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**Comparing positive psychological attributes among
sportswomen of group & individual sports and non-
sportswomen**

Trayosee Ghosh and Akshaya Periasamy

Abstract

For centuries, mental health healing has been a genderless issue and the field of women's mental health has developed rapidly since the 1980s. Previous research has established that participation in physical activity and sports are linked to significantly better psychosocial health improvements (Eime *et al.*, 2013). The objective of the study is to compare the level of Curiosity and Exploration, Personal Growth Initiative, Thriving and Life Satisfaction among sportswomen (group and individual) and non-sports women. The sample comprises of a total of 90 participants (30 sportswomen belonging to the individual sports category, 30 sportswomen belonging to the group sports category and 30 non-sportswomen) belonging to the age group of 15-35 years, currently residing in India. Four scales: Curiosity and Exploration Inventory II (Kashdan *et al.*, 2009), Personal Growth Initiative Scale (Christine & Robitschek, 1998), Brief Inventory of Thriving (Diener, Su & Tay, 2014) and Life Satisfaction Scale (Diener, 1985) were administered on the subjects. One-way analysis of variance was carried out using the Statistical Package for Social Sciences (SPSS-20). The results indicate that an overall significant difference exists between the sports women and the non-sports women in terms of Life Satisfaction ($p < 0.01$), Thriving ($p < 0.01$), Personal Growth Initiative ($p < 0.05$), and Curiosity and Exploration ($p < 0.01$). The findings will help us understand the ameliorative impact of sports on the positive mental health and attributes of adolescent and young adult women, thus helping in promoting a sport-based approach towards positive youth development.

Keywords: Sportswomen, Positive Psychological attitudes

Introduction

The late 20th century has shifted the focus of psychological health from mental illness to mental wellness. Positive psychology is concerned about Eudaimonia, "the good life" or thriving, living as indicated by what holds a great value throughout everyday life – the variables that contribute the most to a fine lived and satisfying life. Martin Seligman cited to "the good life" as "using your signature strengths every day to produce authentic happiness and abundant gratification".

Women tend to experience more mental health issues when compared to men (Stegenga *et al.*, 2012) [18]. However, there are very few research studies conducted to understand the positive mental health of women. Estrogen is closely connected with women's psychological well-being during their menstrual cycle.

Positive mental health can be measured using certain variable such as Optimism, Hope, Happiness, Gratitude, Life Satisfaction, Thriving, Personal Growth, Curiosity and Exploration. Life Satisfaction is an overall judgement of sentiments and perspectives about one's life at a specific point in time differing from positive to negative, it is a component of subjective well-

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being (Prasoon & Chaturvedi, 2016) ^[13]. Personal Growth Initiative is an individual's dynamic and purposeful involvement in altering and developing as an individual (Robitschek, 1998) ^[14].

Thriving illustrates an individual's understanding of vibrancy and learning (Spreitzer *et al.*, 2005) ^[17]. Curiosity was conceptualized as a positive emotive-inspirational framework related with acknowledgement, interest and self-direction of originality and challenge (Kashdan *et al.*, 2010). Exploration is the demonstration of searching for the objective of the discovery of data or assets (Kashdan *et al.*, 2010).

Review of Literature

Research indicates that women athletes experience higher psychological well-being as compared to non-athletes (Snyder & Kivlin, 2013). However, there is a knowledge gap existing with respect to Positive Psychological variables.

Research has suggested that physical activity is positively related to life satisfaction in middle adulthood but not young adulthood, also, individuals experience greater life satisfaction on days they were more active (Maher, Pincus, Ram & Conroy, 2015) ^[11]. Kvintova, Kudlacek & Sigmundova (2017) found that university students with active lifestyle demonstrated a fundamentally more elevated degree of life satisfaction when compared to students with non-active lifestyle. However, no significant distinction in general life satisfaction between athletes and non-athletes was found, however, they experience greater satisfaction in their relationships, health and their performance (Ivantchev & Stoyanova, 2018) ^[5].

