

# Construction And Standardization Of Self Esteem Inventory (Sei)

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## ABSTRACT

The present paper describes the procedure involve in construction and standardization of a self-esteem inventory (SEI) for Higher Secondary level students. The Final inventory consists of 40 items, distributed over 8 dimensions of Self-esteem. The investigator constructed the inventory in two languages, i.e., in English and Assamese language. The reliability of the inventory was found to be 0.88. As the statements of the inventory are based on experts' comments so the content validity of the inventory is very high.

**Keywords:** Self esteem, Higher Secondary level Students, Construction, Standardization.

## 1.0 INTRODUCTION

The concept of Self Esteem was first introduced by William James (1890). William James defined Self Esteem as the set of attitudes towards oneself. James had put a formula of Self Esteem i. e. Self Esteem = Success/Pretensions. Where, feeling good about ourselves is called pretensions and how well we actually do is called success. Self-esteem is a term in psychology to reflect person's overall evaluation or appraisal of own worth. Self-esteem encompasses beliefs and emotions such as triumph, despair, pride and shame. It can be described as the judgment that we make about our own worth. Rosenberg (1965) defined it as a favorable or unfavorable attitude toward the self. It is a self-evaluative process through which individual can assess his or her efficiency, competence etc. Self Esteem has been playing an important role in the development of individual's potential and ability in different fields. This can help to enhance individual's capability to perform better in various fields. Human beings with high self-esteem can able to cope up in any challenges of life but having low self-esteem has face numbers of challenges. Though Self-esteem is an old concept in psychology but in the field of

research it is lacking behind. Assessment of self-esteem through self-esteem inventory/self-esteem scale is also not new.

## 2.0 REVIEW RELATED LITERATURE:

The researcher reviewed the literature related to Self Esteem Inventory to find out its different dimensions.

1. Rosenberg's (1979) Self esteem inventory for children: It is a one-dimensional inventory to measure the self esteem of the children.
2. Coppersmith's (1981) Self-esteem inventories for adults and children which focuses on four dimensions- i. Significance, ii. Competence, iii. Power iv. Virtue.
3. O'Brien and Epstein's (1988) Self-esteem inventory for adults. Dimensions of the inventory are competence, Lovability, Likeability, Personal Power, Self control, Moral self approval, Body appearances, body functioning, Identity integration and Defensive self esteem enhancement.
4. Battle's (1992), Culture free self esteem inventories for children and adults which focuses on Global self esteem, Parental

self esteem, School based self esteem and Peer group related self esteem.

5. Nugent and Thomas's (1993) Self esteem Rating Scale for Adults and Children which is an one-dimensional self Esteem scale for screening purposes of children and adults.
6. M.S. Prasad and G.P. Thakur's (1989) Multidimensional Inventory to measure Self Esteem of the children.

The researcher got an insight from the review of these literature about the dimensions to cover in self-esteem inventory. Considering the importance of self-esteem in individual's life especially in the adolescence period the researcher decided to construct and standardize a self-esteem inventory for higher secondary level students.

### 3.0 OBJECTIVES OF THE STUDY:

**Objective1:** "To construct and standardize a self esteem inventory for the Higher Secondary level students"

In this context the sub objectives are:

- i. To prepare a draft of the self esteem inventory to measure self esteem of the higher secondary level students of Lakhimpur District, Assam.
- ii. To determine the content validity of the draft self esteem inventory developed to measure self esteem of the higher secondary level students .
- iii. To try out the draft of the self esteem inventory developed to measure self esteem of the higher secondary level students .
- iv. To make item analysis of the draft self esteem inventory developed to measure self esteem of the higher secondary level students .
- v. To make selection of test items for final draft of the self esteem inventory developed to measure self esteem of the higher secondary level students .
- vi. To determine the reliability of the self esteem inventory developed to measure self esteem of the higher secondary level students .

### 4.0 RATIONALE OF THE STUDY :

Self Esteem has been playing an important role in the development of adolescence's potential and ability in different fields. This can help to enhance their capability to perform better in various fields. Adolescence period is recognized as a period of storm and stress. But we know that adolescence with high self-esteem can able to cope up with any challenges of life but having low self-esteem has face numbers of challenges. Though Self-esteem is an old concept in psychology but in the field of research it is lacking behind. Assessment of self-esteem through self-esteem inventory/self-esteem scale is also not new. Review of related literature in this area shows that though there are number of self-esteem inventory/self-esteem scale to measure self esteem of different group of population but it is less in the context of adolescence population. Keeping in view the importance of measurement of self esteem in adolescence's life the researcher attempted to construct and standardize a self esteem inventory for higher secondary level students.

