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Wellness Impact On The Performance Of Young Female Athletes

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Abstract:

This study has been aimed to examine the relationship and impact of wellness on performance among female athletes. Wellness and performance have high positive correlation ($r = 0.698$) with significance ($p = 0.0004$). Performance was also checked by the seven subscales of wellness which showed the highly positive correlation with each other as well as with performance. A multiple regression was calculated to predicted the performance with subscales of wellness. A significant regression equation was found ($F(7,192)$), $p < 0.0008$ with an R^2 of 0.47. Athletic performance = 0.757 + 0.139 (Physical Function) + 0.148 (Anxiety) -0.049 (Depression) -0.095 (Fatigue) +0.123 (Sleep disturbance) + 0.113 (Ability) + 0.402 (Pain interference). Finally, we have concluded that wellness has dominant effect on athletic performance. This study has recommended that government and sports federations should arrange psychological and physical training sessions accordingly.

Keywords: wellness, physical fitness, physical activity, performance

INTRODUCTION

Wellness is an active process of becoming aware of and making choices towards a healthy and fulfilling life. Wellness is more than being free from illness, it is a dynamic process of change and growth. "a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity." Historically, the western world's health care establishment has always focused on illness, and curing illness. As far as health care is concerned, wellness is a newfangled idea. Prior to the last decade, very little attention has ever been paid to helping people who are not ill, disordered or diseased (Mohammed et al., 2016).Ggradually,in some or otherway they learn how to further enhance the quality of their lives, or avoid the onset of future illness. Medical doctors, psychologists and other health professionals are primarily taught various categories of disease and how they can get excellence in fixing those diseases.

The health care insurance system is completely consideredas paying for interventions designed to fix disease. It is easy to get an insurance carrier to pay thousands of dollars for coronary bypass surgery. It is often harder to get them to pay for gym memberships and nutritional counseling that might have helped evade the need for such surgery in the first place, although some are starting to realize the benefits of doing so(Wellman et al., 2017).

The World Health Organization "a conscious, self-directed and evolving process of achieving full potential." There are eight dimensions of wellness: occupational, emotional, spiritual, environmental, financial, physical, social, and intellectual. Each dimension of wellness is interrelated with one another. Each dimension is equally vital in the pursuit of optimum health. One can reach an optimal level of wellness by understanding how to maintain and optimize each of the dimensions of wellness (Graber et al.,2012).

Emotional Wellness:Emotional wellness relates to understanding your feelings and coping effectively with stress. It is important to pay attention to self-care, relaxation, stress reduction and the development of inner resources so you can learn and grow from experiences (Gallo et al., 2017).

Environmental Wellness: Environmental wellness inspires us to live a lifestyle that is relevant to our surroundings. This realm encourages us to live in harmony with the Earth by taking action to protect it. Environmental well-being promotes interaction with nature and your personal environment. Everyone can have a strong environmental conscious simply by raising their awareness (Gallo et al., 2017).

Financial Wellness:Financial Wellness involves the process of learning how to successfully manage financial expenses. Money plays a critical role in our lives and not having enough of it impacts health as well as academic performance. Financial stress is repeatedly found to be a common source of stress, anxiety and fear for college students (Gallo et al., 2017).

Intellectual Wellness:Intellectual wellness involves having an open mind when you encounter new ideas and continuing to expand your knowledge. It encourages active participation in scholastic, cultural and community activities (Gallo et al., 2017).

Occupational Wellness:Occupational wellness is about enjoying your occupational endeavors and appreciating your contributions. This dimension of wellness encourages personal satisfaction and enrichment in one's life through work (Gallo et al., 2017).

Physical Wellness: Physical wellness relates to maintaining a healthy body and seeking care when needed. Physical health is attained through exercise, eating well, getting enough sleep and paying attention to the signs of illness and getting help when needed (Gallo et al., 2017).

Social Wellness: Social wellness helps you perform social roles effectively and comfortably, and create a support network. This dimension of wellness allows you to not only develop encouraging relationships with peers, but also intimate relationships with romantic partners (Gallo et al., 2017).

Spiritual Wellness: Spiritual wellness allows you to develop a set of values that help you seek meaning and purpose. Spirituality can be represented in many ways, for example, through relaxation or religion. But being spiritually well means knowing which resources are useful to cope with issues that come up in everyday life (Gallo et al., 2017).