The experience of thriving was discerned to positively affect elite athletes in association with both personal growth benefits and performance benefits; also, thriving promoted prolonged and high level of performance among sportsmen along with well-being (Brown, Arnold, Reid & Roberts, 2018) ^[1]. Thriving is also known as Resilience Plus. Research has found that sports serves as the ideal context for self-improvement through resilience (Galli & Vealey, 2007) ^[4]. A South African study found that adopting "Sport-for-development" programs which focused on self-enhancement through sport participation, found that thriving alongside other variables seemed to ameliorate on account of regular sport involvement (Burnett, 2015) ^[2].

Research has revealed that increased personal growth initiative leads to greater life satisfaction, thus, discovering an association between the two variables (Sood, Gupta & Bakhshi, 2012) ^[16]. Recent studies have found that curiosity and exploration facilitates personal growth (Kashdan, Rose & Fincham, 2004) ^[8]. Curiosity is often found to be instrumental in enhancing psychological well-being and meaning in life (Kashdan & Steger, 2007) ^[6]. Initial physical activity influences instigates post-traumatic growth among Paralympic athletes who have acquired disabilities (Day, 2013) ^[3].

More than a decade of research has demonstrated varied findings with respect to the positive psychological attributes. Though literature has these variables together, negligible are studies which focus on women, especially in the context of sport and no such studies were executed in India. This study aims to bridge this gap by exploring the differences which might exist between sportswomen and non-sportswomen with respect to positive psychological variables attributes in the

Indian subcontinent.

Method

Objective

To explore the differences which exist with respect to positive psychological attributes among individual sports, group sports and non-sports women.

Hypotheses

H₁: There is no difference among the three groups with respect to Life Satisfaction.

H₂: There is no difference among the three groups with respect to Thriving.

H₃: There is no difference among the three groups with respect to Personal Growth Initiative.

H₄: There is no difference among the three groups with respect to Curiosity and Exploration.

Variables

Quasi-independent variable: Nature of Sports Participation.

Dependent variable: The profile of positive psychological attributes as assessed by:

- Life satisfaction
- Thriving
- Personal Growth Initiative
- Curiosity and Exploration

Research Design

A quasi-experimental between-groups research design was employed to study the difference between women who play sports (individual & group) and women who don't, with respect to a profile of positive psychological attributes.

Sample

With the technique of snowball sampling, a total of 90 female participants belonging to the age group of 15-35 years, generally termed as "late adolescents and young adults" were sought for the study. The sample was further divided into 30 sports women who play individual sports, 30 sports women who play group sports and 30 non-sports women. All participants are current residents of India. Females who were neither students nor employed, with a history of chronic ailments and non-resident Indians were excluded from the respondent list.

Measures

The following measures were used to assess the profile of positive attributes:

- Satisfaction with Life Scale developed by Ed Diener (1985) was used to measure Life Satisfaction.
- Brief Inventory of Thriving (BIT) developed by Ed Diener, Rong Su and Louis Tay (2014) was used to measure Thriving.
- Personal Growth Initiative Scale (PGIS) developed by Christine Robitschek (1998) ^[14] was used to measure Personal Growth.
- Curiosity and Exploration Inventory (CEI-II) developed by Kashdan *et al.* (2009) ^[7] used to measure Curiosity and Exploration.

The psychometric properties of all the aforementioned scales were found to be robust.

Table 1: Showing the psychometric properties of the tools

Scale/ Inventory	Reliability	Validity
Satisfaction with Life Scale	$\alpha = 0.68-0.83$	Concurrent validity
Brief Inventory of Thriving	$\alpha = 0.72-0.90$	Cross and Criterion validity
Personal Growth Initiative	$\alpha = 0.67-0.81$	Construct validity
Curiosity and Exploration Inventory	$\alpha = 0.76-0.86$	Cross and construct validity

Results

The data received from the sample on the four individual scales and inventories were analysed using Statistical Package for Social Sciences (SPSS -20). For easy referencing Life Satisfaction is denoted as LS, Thriving as TG, Personal

Growth Initiative as PGI, Curiosity and Exploration as CE, women who play individual sports as group 1, women who play team sports as group 2 and non- sports women as group 3. The following results were obtained after the analysis.

