

## ECOLOGICAL FOOTPRINT AND SPIRITUAL INTELLIGENCE: A CORRELATIONAL STUDY

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### Abstract

*"Ecology and spirituality are fundamentally connected because deep ecological awareness, ultimately, is spiritual awareness."-Fritjov Capra*

*Life is essentially a relationship between living organism and its environment; an environment which provides us with all our needs. It is this underlying principle that exists behind the need to conserve and preserve our natural environment, since the very existence of mankind depends on it. The present study was aimed at establishing relationship of ecological footprint of the student teachers with their emotional quotient. Descriptive correlational research method was used to ascertain this relationship between the variables and the extent to which they were related. The sample for the present study comprised of student teachers pursuing Diploma in elementary education from colleges affiliated to Maharashtra State Council of Examination and Bachelor of Education and Master of Education degree from the colleges affiliated to the University of Mumbai. The sample size for the study was 1465 student teachers. The tool employed the studying the ecological footprint was constructed with the help of inputs from "Personal Eco-Footprint Calculator" given by Tim Turner in his paper 'How big is my Ecological footprint' and Global Footprint Network. Changes were made to suit the requirement of the study. Spiritual quotient was studied using 'The Spiritual Intelligence Self-Report Inventory or the SISRI-24' tool constructed by Dr. David B. King (2008). The data obtained was subjected to statistical analysis and correlation between the two variables was established using the 'Pearson's Product-Moment coefficient of correlation'. A negative linear correlation was found between the ecological footprint of student teachers with their spiritual quotient with respect to gender and location of college.*

**Keywords:** *Spiritual quotient (SQ) and Ecological footprint (EF)*



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### Introduction:

<sup>1</sup>As per the Global Ecological Footprint data, humanity is using resources and producing CO<sub>2</sub> emissions at a rate of 60 percent higher than what nature can regenerate and reabsorb. This gap has resulted in the deterioration of the natural environment on which all the species depend upon for their survival. Nature has a natural capacity to get back to its original form gradually over a period of time, however the vigorous activities of mankind has overpowered and interfered with this natural activity of nature. Natural calamities have

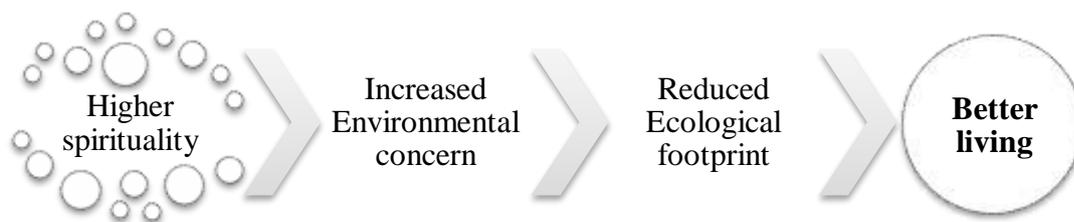
<sup>1</sup>[http://www.footprintnetwork.org/en/index.php/GFN/page/the\\_footprint\\_and\\_biodiversity/](http://www.footprintnetwork.org/en/index.php/GFN/page/the_footprint_and_biodiversity/)

become more common and frequent from the past few years. Damage to all forms of life can be seen in all these cases.

We fail to understand how much is needed, how much we are using and how much we have that is left for use. In order to find out this information, 'Ecological Footprint' (EF) has emerged as the world's premier measure of humanity's demand on nature. A person's ecological footprint is an estimation of the amount of land required to sustain a person based on their current lifestyle. It expresses the consumption pattern of an individual to maintain a particular life style. It mainly focuses on the consumption of energy, water and other commodities, food habits and processing of domestic waste and recycling. It is assumed that a higher standard of living reflects higher ecological footprint.