Before outlining the health benefits of physical activity and fitness, it is important to note that many factors influence academic performance. Among these are socioeconomic status (Sidman et al., 2009), parental involvement, and a host of other demographic factors. A valuable predictor of student academic performance is a parent having clear expectations for the child's academic success. Attendance is another confirmed factor as having a significant impact on academic performance (Malone et al., 2018).Because children must be present to learn the desired content, attendance should be measured in considering factors related to academic performance.State-mandated academic achievement testing has had the unintended consequence of reducing opportunities for children to be physically active during the school day and beyond. In addition, a general shifting of time in school away from physical education to allow for more time on academic subjects, some children are withheld from physical education

classes or recess to participate in remedial or enriched learning experiences designed to increase academic performance (Smith et al., 2012).

Consequently, little evidence supports the notion that more time allocation to subject matter will convert it into better test scores. Indeed, 11 of 14 correlational studies of physical activity during the school day demonstrate a positive relationship to academic performance. Overall, a rapidly growing body of work suggests that engaged activity time in physical activity is related not only to a healthier body but also to a healthier mind. When physical activity is used as a break from academic learning time, post engagement effects include better attention, increased on-task behaviors (Mahar et al., 2006), and improved academic performance (Harrison, et al., 2019).

Comparisons between 1st-grade students drawn in a classroom with stand-sit desks, where the child could stand at his/her discretion and in classrooms containing traditional furniture showed that the former children were highly likely to stand, thus expending significantly more energy than those who were seated. More important, teachers can offer physical activity breaks as part of a supplemental curriculum or simply as a way to reset student attention during a lesson conducted a comprehensive review of how children's health and health disparities influence academic performance and learning (Gallo et al., 2017). The author's report draws on empirical evidence suggesting that education reform will be ineffective unless children's health is made a priority. Basch concludes that schools may be the only place where health inequities can be addressed and that, if children's basic health needs are not met, they will struggle to learn regardless of the effectiveness of the instructional materials used. More recently, Efrat (2011) conducted a review of physical activity, fitness, and academic performance to examine the achievement gap. He discovered that only seven studies had included socioeconomic status as a variable, despite its known relationship to education (Graberet al., 2012).

Research Objectives:This study has the following research objectives:

To find out the relationship among the sub constructs of wellness.

To evaluate the impact of wellness on the performance of young female athletes.

Hypotheses:H_0: Wellness does not play a positive role on the performance of young female athletes.

H_1:Wellness plays a positive role on the performance of young female athletes.

H_0: There is no positive correlation among the sub constructs of wellness.

H_1: There is positive correlation among the sub constructs of wellness.

METHODOLOGY

The cross-sectional and analytical study design have been used in this study. The university female athletes of Government Universities in Lahore city were the population.The following five universities were considered Punjab University (PU), Government college University(GCU), University of Engineering and Technology (UET), University of Education (UE), Comsats University Islamabad (Lahore Campus). The Patient Reported Outcomes Measurement Information System (PROMIS) survey was used for general health assessment and the specific form of the PROMIS was used in the current study(Dewalt et al., 2017). It had been comprised of 29 items rated on a 5-point Likert scale for 28 of the questions, with the 29th question rated on a scale of 0-10 for pain indication. The Self Rating of Athletic Performance (SRAP) survey was used for athletic performance used in the current study. It comprised of 10 items rated on a 5-point Likert.The Simple random sampling technique had been used in this study.To select sample size, following formula of Yamane was used as:$n = \frac{N}{1+Ne^2}$, where n = Sample Size, N = Total Population = 375, e = sampling error = 0.05, Sample Size = 200. The Inclusion Criteria was Only public sector universities as PU, GCU, UET, EU, COMSET and following games were included as Basket-ball, Volley-ball, Badminton, Table Tennis, Hockey and the exclusion criteria was comprised of all private sectors Universities. Other Games were also excluded.The collected data based on the variables of the questionnaire.Demographic information has been taken from

the participants.Information has been collected by given questionnaire on impact of wellness on the performance of young female athletes.Government universities have been taking part to promote this game at high level. There have been some factors which affectplayers 'performance. Therefore, a sample of size 200 female students of graduation Laval Government universities was selected to execute the result of wellness female players' performance.