Table 2: Showing the Descriptive Statistics

Variables	Number of Participants			Mean			Standard Deviation		
	G1	G2	G3	G1	G2	G3	G1	G2	G3
LS	30	30	30	24.23	24.97	18.53	6.22	5.80	6.63
TG	30	30	30	40.07	39.90	34.63	7.63	6.25	6.42
PGI	30	30	30	39.93	40.13	36.07	8.84	6.91	6.01
CE	30	30	30	38.27	39.10	34.63	8.71	5.06	5.06

From Table 2 it can be seen that the mean with respect to Life Satisfaction was found 24.23 ± 6.22 for the first group, 24.97 ± 5.80 for the second group and 18.53 ± 6.63 for the third group. The mean with respect to Thriving was found to be 40.07 ± 7.63 for the first group, 39.90 ± 6.25 for the second group and 34.63 ± 6.42 for the third group. It was also seen that

the mean with respect to Personal Growth Initiative was developed to be 39.93 ± 8.84 for the first group, 40.13 ± 6.91 for the second group and 36.07 ± 6.01 for the third group. The mean with respect to Curiosity and Exploration was established to be 38.27 ± 8.71 for the first group, 39.10 ± 5.06 for the second group and 34.63 ± 5.06 for the third group.

Table 3: Showing the Test of Normality

Variables	Kolmogorov-Smirnov		
	Statistics	Df	Sig.
LS	0.086	90	0.097
TG	0.085	90	0.121
PGI	0.076	90	0.200
CE	0.098	90	0.034

After testing for normality it can be established that the data for Life Satisfaction, Thriving and Personal Growth Initiative was normally distributed. But, the data for Curiosity and Exploration it was found to be not normally distributed.

Hence, parametric statistics of mean difference was used for Life Satisfaction, Thriving and Personal Growth Initiative, whereas, non-parametric statistics of mean difference was used for Curiosity and Exploration.

Table 4: Showing the One-way Analysis of Variance

Variables		Sum of Squares	df	F	Sig.
LS	Between Groups	744.156	2	9.595**	0.000
	Within Groups	3373.800	87		
	Total	4117.956	89		
TG	Between Groups	572.867	2	6.203**	0.003
	Within Groups	4017.533	87		
	Total	4590.400	89		
PGI	Between Groups	315.289	2	2.919*	0.059
	Within Groups	4699.200	87		
	Total	5014.489	89		

*-significant at 0.05 level **-significant at 0.01 level

From Table 4 it can be seen that for Life Satisfaction the F value was found to be 9.595 which was significant at 0.01 level, for Thriving the F value was found to be 6.203 which was found to be significant at 0.01, and for Personal Growth Initiative, the F value was found to be 2.919 which was significant at 0.05 level. These results indicate that there exist

statistically significant differences between the three groups with respect to the above mentioned variables of LS, TG and PGI.

To understand the exact locus of difference Post-Hoc analysis was conducted using Test of Least Significant Differences.

Table 5: Showing the Post-hoc analysis (LSD)

Dependent Variable	Number (I)	Number (J)	Mean Difference	Std. Error	Sig.	95% Conference Interval	
						Lower Bound	Upper Bound
Life Satisfaction	1	2	-0.33	1.608	0.649	-3.93	2.46
		3	5.700**	1.608	0.001	2.50	8.90
	2	1	0.733	1.608	0.649	-2.46	3.93
		3	6.433**	1.608	0.000	3.24	9.63
	3	1	-5.700**	1.608	0.001	-8.90	-2.50
		2	-6.433**	1.608	0.000	-9.63	-3.24
Thriving	1	2	0.167	1.755	0.925	-3.32	3.65
		3	5.433**	1.755	0.003	1.95	8.92
	2	1	0.167	1.755	0.925	-3.65	3.32
		3	5.267**	1.755	0.004	1.78	8.75
	3	1	-5.433**	1.755	0.003	-8.92	-1.95
		2	-5.267**	1.755	0.004	-8.75	-1.78
Personal Growth Initiative	1	2	-0.200	1.898	0.916	-3.97	3.57
		3	3.867*	1.898	0.045	.09	7.64
	2	1	0.200	1.898	0.916	-3.57	3.97
		3	4.067*	1.898	0.035	0.29	7.84
	3	1	-3.867*	1.898	0.045	-7.64	-0.09
		2	-4.067*	1.898	0.035	-7.84	-0.29