The solutions to all the environmental problems needs to be solved with all these three 'Hs'; Heart to empathize, Head to think and Hand to convert thoughts into actions. Man's actions are governed by their spiritual inclination or intelligence. The measure of one's spiritual intelligence is termed as<sup>2</sup>spiritual quotient which is the ultimate intelligence with which we address and solve problems of meaning and value, the intelligence with which we can place our action and our lives in wider, richer meaningful context, the intelligence with which we can assess the course of one's action.

The crux of the study is that, an individual with high Spiritual quotient will have concern for the environment and exhibit love, care, preservation, conservation and empathy for the environment.



The individuals will judiciously utilize resources and will consume less with a mind-set of Reuse, Reduce and Recycle, thereby, leading a better life with a reduced Ecological Footprint. Education is the best vehicle to transmit the ethics and values towards life and environment and teachers play a fundamental role in the imbibing spiritual and environmental values among the students.

### **Objectives of the study:**

1. To study the ecological footprint and spiritual quotient of student teachers.

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<sup>2</sup><http://danahzohar.com/>

2. To study the relationship between ecological footprint and spiritual quotient of student teachers.
3. To study the correlation between the ecological footprint of student teachers and their spiritual quotient with respect to gender and location of the college.

#### **Hypotheses of the study:**

1. There is no significant relationship between the ecological footprint of student teachers and their spiritual quotient.
2. There is no significant relationship between the ecological footprint of student teachers and their spiritual quotient with respect to gender and location of the college.

#### **Methodology:**

The present study was aimed at establishing relationship of ecological footprint of the teachers with their spiritual quotient. **Descriptive correlational research design** was used to ascertain the relationship between the variables and the extent to which they were related.

#### **Sampling, Sample and Sample Size:**

For the present study stratified random sampling technique was used. The samples were the student teachers pursuing Diploma in Elementary Education from colleges affiliated to Maharashtra State Council of Examination and Bachelor and Master of Education from colleges affiliated to the University of Mumbai. The total sample size was 1465 student teachers.

#### **Tools:**

The tool employed for studying the ecological footprint was constructed with the help of inputs from “Personal Eco-Footprint Calculator” given by Tim Turner in his paper <sup>3</sup>‘How big is my Ecological footprint’ and from <sup>4</sup>Global footprint network. Changes were made in the tool to suit the requirement of the study. The tool was validated by experts in the field of education and environment. Reliability of the tool was calculated using the split half method and the reliability index( $\rho$ ) of the tool was 0.95. Spiritual quotient was studied using *The Spiritual Intelligence Self-Report Inventory or the SISRI-24* tool constructed by Dr. David B. King (2008). The reliability of the scale obtained by the split half method was 0.91.

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<sup>3</sup>[http://www.earthrangers.org/wp-content/uploads/2016/08/how\\_big\\_is\\_my\\_ecological\\_footprint.pdf](http://www.earthrangers.org/wp-content/uploads/2016/08/how_big_is_my_ecological_footprint.pdf)

<sup>4</sup><http://www.footprintcalculator.org/>

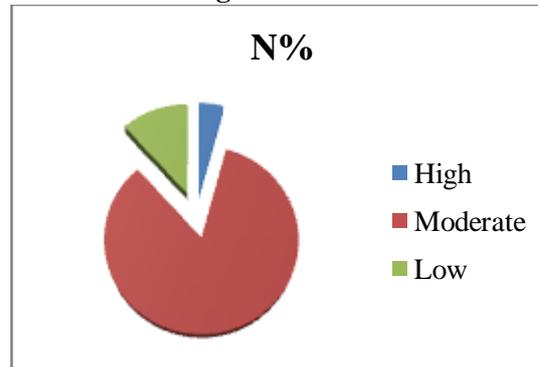
**Analysis of the data and interpretation:**

Pearson’s product moment coefficient of correlation was used to establish correlation between the scores of the ecological footprint of student teachers with the score of their spiritual quotient.