### 5.0 METHODOLOGY OF THE STUDY:

5.01 Method used in the study:

In the present study descriptive survey method was used.

5.02 Population of the study:

There are 72 Assam Higher Secondary Education Council (AHSEC) recognized institutions (Higher Secondary Schools, Junior Colleges and Degree Colleges) in Lakhimpur District of Assam that have been providing Higher Secondary courses. In the present study, population comprised of all the higher secondary second year students studying in these 72 Assam Higher Secondary Education Council (AHSEC) recognized institutions (Higher Secondary Schools, Junior Colleges and Degree Colleges) in Lakhimpur District of Assam

5.03 Sample of the Study:

For tryout of the draft self esteem inventory, the researcher had selected six higher secondary institutions viz; 3 from rural areas and 3 from urban areas of Lakhimpur District

of Assam using quota sampling method. Then 120 higher secondary second year students (20 students from each institution) studying in these six sampled institutions of Lakhimpur District of Assam were selected for tryout of the draft self esteem inventory using purposive sampling method. Again, for standardization of the self-esteem inventory another sample of six higher secondary institutions viz; 3 from rural areas and 3 from urban areas of Lakhimpur District of Assam was selected using quota sampling method. Then, 120 higher secondary second year students (20 students from each institution) studying in these institutions was selected using purposive sampling method for standardization of the self-esteem inventory.

#### 5.04 Statistical techniques used in the Study:

The Statistical Techniques viz. Mean, Standard Deviation, t-test and Product Moment Co-efficient of Correlation were used in the study for statistical analysis.

### **6.0 CONSTRUCTION AND STANDARDIZATION OF THE SELF-ESTEEM INVENTORY:**

For Construction and standardization of the Self Esteem inventory, the researcher had followed certain steps as mentioned below-

- 1.Planning and Preparation of the draft self-esteem inventory
- 2.Administration of the draft inventory
- 3.Item analysis of the draft inventory
- 4.Standardization of the draft inventory

6.01 Planning and Preparation of the draft self esteem inventory: The researcher had planned to construct and standardize a self esteem inventory for the higher secondary level students. For the construction of the self esteem inventory, various studies on the related areas have been reviewed by the investigator and identified the following dimensions:

A. Self respect: Self respect denotes pride and confidence in oneself; a feeling that one is behaving with honor and dignity, how one can respect their life, their opinion, their thinking power, their intellectual ability, problem solving capacity etc. Self respect is a form of

self love. Self respect is courage to standing about oneself when one treated fewer manners as ones deserve. It is the ability to adjust oneself and remove people who are treated poorly.

B. Self confidence: The concept of self confidence is commonly used as self assurance in one's personal judgment, ability, power and level of confidence of the students. It is a Positive looks upon oneself which can increase the self confidence of the students. It is one of the essential aspects of Self Esteem which would be associated with self esteem measuring scale.

C. Self competence: The term self competency is developed by Susan Harter (1982). It generally refers to perceptions of ability, efficiency in broad academic areas. Self competence also refers as to perceived ability in subject areas as a whole. Whether one feels competent depends on whether they compare themselves with someone who is more competent than them. How they feel they are as competent as other. It is decision the child makes about himself. Here the inventory intends to measure how the students of the Higher Secondary level students are competent on their broad academic areas, different skills like-problem solving capacities, decision making capacities, depression related to their life.

D. Self Control: Self Control refers to how one can able to control themselves from any kinds of social, emotional, mental, intellectual imbalances.

E. Lovability and Likability: Self Esteem is linked to a person's socially based sense of lovability and likeability. It is most essential to measure feelings of alienation and social withdrawal by using Self Esteem measuring Scale. Lovability means a nature as to attract love, amiable and endearing. It means they have some attractive qualities which make them more lovable. And likable means having the qualities that bring about a favorable regard, pleasant, agreeable the most likable one. Likability refers to those qualities posses by individuals which allow them to be liked.

F. Personal Power: It is the feeling that we have some control over being who we are,

making things happen in the world, having an effect on the people and events in our life, and living our life satisfactorily gives a sense of power. If power is an important for us having a feeling of it can raise self esteem.