*-significant at 0.05 level **-significant at 0.01 level

From Table 5. it is understood that there exists a significant difference between 1 and 3, and 2 and 3, but no significant difference exists between 1 and 2 for Life Satisfaction, Thriving and Personal Growth Initiative. Life Satisfaction and Thriving is significant at 0.01 level, whereas, Personal Growth Initiative is significant at 0.05 level.

Table 6: Showing the Kruskal-Wallis analysis

Variable	Group	N	Mean Rank	Chi-Square	Df	Asymp. Sig
CE TOTAL	1	30	51.50	10.126**	2	0.006
	2	30	51.87			
	3	30	33.13			
	Total	90				

*-significant at 0.05 level **-significant at 0.01 level

From Table 6 it can be seen that the mean rank obtained for the three groups are 51.50, 51.87 and 33.13 respectively and the Chi-Square value of 10.126 is found to be significant at 0.01 level which indicates that there exists a significant difference between the three groups with respect to Curiosity and Exploration. Based on the mean rank it can be identified that the second group (51.87) has more Curiosity and Exploration as compared to the first group (51.50) which significantly has a better Curiosity and Exploration when compared to the third group (33.13).

Further analysis was done with respect to the variables and relationships among them. Based on the normality of the data, the appropriate methods of correlation were used. The following results were obtained:

Table 7: Showing the Pearson's correlation matrix for Group 1 (Ind)

Variables		LS	TG	PGI
LS	Coefficient	-	0.682**	0.592**
	Significance	-	0.000	0.001
TG	Coefficient	0.682**	-	0.613**
	Significance	0.000	-	0.000
PGI	Coefficient	0.592**	0.613**	-
	Significance	0.001	0.000	-

** - Significant at 0.01 level

From table 7 it can be observed that, there exists a statistically significant correlation among the three variables which were

normally distributed. The relationship is found to be strongly positive between Life Satisfaction and Thriving ($r = 0.682, p < 0.01$) and between Thriving and Personal Growth Initiative ($r = 0.613, p < 0.01$). There exists a moderately positive relationship between Life Satisfaction and Personal Growth Initiative ($r = 0.592, p < 0.01$).

Table 8: Showing the Pearson's correlational matrix for Group 2 (Group)

Variables		LS	TG	PGI
LS	Coefficient	-	0.799**	0.571**
	Significance	-	0.000	0.001
TG	Coefficient	0.799**	-	0.801**
	Significance	0.000	-	0.000
PGI	Coefficient	0.571**	0.801**	-
	Significance	0.001	0.000	-

** - Significant at 0.01 level.

From table 8 it can be seen that, there exists a statistically significant correlation among the three variables which are normally distributed. The relationship is found to be very strongly positive between Thriving and Personal Growth Initiative ($r = 0.801, p < 0.01$) and strongly positive between Life Satisfaction and Thriving ($r = 0.799, p < 0.01$). There exists a moderately positive relationship between Life Satisfaction and Personal Growth Initiative ($r = 0.571, p < 0.01$).

Table 9: Showing the Pearson's correlational matrix for Group 3 (Non-sports)

Variables		LS	TG	PGI
LS	Coefficient	-	0.567**	0.298
	Significance	-	0.001	0.110
TG	Coefficient	0.567**	-	0.653**
	Significance	0.001	-	0.000
PGI	Coefficient	0.298	0.653**	-
	Significance	0.110	0.000	-

** - Significant at 0.01 level.

From table 6.1.3 it can be noted that, there exists a statistically significant correlation between two variables which are normally distributed, whereas, no significant correlation was found between Life Satisfaction and Personal Growth

Initiative. There exists a moderately positive relationship between Personal Growth Initiative and Thriving ($r = 0.653$, $p < 0.01$) and between Life Satisfaction and Thriving ($r = 0.567$, $p < 0.01$).