**Table 1: Ecological footprint of student teachers**

Range of Score with Level	N	N%
High 41 and Above	62	4.23
Moderate 26 – 40	1232	84.10
Low 25 and below	171	11.67
<b>Total</b>	<b>1465</b>	<b>100</b>

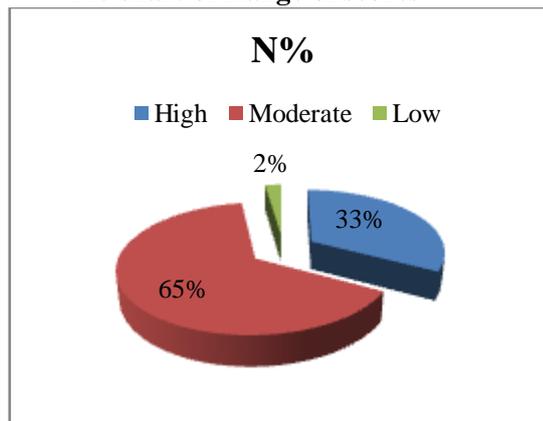
**Figure 1: Pie chart of Range of scores**



**Table 2: Spiritual quotient of student teachers**

Range of score with Level	N	N%
High 65 to 96	481	32.83
Moderate 33 to 64	950	64.85
Low 0 to 32	34	2.32
<b>Total</b>	<b>1465</b>	<b>100</b>

**Figure 2: Pie chart of Range of scores**

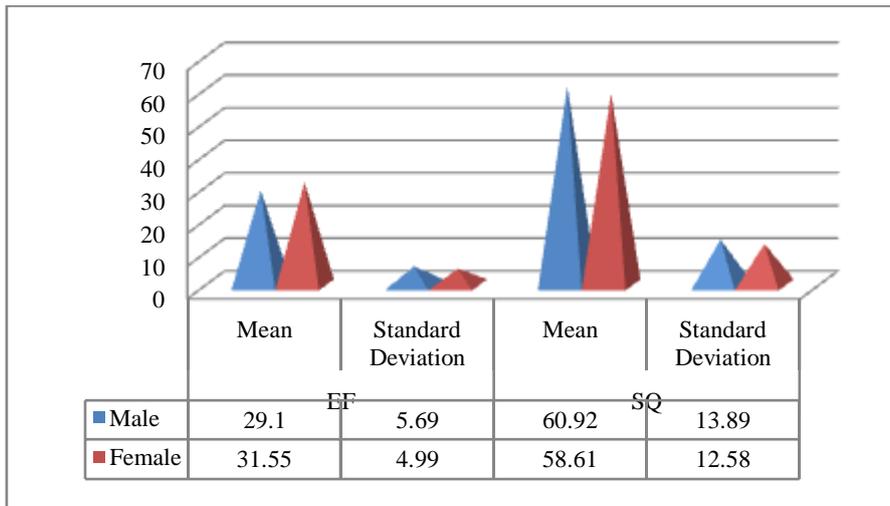


From Table no. 1 and 2 it is clearly evident that most of the student teachers possess moderate level of ecological footprint and lie in the moderate range of spiritual quotient.

**Table 3: EF and SQ of Student Teachers with respect to Gender**

Variables Gender	N	EF		SQ	
		Mean	Standard Deviation	Mean	Standard Deviation
Male	86	29.10	5.69	60.92	13.89
Female	1379	31.55	4.99	58.61	12.58