**G. Physical Appearance:** Physical appearance is a outward looking of human beings. Self Esteem is related with one's appearance. Measures of appearance satisfaction tap general aspects of body satisfaction, the affective component of body image (Smolak, 2004). Body dissatisfaction generally refers to negative subjective evaluations of oneself. (Stice & Shaw, 2002). Positive relationships between self perceived physical attractiveness and self esteem found in reflect the functioning of a mating sociometer.

**H. Family support:** Family support refers to the parental involvement with their children. Family support can helps to make more efficient. Children whose parents are accepting of their strength and limitations and set explicit high, but attainable standards, which they support their children in attaining, develop high self esteem. High Self Esteem is also associated with a consistent authoritative parenting style in which children are treated with warmth and respect and given opportunities to discuss directives and rules about good conduct. In contrast, children whose parents are inconsistent, permissive, strictly authoritarian, rejecting or abusive develop low Self Esteem. Parental example and modeling also has an impact on the development of self esteem, a greater impact than the verbal advice parents give their children. Parents who cope with life challenges by using an active problem solving coping style are more likely; through their example to help their children develop high Self Esteem. An avoiding parental coping style is associated with the low self esteem. (Baumeister, 1997; Bedner and Peterson, 1995; Brown, 1998, Robins et al., 1999.)

Based on these dimensions, the investigator had prepared 80 statements for preliminary draft of the Self Esteem inventory. Out of these 80 statements 43 are positive and the remaining 37 are negative statements.

The statements of the inventory were sent to the experts for recommendations and all the statements were modified according to

the expert's comments .Thus, the draft self esteem inventory was ready for draft try out on the samples.

**6.02 Administration of the draft inventory:** In this step, the researcher had tryout the draft self esteem inventory following the below mentioned steps-

**6.2.1 Try out of the draft Self Esteem Inventory(SEI) :** For tryout of the draft self esteem inventory, the researcher had selected six higher secondary institutions viz; 3 from rural areas and 3 from urban areas of Lakhimpur District of Assam using quota sampling method.

Then 120 higher secondary second year students (20 students from each institution) studying in these six sampled institutions of Lakhimpur District of Assam were selected for tryout of the draft self esteem inventory using purposive sampling method.

Different steps have been followed in the tryout of the SEI. These are as follows:

**6.2.1.1 Sitting Arrangement:** The proper sitting arrangement were made for the students where they feel like a comfort Zone to provide their responses correctly.

**6.2.1.2 Instruction for the respondents:** Along with the statements the researcher had prepared and added the instructions in the front page of the draft inventory for the respondents. Written as well as verbal instructions were given to the respondents as follows-

**Instructions:** In the following pages 80 statements related to your self esteem has been given. For each item, five response alternatives viz - Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree have been given. Please read each item carefully and decide your answer on one of the alter response which you think suitable for you and put a tick mark (√) in the appropriate box. It is compulsory to response against all statements. The information provided by you will be keep as confidential and use for research purpose only.

6.2.1.3 Distribution of Draft Inventory: The draft inventory was distributed among the students after providing instruction.

6.2.1.4 Time Limit: As the draft inventory was first administer on 20 students and seen that the average time taken by the students was 1 hour for completing the task, so the researcher decided to fixed 1 hour as time limit for administration of the entire inventory.

The scoring procedure of the inventory is shown in the following table:

**Table No.1 Scoring Procedure of Self esteem Inventory**

Statements	Scores				
	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Positive items	5	4	3	2	1
Negative items	1	2	3	4	5

6.04 Item-Analysis of the Draft Self Esteem Inventory:

The process of item analysis includes the following procedures:

- i) The researcher had collected the responses from 120 sampled students and completed the scoring with the help of scoring key.
- ii) The researcher had arranged the total numbers of scores in descending order.
- iii) The researcher had taken **25 %** of the respondents with the highest total scores and **25%** of respondents with the lowest total scores. This way, the researcher had prepared two groups i.e. High Group and Low Group of respondents.
- iv) The Mean scores obtained on each individual item by both high scoring group and low scoring group were calculated.

6.3.2 Scoring Procedure of the Self Esteem Inventory: As the self esteem inventory was designed on the basis of a 5 point Likert-type scale including 5 options for responses i.e. **strongly agree, agree, undecided, disagree** and **strongly disagree**.