RESULTS

To find out the consistency of the collected data, Cronbach' Alpha reliability test was applied and results are mentioned in Table1.

Table 1. Cronbach' Alpha reliability Statistics (n=200)

Scale	No. of Items	Reliability Statistics
Physical	4	0.64
function	4	0.56
Anxiety	4	0.57
Depression	4	0.31
Fatigue	4	0.35
Sleep	4	0.40
disturbance	5	0.79
Ability	10	0.74
Pain	**39**	**0.86**
Interference		
performance		
Overall		

The reliability statistics in Table -1 show that the data consistency of impact of wellness on the performance of young female athletes' performance in universities scale is 0.86. Therefore, it is concluded that the response data of female athletes of public universities is consistent.Figure 1 shows that the 64.50% of the participants are selected from Bachelor and 35.5% are from masters.

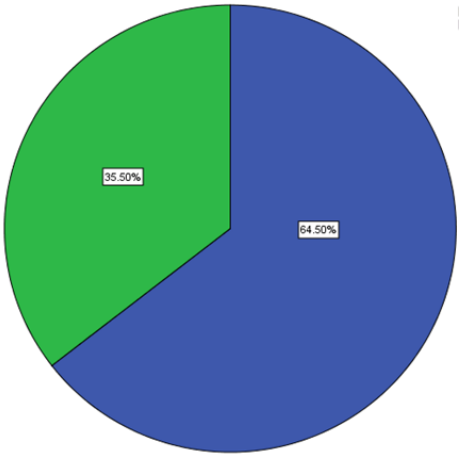

Figure 1. Educational Level of students

Score variables of Pain interference, fatigue, Sleep disturbance, Physical Function, Ability, Depression, and Anxiety are generated on the basis of responses given by the athletes through

Pearson's measurement scale. The relationship among subscale of wellness and performance have been shown in Table 2.

Table 2. Coefficient of correlation (n= 200)

Score Variable	Physical Function	Anxiety	Depression	Fatigue	Sleep Disturbance	Ability	Pain Interference	Performance
PF	1.00	0.694**	0.664**	0.197**	0.504**	0.434**	0.536**	0.517**
A		1.00	0.626**	0.221**	0.544**	0.510**	0.543**	0.536**
D			1.00	0.335**	0.541**	0.523**	0.464**	0.417**
F				1.00	339**	379**	0.085	0.068
SD					1.00	540**	0.345**	0.415**
A						1.00	0.451**	0.435**
PI							1.00	0.619**
Per								1.00

**Correlation is significant at the 0.01 level (2-tailed)

The correlation coefficients of all study variables are listed in table 2, this table shows that the physical function has correlation (r=0.517) with performance which is positive and highly significant. This table shows that the anxiety has correlation (r=0.536) with performance which is positive and highly significant. This table shows that the depression has correlation (r=0.417) with performance which is positive and highly significant. This table shows that the fatigue has correlation (r=0.068) with performance which is positive and non-significant. This table shows that the sleep disturbance has correlation (r=0.415) with performance which is positive and highly significant. This table shows that the ability has correlation (r=0.43) with performance which is positive and highly significant. This table shows that the pain interference has correlation (r=0.691) with performance which is positive and highly significant.

To conclude the impact of wellness and performance on university level players' performance the regression analysis is applied and the results are discussed in this section. The generated score variables wellness and Performance are used to find out the regression model. The following regression model is built to measure the impact on performance.

Table 3. Model Summary (n=200)

Model	R	R^2	AdjR^2	SE
1	0.688[a]	0.47	0.45	0.51

a. Predictor: (Constant), Pain interference, fatigue, Sleep disturbance, Physical Function, Ability, Depression, Anxiety

Correlation (R), Coefficient of determination (R^2), Adjusted (R^2) and standard error (SE) of the estimate of model is listed in Table 3. The value of R^2 =0.47 that shows the 47% of the variability in performance is explained by Model 1.

Table 4. Analysis of Variance for Significance of the Model (n=200)

Model	Items	Sum of Square	Df	Mean Square	F	p
1	Regression	45.82	7	6.547	24.69	0.00[b]

Residual	50.90	192	0.265
Total	96.79	199	

b. Dependent Variable: Performance

To examine the significance of the fitted model, the analysis of variance (ANOVA) technique is used under the regression analysis. The result of ANOVA table shows that the p-value for wellness and performance model is 0.001<0.05 highly significant.