**Figure3: EF and SQ of Student Teachers with respect to Gender**



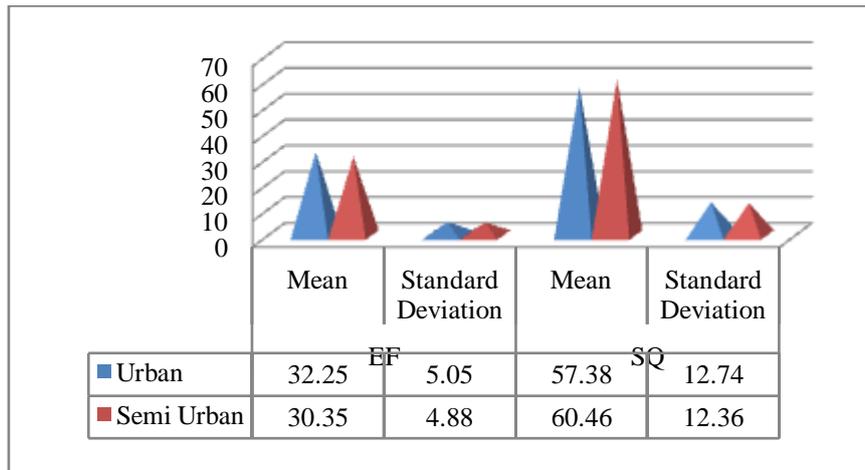
The mean value and standard deviation of ecological footprint of male student teachers was 29.1 and 5.69 respectively while those of female student teachers were 31.55 and 4.99 respectively. The mean values and standard deviation of spiritual quotient of male student teachers were 60.92 and 13.89 and while those of female student teachers were 58.61 and 12.58 respectively.

From the above data we may infer that male students have a higher spiritual quotient than female student teachers and thereby lower ecological footprint while female student teachers have a lower spiritual quotient and therefore a higher ecological footprint.

**TABLE 4: EF and SQ of Student Teachers with respect to the location of their college**

Variables Gender	N	EF		SQ	
		Mean	Standard Deviation	Mean	Standard Deviation
Urban	817	32.25	5.05	57.38	12.74
Semi Urban	648	30.35	4.88	60.46	12.36

**FIGURE4: EF and SQ of Student Teachers with respect to the location of their college**



The mean value and standard deviation of ecological footprint of the student teachers belonging to urban areas was 32.25 and 5.05 respectively while that belonging to semi urban areas was 30.35 and 4.88 respectively. The mean value and standard deviation of spiritual quotient of student teachers belonging to urban areas was 57.38 and 12.74 while that belonging to semi urban areas was 60.46 and 12.36 respectively.

From the above data we can infer that the students whose colleges are located in urban areas have a low spiritual quotient and high ecological footprint while those whose colleges are located in semi urban areas have high spiritual quotient and low ecological footprint.

**H<sub>0</sub> 1:** There is no significant relationship between the ecological footprints of student teachers with their spiritual quotient.

**TABLE 5: Correlation between EF and SQ of Student Teachers**

Variables	EF	SQ
EF	1	
SQ	-0.13734	1

From table 5: The obtained value of correlation ‘r’ between the ecological footprint of student teachers with their spiritual quotient was -0.13734 (table value of r is 0.114 at 0.01 level of significance) which is higher than the table value of ‘r’. The negative value of ‘r’ indicates a negative correlation, i.e. if spiritual quotient of student teachers increases then their ecological footprint decreases and vice versa. The higher value obtained indicates there is a relationship between the two variables therefore the null hypothesis is rejected at 0.01 level of significance. Thus, there is a significant relationship between the ecological footprint of student teachers and their spiritual quotient.

**H<sub>0</sub>2 a:** There is no significant relationship between the ecological footprint of student teachers and their spiritual quotient with respect gender.

**TABLE 6 CORRELATION BETWEEN EF AND SQ: GENDER**

Gender Variables	Male <i>df</i>	‘r’ value	Female <i>df</i>	‘r’ value
<b>EF and SQ</b>	84	-0.2211	1377	-0.12663

The correlation between the ecological footprint and spiritual quotient of male and female student teachers was found to be -0.2211 (table value of  $r=0.2120$ ) and -0.12663 (table value of  $r=0.087$ ) respectively. The obtained value of  $r$  is higher than the table value of  $r$  in case of both male and female student teachers indicating a weak correlation between the variables. A negative correlation is also found in both cases which means that when the spiritual quotient of student teachers increases then their ecological footprint decreases and vice versa. Since a significant correlation exists between the variables, therefore the null hypothesis was rejected at 0.05 level of significance. There is significant relationship between the ecological footprint of student teachers and their spiritual quotient with respect gender.