- v) To find out whether the discriminating power of a particular item is significant or not the 't' value for each item was found out.
- vi) The 't' value equal or greater than **1.75** indicates that the statement differentiates between the high group and low group. A higher 't' value indicates the high discriminating power of the item.

6.05 Selection of items for the final draft of Self Esteem Inventory:

There were 50 items having higher t value i.e. greater than 1.75. But the researcher kept only 40 items for the final Self Esteem Inventory viz; five from each dimensions .The rationale behind this is to keep equal number of items for each dimension. Table No.2 shows the details of final Self Esteem Inventory.

**Table No.2: Final Self Esteem Inventory**

**Total Nos. of Items having 't' ≥ 1.75 Selected and 't' < 1.75 were canceled for the Final Draft**

Dimensions	t-value higher than $\geq 1.75$	t-value less than $< 1.75$	Selected Items	Canceled Items
1.SELF RESPECT	1,4,5,6,7,10=06	2,3,8,9=04	05	05
2.SELF CONFIDENCE	1,2,3,4,6,8,10=07	5,7,9=03	05	05
3.SELF COMPETENCY	1,2,4,7,8,9,10=07	3,5,6=03	05	05
4.SELF CONTROL	1,2,3,5,7,8,9,10=08	4,6=02	05	05
5.LOVABILITY AND LIKABILITY	3,5,6,7,8,9,10=07	1,2,4=03	05	05
6. PERSONAL POWER	1,5,7,8,10=05	2,3,4,6,9=05	05	05
7.PHYSICAL APPEARANCES	2,3,4,6,10=05	1,5,7,8,9=05	05	05
8.FAMILY SUPPORT	1,5,7,9,10=05	2,3,4,6,8=05	05	05
	Total=50	Total=30	Total=40	Total=40

This way the researcher constructed the Self Esteem Inventory (SEI) for higher secondary level students.

## 7.0 STANDARDIZATION OF THE SELF ESTEEM INVENTORY:

### 7.1 VALIDITY OF THE SELF ESTEEM INVENTORY:

Content validity of the Self Esteem Inventory was ensured with the help of the recommendations of a team of experts.

### 7.2 RELIABILITY OF SELF ESTEEM INVENTORY:

To calculate the reliability of the Self Esteem Inventory the researcher had followed the steps as mentioned below-

**Step 1:** For estimation of reliability of the Self Esteem Inventory another sample of six higher secondary institutions viz; 3 from rural areas and 3 from urban areas of Lakhimpur District of Assam was selected using quota sampling method. Then, 120 higher secondary

second year students (20 students from each institution) were selected from these institutions using purposive sampling technique for standardization of the self-esteem inventory.

The Self Esteem inventory was administered on these sampled students. They were given verbal and written instructions to complete the inventory as follows-

**Instructions:** In the following pages 40 statements related to your self esteem has been given. For each item, five response alternatives viz - Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree have been given. Please read each item carefully and decide your answer on one of the alternative response which you think suitable for you and put a tick mark ( $\surd$ ) in the appropriate box. It is compulsory to response against all 40 statements. The information provided by you will be kept as confidential and use for research purpose only. 1 hour will be allotted to complete the work.

**Step 2:** In the scoring procedure, the researcher had calculated the total marks

separately in two parts i) Total mark of odd number statements and ii) total mark of even number statements.

**Step 3:** Then the researcher calculated the product moments co-efficient of correlation of

the two parts and it was found as = 0.79. It shows the reliability of the half test.

**Step 4:** The Co-efficient of reliability of the whole test was estimated with the help of the Spearman-Brown Prophecy Formula and it was found = 0.88.

**Table No. 3 Reliability (Split-half Method) of the Self Esteem Inventory**

Name of Inventory	N	Reliability (Split-half Method)
Self Esteem Inventory	120	0.88

### 8.0 CONCLUSION:

The present study describes the procedure involve in construction and standardization of the Self Esteem Inventory. The content validity and reliability of the inventory were estimated and found to be satisfactory so the final self esteem inventory developed for higher secondary level students is ready for administration.

