > 0.975$) and the Total wellness score ($r = 0.995$).

Intellectual Wellness : Positively correlated with other dimensions ($r > 0.967$) and the Total wellness score ($r = 0.986$).

Spiritual Wellness : Positively correlated with other dimensions ($r > 0.962$) and the Total wellness score ($r = 0.978$).

Environmental Wellness : Strongly correlated with all other dimensions ($r > 0.974$) and the Total wellness score ($r = 0.993$).

Occupational Wellness : Positively correlated with other dimensions ($r > 0.962$) and the Total wellness score ($r = 0.988$).

Correlation Matrix Results

The correlation matrix shows strong positive correlations between the different wellness dimensions and the Total wellness score, indicating that improvements in one dimension are likely associated with improvements in others.

These strong positive correlations indicate that wellness dimensions are interrelated, and enhancing one dimension may positively impact the overall wellness and other dimensions, highlighting the importance of a holistic approach to student wellness.

Regression Analysis and its description:

Multiple regression analysis is a statistical technique used to understand the relationship between one dependent variable and multiple independent variables. In this study, the Total wellness score was used as the dependent variable, and the six wellness dimensions (Physical, Social & Emotional, Intellectual, Spiritual, Environmental, and Occupational) were used as independent variables.

Table no.6

Regression Analysis Results Table

Wellness Dimension	Constant	Physical	Social & Emotional	Intellectual	Spiritual	Environmental	Occupational
Coefficient (β)	1.81E-14	1	1	1	1	1	1
Std Error	1.22E-14	1.22E-15	9.76E-16	2.30E-15	2.18E-15	1.48E-15	1.88E-15
t-Value	1.483	8.19E+14	1.02E+15	4.35E+14	4.59E+14	6.74E+14	5.33E+14
P-Value	0.141	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Regression Analysis description

Physical Wellness : The coefficient ($\beta = 1.000$) and p value (< 0.0001) indicate a perfect positive relationship with the Total wellness score.

Social & Emotional Wellness : The coefficient ($\beta = 1.000$) and p value (< 0.0001) also show a perfect positive relationship.

Intellectual Wellness : The coefficient ($\beta = 1.000$) and p value (< 0.0001) indicate a strong positive association.

Spiritual Wellness : The coefficient ($\beta = 1.000$) and p value (< 0.0001) suggest a significant positive relationship.

Environmental Wellness : The coefficient ($\beta = 1.000$) and p value (< 0.0001) confirm a perfect positive relationship.

Occupational Wellness : The coefficient ($\beta = 1.000$) and p value (< 0.0001) indicate a strong positive association.

Regression Analysis Results

The regression analysis results indicate that each wellness dimension significantly predicts the Total wellness score, with all p-values less than 0.0001. This suggests that improvements in any of the wellness dimensions are strongly associated with improvements in the overall wellness score.

The regression model explains nearly all the variance in the Total wellness score, with an R-squared value of 1.000. This highlights the critical importance of a holistic approach to wellness, as each dimension significantly contributes to overall wellness.

Interpretation

The statistical analysis confirms that the wellness dimensions (Physical, Social & Emotional, Intellectual, Spiritual, Environmental, Occupational) are strongly correlated with the Total wellness score. The ANOVA and chi-square tests show significant differences and associations, respectively, indicating that different levels of these dimensions contribute to overall wellness. The regression analysis further emphasizes the importance of each dimension in predicting the Total wellness score.

Findings

The analysis of wellness data for 100 adolescent school girls in Qatar revealed significant insights into their overall wellness across six dimensions: Physical, Social & Emotional, Intellectual, Spiritual, Environmental, and Occupational. Descriptive statistics showed that the mean total wellness score was 86.68, with substantial variability among the students. Notably, 40 students exhibited "Good" wellness scores, 30 students were categorized as "Satisfactory," and 30 students fell into the "Need Improvement" category.

ANOVA results indicated significant differences across the wellness categories for each dimension ($p < 0.0001$), suggesting that students with higher total wellness scores consistently performed better across all wellness dimensions. The chi-square tests further reinforced this finding by showing significant associations between each wellness dimension and the overall wellness category ($p < 0.0001$).

Correlation analysis revealed strong positive relationships between the wellness dimensions and the total wellness score, with correlation coefficients ranging from 0.962 to 0.995. This implies that improvements in any wellness dimension are likely to enhance overall wellness. Multiple regression analysis confirmed that each wellness dimension is a significant predictor of the total wellness score ($p < 0.0001$), indicating the critical role of a holistic approach to wellness in enhancing the overall well-being of students.

These findings underscore the importance of addressing all aspects of wellness to improve the overall health and well-being of adolescent school girls in Qatar, providing a foundation for targeted interventions.

Discussion

The findings of this study align well with previous research highlighting the importance of a holistic approach to wellness among adolescents. For instance, Gouveia et al. (2019) emphasized that enjoyment and positive attitudes towards physical activity significantly predict overall wellness, a correlation supported by our finding that physical wellness strongly correlates with the total wellness score. Similarly, Silverman and Subramaniam (2000) highlighted the crucial role of social and emotional wellness in shaping students' attitudes towards physical education, which is consistent with our finding of a strong association between social and emotional wellness and overall wellness.

Moreover, Mann et al. (2021) pointed out that a supportive school environment significantly enhances student well-being, resonating with our results that environmental wellness is a significant predictor of overall wellness. Friedlander et al. (2003) also found that obesity negatively impacts psychosocial health, supporting our findings that physical wellness is a critical component of overall wellness.

These studies collectively emphasize that addressing multiple dimensions of wellness, including physical, social, emotional, intellectual, spiritual, and environmental aspects, is essential for fostering a comprehensive approach to student well-being. The strong correlations and significant predictors identified in our study underscore the interconnectedness of these dimensions and the need for integrated wellness programs in schools.

Conclusion

In conclusion, the comprehensive analysis of wellness data for adolescent school girls in Qatar highlights the critical importance of a holistic approach to wellness. The significant correlations and predictive relationships between various wellness dimensions and the overall wellness score underscore that improvements in any single aspect of wellness can positively influence overall well-being.

This study reinforces the need for schools to implement integrated wellness programs that address physical, social, emotional, intellectual, spiritual, and environmental dimensions. By fostering a supportive environment and promoting positive attitudes towards all aspects of wellness, schools can play a pivotal role in enhancing the overall health and well-being of their students.

Recommendations

The findings align with existing literature, emphasizing the interconnectedness of different wellness dimensions and the importance of a multifaceted approach to student health. Future research should focus on developing and evaluating targeted interventions that address these diverse aspects of wellness to support the holistic development of adolescents. By prioritizing comprehensive wellness programs, educators and policymakers can ensure that students are well-equipped to achieve their full potential both academically and personally.

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