**H<sub>0</sub> 2 b:** There is no significant relationship between the ecological footprint of student teachers and their spiritual quotient with respect to the location of the college.

**TABLE 7: CORRELATION BETWEEN EF AND SQ: LOCATION OF THEIR COLLEGE**

Location Variables	Urban <i>df</i>	‘r’ value	Semi Urban <i>df</i>	‘r’ value
<b>EF and SQ</b>	815	-0.11782	646	-0.11756

The correlation between the ecological footprint and spiritual quotient of student teachers whose college is located in urban and semi urban areas was found to be -0.11782 and -0.11756 (table value of  $r=0.087$ ) respectively. The obtained  $r$  values indicate a negative linear correlation in both the cases i.e. if the spiritual quotient of student teachers increases then their ecological footprint decreases and vice a versa. A low correlation was found between EF and SQ among student teachers of both urban and semi urban settings. Since in both the cases the obtained value was higher than the table value therefore the null hypothesis was rejected at 0.05 level of significance. There is a significant relationship found between the ecological footprint of student teachers and their spiritual quotient with respect to the location of the college.

### **Major findings:**

It was found majority of the student teachers lie in the moderate range of spiritual quotient and even their ecological footprint was found to be moderate.

Male student teacher had a higher spiritual quotient and lower ecological footprint as compared to female student teachers.

Student teachers belonging to semi urban areas had a higher spiritual quotient and lower ecological footprint as compared to student teachers from urban localities.

A significant correlation was found to exist between the ecological footprint of student teachers with their spiritual quotient. In male student teachers, better correlation was found between the ecological foot print and spiritual quotient as compared to female student teachers.

Same level of correlation was found between the ecological footprint and spiritual quotient of student teachers based on the location of their college.

### **Conclusion:**

On the basis of above findings, the following conclusions have been drawn. Male student teachers had a better spiritual quotient than the female student teachers. Students from semi urban localities also had better spiritual quotient than those from urban areas. There is a relationship between ecological footprint of student teachers with their spiritual quotient with respect to gender and location of college. However, as the relationship between these variables was found to be low, there may be a chance of some other variable or factors involved in such type of result. Though the correlation found was weak, it was negative in nature i.e. if the value of one increases the value of one decreases and vice-versa.

### **Implications of the study:**

The study highlights the overall relationship between ecological footprint and spiritual quotient of student teachers with respect to gender and location of college. Increasing ones spiritual intelligence is a gradual process which in turns helps us to have a better equation with nature. The findings helped to identify that ecological footprint of the individuals can be reduced if their spiritual quotient is enhanced. Therefore colleges should provide the student teachers with situations that will boost their spiritual quotient. Participation in environmental activities aimed at conservation and preservation of nature will also help student teachers to be environmentally aware and conscious thereby leading to lesser ecological footprint. Spiritual stability has a positive impact on the environmental choices one makes. The study

can be continued further by taking other aspects like socio economic status and level of education into consideration and finding out the correlation.

### **References**

- Agarwal, K.M, Sikdar P.K, and Deb, S.C. (2002). *A Textbook of environment*. Kolkata, Macmillan India Limited.
- Best, J.W. and Kahn, J.V.(2006). *Research in education (4<sup>th</sup> ed.)*. Prentice-Hall.
- Garrett, G.E. (2011). *Statistics in psychology and education*. New Delhi, Paragon International Publishers. Page 491.
- Goleman, D (1995). *Emotional Intelligence: Why it can matter more than IQ*. BentamBooks New York.
- Kaul, L. (2008). *Methodology of educational research (3<sup>rd</sup> rev. ed.)*. New Delhi: Vikas Publishing House Pvt. Ltd.
- Miluwi, J. O. & Rashid H. (2015). *Research methodology Principles methods and practices (1<sup>st</sup> ed.)*. Delhi: Mangalam Publications.
- Pandya, S. R. (2015). *Educational research*. New Delhi: APH Publishing Corporation.