Table 10: Showing the Spearman's correlational matrix for Group 1 (Ind), Group 2 (Group) & Group 3 (Non-sports)

Variables		Group	LS	TG	PGI
CE	Coefficient	1	0.411**	0.628*	0.770*
	Significance		0.024	0.000	0.000
	Coefficient	2	0.250	0.456**	0.470*
	Significance		0.183	0.011	0.009
	Coefficient	3	0.271	0.293	0.281
	Significance		0.148	0.116	0.133

*- Significant at 0.01 level. **- Significant at 0.05 level.

From table 7.1 it can be observed that, there exists a statistically significant correlation between the three variables which are not normally distributed, in Group 1 and Group 2, but no relationship was found between Life Satisfaction and Curiosity and Exploration in Group 2. No correlation was found between the variables in Group 3 i.e., the non-sportswomen. There exists a strongly positive relationship between Curiosity and Exploration, and Personal Growth Initiative ($r = 0.770$, $\rho < 0.01$) and between Curiosity and Exploration, and Thriving ($r = 628$, $\rho < 0.01$) in Group 1. The relationship is found to be moderately positive between Curiosity and Exploration, and Life Satisfaction ($r = 0.411$, $\rho < 0.05$) in Group 1, between Curiosity and Exploration, and Thriving ($r = 0.456$, $\rho < 0.5$) and between Curiosity and Exploration, and Personal Growth Initiative ($r = 470$, $\rho < 0.01$) in Group 2.

Discussion

The results of this study disapproved the hypotheses that there is no difference between the three groups with respect to Life Satisfaction, Thriving, Personal Growth initiative, and Curiosity and exploration. This indicates that the findings of this study in terms of Life Satisfaction and Thriving are similar to earlier research which states that the degree of Life Satisfaction is greater in university students who engage in physical activity in a day-to-day life as compared to students who don't (Kvintova, Kudlacek & Sigmundova, 2017) and how sport participation improved thriving among youth (Burnett, 2015) [2]. However, there is no adequate research done previously similar to the findings of this study in terms of Personal Growth Initiative, and Curiosity and Exploration. With respect to correlation, significant positive correlations were found between Life Satisfaction, Thriving and Personal Growth Initiative for individual and group sports group. These findings are in line with previously established findings which show the positive association between personal growth initiative and greater life satisfaction (Sood, Gupta & Bakhshi, 2012) [16]. However, with respect to the non-sports group Personal Growth initiative does not seem to be correlated with the other positive psychological attributes. With respect to Curiosity and Exploration, significant positive associations were found between Curiosity and the other three variables for Individual sport group; and between Thriving and Personal Growth Initiative for the group sports group. The results reflect the finding that curiosity and exploration facilitates personal growth (Kashdan, Rose & Fincham, 2004) [9]. For the non-sports group no such relationship was observed between Curiosity and Exploration and other positive psychological attributes; indicating the predominant

association and instrumentality of curiosity and sport participation.

Conclusion

The findings of this study indicate that an overall significant difference exists between the sports women and the non-sports women in terms of Life Satisfaction, Thriving, Personal Growth Initiative, and Curiosity and Exploration. This study is helpful in understanding how sports contribute to the positive mental health and eudaimonic development of women. It is also beneficial in the understanding of how sports is promoting youth development during adolescence which is a very crucial stage for the positive development of an individual. Expanding this study can help us understand the ways in which sports participation has developmental outcomes which are deeply rooted in a person's progress as a human being. This study also provides an insight in how sports affect the psychological health of Indian women, when extended, can aid in exploring cross-cultural variations in the context of positive female mental health and its relationship with sports.

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