Table 5. Regression Coefficients of the models. (n= 200)

Model	Coefficient	β	SE	t
1	Constant	0.757	0.159	4.753
	Physical Function	0.139	0.072	1.696
	Anxiety	0.148	0.071	1.818
	Depression	-.049	0.061	-.625
	Fatigue	-.095	0.061	-1.613
	Sleep disturbance	0.123	0.064	1.761
	Ability	0.113	0.064	1.609
	Pain interference	0.402	0.056	5.992

Dependent variable: performance

The regression coefficient (β), Standard error of the estimate (SE), t statistic value for model- 1 is listed in Table-4. The β(slope) coefficient for model has (β= 0.757, 0.139, 0.148, -0.049, -0.095, 0.123, 0.113, 0.402) value, which indicates that wellness has positive impact on athletic performance and Depression and Fatigue has negative impact on athletic performance of university level.

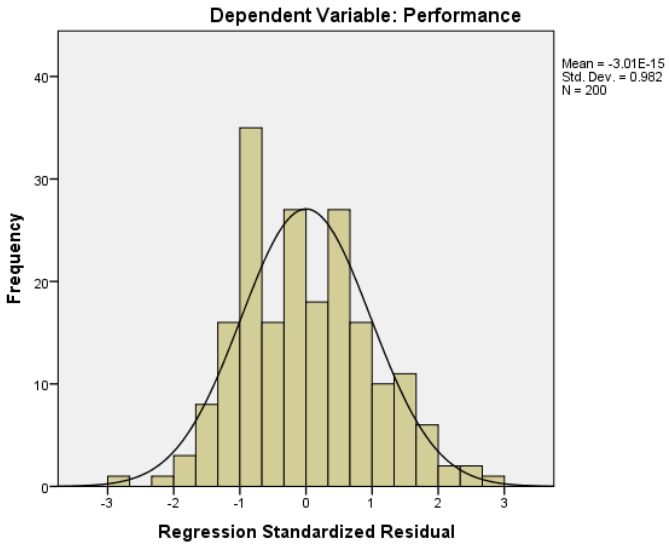

Figure 2. shows the histogram and normal probability plot of the data for the current example

The histogram should look like a normal distribution. SPSS draws a curve on the histogram to show the shape of the distribution. For the mean performance data, the distribution is roughly. The Means of performance is -3.01E-15, Standard deviation 0.982 and N=200. The straight line in this plot represents a normal distribution, and the points represent the observed residuals.

Therefore, due to the skewed distributed data set, all points lie near the line. This is pretty much what we see for the mean performance data.

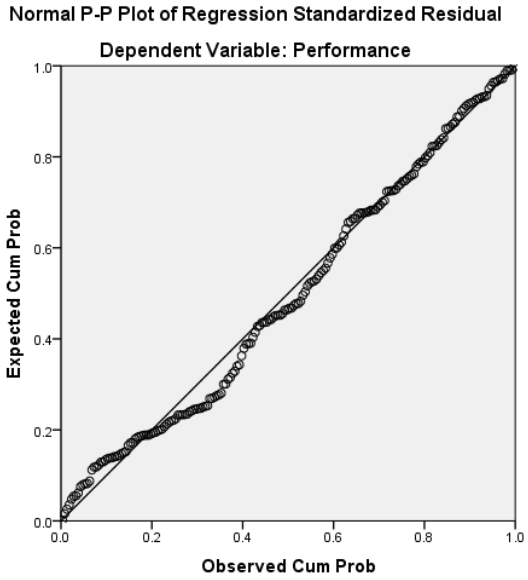

Figure 3. Standardized residuals against standardized predicted values

The following regression model is formulated to quantify the impact of wellness on athletic performance of the bachelor and master classes of university level players.
Athletic performance = 0.757 + 0.139 (Physical Function) + 0.148 (Anxiety) -0.049 (Depression) -0.095 (Fatigue) +0.123 (Sleep disturbance) + 0.113 (Ability) + 0.402 (Pain interference).