### REFERENCES:

- Baumgardner, S.R. and Crothers, M.K. (2009). Positive psychology. New Delhi: Dorling Kindersley, Pvt.Ltd. of India.
- Best, J. W. and Kahn, J. V. (1992). Research in Education. New Delhi: Prentice Hall of India Pvt. Ltd.
- Branden, N. (1969). The psychology of self esteem. New York: Nash and Jossey Bass publications.
- Branden, N. (1987). The powers of self esteem. New York: Nash and Jossey Bass publications.
- Buch, M.B., ed. (1991). Fourth survey of research in education. New Delhi: NCERT.
- Buch, M.B., ed. (1987). Third survey of research in education. New Delhi: NCERT.
- Coopersmith, S. (1967). The antecedents of self esteem. San Francisco: W.H. Freeman Publication.
- Carr, A. (2004). Positive psychology, the science of happiness and human strengths. New York: Routledge 27 church road, Hove, East Sussex BN26FA publication.
- Chaliha, A. (2012). Scholastic Achievement of the Post Graduate Students of Dibrugarh University: A Study of Some Associated Variables, Unpublished Doctoral Thesis, Department of Education, Dibrugarh University.
- Chawla, D. and Sondhi, N. (2016). Research Methodology concepts and cases. Vikash publishing house Pvt.Ltd. 7361, Ravindra Mansion, Ram Nagar, New Delhi-110055.
- Creswell, J.W. and Plano Clark, V.L. (2006). Designing and Conducting Mixed Methods Research. New Delhi: SAGE publication India PVT.LTD.
- Flynn, H.K. (2003). Self esteem theory and measurement: A critical review, 3(1). Retrieved from journals.sfu.ca>article>view>ko..
- Franzen M.D. (2011) Test Construction. In: Kreutzer J.S., DeLuca J., Caplan B. (eds) Encyclopedia of Clinical Neuropsychology. Springer, New York, NY. [https://doi.org/10.1007/978-0-387-79948-3\\_1257](https://doi.org/10.1007/978-0-387-79948-3_1257)
- Garret, H. E. (2014). Statistics in Psychology and Education: New Delhi: Surjeet publications.

15. Harris, S. (2009). The relationship between self esteem and academic success among African American students in the minority engineering programme at a research extensive university in the southern portion of the United States. Doctoral dissertation of Louisiana state university.
16. James, W.(1890): The principles of psychology. New York: Henry Halt and Co, publication.
17. James, W.(1892): Psychology: the briefer courses. London & New York: Macmillan and Co & Henry Halt and Co, Publications.
18. Jensen, L.C.(1985).Adolescence: Theories, research and application. San Fransisco: West publishing company Pvt.Ltd.
19. Joshi,S.and Srivastava, R.(2009). Self esteem and academic achievement of adolescents. Journal of the Indian academy of applied psychology, 35, 35-39.
20. Joshi,P.(2017). Find out the level of self esteem among graduate students. Paripex-Indian journal of research 6(7). Retrived from <https://www.worldwidejournals.com>.
21. Koul, L. (2009). Methodology of Educational Research. New Delhi: Vikash Publishing House PVT.LTD.
22. Kumar,A.,& Mehra,A.(2019).A correlative study of personality and self esteem. Research review international journal of multidisciplinary 4(3).Retrived from <https://www.rrjournals.com>>past-issue
23. Lane, G. G., White, A. E., & Henson, R. K. (2002). Expanding reliability generalization methods with KR-21 estimates: An RG study of the Coopersmith self-esteem inventory. Educational and Psychological Measurement, 62, 685–711. doi:10.1177/0013164402062004010. Retrived from [journals.sagepub.com](https://journals.sagepub.com) > doi > abs at 12.30 P.M.
24. Maheswari, R., and Maheswari, K.(2016). A study of self esteem among the college students. Journal of humanities and social science,21(10),8-10.Doi:10.9790/0837-2110080810.
25. Mahmud, J.(2004).Developmental Psychology. New Delhi: APH publishing corporation.
25. Miraei,R.(2005). The relationship between self-esteem self concept and academic achievement among junior high school students. International Journal of Social Science Research. Retrived from <https://www.ijss-sn.com>>17..
26. Mangal, S.K.(2005).Advanced educational psychology. New Delhi: Prentice Hall of India Private Limited.
27. Mruk,C.J.(2013). Self esteem and positive psychology: Research, theory and practice. New York: Springer Publication.
28. Nagar, S., Sharmah, S. and Chopra, G. (2008). Self-esteem among rural adolescents' girls in Kangra District of Himachal Pradesh. Anthropologist- an anthropological journal, 10(2): 151-154. Doi: 1080/097200073.2008.11891041.Retrieved from <https://www.semanticscholar.org>>
29. Pasha, H.S. and Munaf, S. (2013).Relationship of Self Esteem and Adjustment in traditional university students. Procedia-Social and Behavioural Sciences .Retrieved from <http://www.sciencedirect.com>.doi:10.1016/j.sbspro.2013.06.688. on 5/6/2017 at 10.30 P.M.
30. Potard, C.(2017).Coopersmith Self Esteem Inventory (CSEI). Encyclopedia of personality and individual differences.pp-1-3, DOI:10.1007/978-3-319-28099-8\_81-1.Retrieved from [link-springer-com-443.webvpn.fjmu.edu.cn](https://link.springer.com) > reference. At 12.P.M. on 16/03/20.
31. Prasad, M.S. and Thakur, G.P. (1989).Self Esteem Inventory. Retrieved from <http://shodhganga.inflibnet.ac.in>. on 5/6/20 at 11.00P.M.



32. Priya,V.,and Muralidaran, K.(2014). A study on the self esteem of adolescent college students. *Indian Journal of applied research*, 4(6).
33. Rosly,Y., Othman, ,H., Ishak, I.,Lubis,S.H.,Saat, N.Z, and Omar, B.(2012).Self esteem and academic performance relationship amongst the second year undergraduate students of University Kebangsaan, Malaysia, Kuala Lumpur campus. *Procedia - Social and Behavioral Sciences*, 60 (2012) 582 – 589. doi: 10.1016/j.sbspro.2012.09.426
34. Rosenberg,M.(1965). *Society and the adolescent Self image*. Princeton, NJ:Princeton University Press.
35. Singh,P.(2015).Construction and standardization of an achievement test of mathematics for ninth grade students. *GHG Journal of Sixth Thought* 2(1). Retrived from<http://www.ghgcollegesadhar.org>
36. Shukla,K.N.(2016). A study on role of self esteem in agreession among undergraduate students. *International Journal of Advanced Research*,4(9),1567-1570.Doi:10.21474/IJAR01/1610.
37. Sumathi,S., Lalkumar, A.C.(2017).A study of self esteem of Secondary school students. *International Journal of Applied Research*,3(3),761-764.Retrieved from <https://www.allresearchjournal.com>.
38. Test construction and its standardization : Measurement and Statistics in Education (Block-1). Retrived from<https://kkhsou.ac.in> › E-SLM\_Main › Education
39. Thomas, I. and Sananda Raj,H.S.(1984). Measurement of Self Esteem-An Inventory for Secondary School Pupils. *Psychological Studies*. 29(1).
40. Woolfolk,A.(1980).*Educational psychology*. New Delhi: Darling Kindersly, Private Limited.
41. Iqshanullah, Muhammad, Rexlin Selvin, and M. A. H. A. N. D. R. A. Kumar. "The Development and standardization of attitude scale towards social change." *Int. Jr. of Edu. Sci. and Res* 9.3 (2019): 25-30.
42. Nallusamy, S., et al. "Implementation of total productive maintenance to enhance the overall equipment effectiveness in medium scale industries." *International Journal of Mechanical and Production Engineering Research and Development* 8.1 (2018): 1027-1038.
43. Danquah, E. M. E. L. I. A., and Theophilus B. Wireko. "The impact of each element of emotional intelligence on customer service delivery: A customer satisfaction perspective." *International Journal of Sales & Marketing Management Research and Development* 4.2 (2014): 9-20.
44. Bharathi, T. Aruna. "A Study on the Self-Esteem Level among the Students of College of Home Science." *International Journal of Educational Science and Research (IJESR)* 7.5 (2017): 71-76.
45. Ugwuanyi, CHRISTIAN S., and CHINEDU IO Okeke. "Determinants of university students' interest in science, technology, engineering and mathematics education in nigeria: a case of a structural equation modeling." *International Journal of Mechanical and Production Engineering Research and Development*, 10 (3): 6209–6218. <http://dx.doi.org/10.24247/ijmperdjun2020590> (2020).
46. Gautam, Divya, and Parul Jhajharia. "The Effect of Workplace Spirituality on Employee's Self-Empowerment." *International Journal of Human Resource Management and Research (IJHRMR)* 6.3 (2016): 13-20.