DISCUSSION

The impact of perceived wellness on a range of external load parameters, rating of perceived exertion (RPE) and external load: RPE ratios, was explored during skill-based training in Australian footballers. Fifteen training sessions involving 36 participants were analyzed. Each morning before any physical training, players completed a customized perceived wellness questionnaire (sleep quality, fatigue, stress, mood and muscle soreness). Microtechnology devices provided external load (average speed, high-speed running distance, player load and player load slow). Players provided RPE using the modified Borg category-ratio 10 RPE scale. Mixed-effect linear models revealed significant effects of wellness Z-score on player load and player load slow. Effects are reported with 95% confidence limits. A wellness Z-score of −1 corresponded to a −4.9 ± 3.1 and −8.6 ± 3.9% reduction in player load and player load slow, respectively, compared to those without reduced wellness. Small significant effects were also seen in the average speed: RPE and player load slow:RPE models. A wellness Z-score of −1 corresponded to a 0.43 ± 0.38 m·min−1 and −0.02 ± 0.01 au·min−1 change in the average speed:RPE and player load slow:RPE ratios, respectively. Magnitude-based analysis revealed that the practical size of the effect of a pre-training perceived wellness Z-score of −1 would have on player load slow was likely negative. The results of this study suggest that monitoring pre-training perceived wellness may provide coaches with information about the intensity of output that can be expected from individual players during a training session (Tania et al., 2016). College student-athletes face unique stressors that can contribute to compromised well-being. Additionally, there are a variety of barriers that prevent student-athletes from accessing mental health supports. This study used self-report questionnaires and qualitative interviews to examine the impact of an integrative outreach model that incorporated mental health education, sport psychology concepts, and mental skill techniques, on awareness and attitudes related to

mental health and counseling. Findings indicate that this model may be effective in increasing awareness of mental health supports, reducing stigma, and development of performance enhancement and self-care skills.Results demonstrated significantly ($p \leq 0.05$) greater total, high-intensity, and sprint distance, along with greater acceleration and deceleration distances for the defensive back and wide receiver position groups compared with their respective offensive and defensive counterparts. Significant ($p \leq 0.05$) differences in movement variables were demonstrated for individuals who responded more or less favorably on each of the 6 factors of perceived wellness. Data from this study provide novel quantification of the position-specific physical demands and perceived wellness associated with college football preseason practice. Results support the use of position-specific training and individual monitoring of college football players (Harrison C, et al., 2019). The purpose of this qualitative study was to examine how African American young adults think about health and wellness in relation to their family and childhood experiences and how those experiences impact their perceptions of health and wellness in young adulthood. N Moreover, Twenty-five African American young adults participated in the study. Data collection took place at a Historically Black College. Physical, mental, and spiritual health were all included as contributing factors to living a healthy lifestyle. Further family and school experiences were cited as influences on health in wellness during childhood. The study concluded that childhood and family experiences do indeed impact perceptions of health and wellness in young adulthood (Brooks et al., 2016).

This exploratory case study provides novel data about the physical load undertaken by a goalkeeper during 1 competitive season. The data suggest that there are small to moderate relationships between training load indicators and self-reported wellness response. This weak relation indicates that the association is not meaningful. This may be due to the lack of position-specific training load parameters that practitioners can currently measure in the applied context(Malone JJ, et al., 2018).

CONCLUSION

This study has been aimed to examine the relationship and impact of wellness on performance among female athletes. Wellness and performance have high positive correlation ($r = 0.698$) with significance ($p = 0.0004$). Performance also checked by the seven subscales of wellness which showed the highly positive correlation with each other as well as with performance. A multiple regression was calculated to predicted the performance with subscales of wellness. A significant regression equation was found ($F(7,192)$), $p < 0.0008$ with an $R2$ of 0.47. Athletic performance = 0.757 + 0.139 (Physical Function) + 0.148 (Anxiety) -0.049 (Depression) -0.095 (Fatigue) +0.123 (Sleep disturbance) + 0.113 (Ability) + 0.402 (Pain interference). Finally, we conclude that wellness has dominant effect on athletic performance. This study recommended that government and sports federations should arrange psychological and physical training sessions accordingly. The research study is cross sectional and analytical research. The participants were restricted to provide correct response about their game according to their level of understanding. This study is limited to femaleplayers andpublic university players.

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