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Statistical Analysis for Effect of Positive Thinking on Stress Management and Creative Problem Solving for Adolescents

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Abstract— Background: This study has been done to see the positive effect of positive thinking and to see that how positive thinking practice help to reduce the stress level and grow the problem solving capacity of technocrats and students in daily life. Spirituality with positive thinking with creative attitude is the only way through which one can get well soon from all types of problems by following some discipline.

Objective: The present study aimed at studying the Statistical Analysis for Effect of Positive Thinking on Stress Management and Creative Problem Solving for Adolescents

Participants, settings: Sixty healthy volunteers both male and female were selected for the study from Gayatri Shaktipeeth, Shantikunj-Hardwar. All participants were students of ninth class. The age range of the participants was around of 12 to 14 years. Participant were divided randomly into two groups; one was group A-experimental group (n=30) and another was Group B –control group (n=30).

Measures: The scale used to measure the stress level and level of creative problem solving of the students was –“Stress Scale and creative problem solving” Stress Scale – This is a self-reporting scale of measuring stress. The scale consists of 40 items and 3 response categories as – “always”, “sometimes” and “never”. This scale was used to measure the stress level of the subject before and after the intervention of both the group.

Result: The result of the study explains that the Effect of watching Positive thinking enhancing movie it helps in stress management and increase the level of creative problem solving of students in all classification areas in pre and post test data.

Conclusion: This study concluded that the Effect of watching Positive thinking enhancing movie also helps in stress management and increase the level of Creative Problem solving among students. Because we also know that the students who are watching this positive enhancing movie also perform good in their work and other students who did not watch movie have no difference before their work.

Keywords— *Stress, Spirituality, Problem Solving, Thinking Style*

I. THE CORE IDEA OF THE PAPER

Due to high importance given to Aparavidya (Science) in recent decades and due to neglect of Paravidya (Spirituality) & Adhyatma Vidya (Spirituality supported by science).

So, Scientific Spirituality (Adhyatma Vidhya) = Science (Aparavidya) + Spirituality (Paravidya). Spirituality covered with scientific facts and Yoga have directed bearing on the integrated growth & fulfillment of the human at all level i.e., Physical, Emotional, Intellectual, Spiritual. A problem is a situation in which we cannot reach our goals due to some problem or situation. Many times, children are living with their parents physically but they have hatred or dislike for them and are not connected mentally and emotionally, they try to get lonely from one another. Mathematical, scientific and research oriented problems are less emotional in nature so in the problem solving capacity, the capability of individual to solve the practical and real issues in life, in relations and in society/ nation. It is thought that the types of strategies we use are similar both emotional and none emotional problems.

In concise psychological Dictionary “Anxiety” is defined as: An emotional state arising in situations of impending danger

and manifested in expectation of unfavorable events. Unlike fear as a response to a specific threat, Anxiety represents generalized, diffuse or pointless fright. In man, Anxiety is usually associated with expectation of failures in social interaction, and is often caused by the fact that the source of danger is unknown.

II. PREVIOUS STUDIES (LITERATURE REVIEW)

Agarwal & Chadha in 2007 conducted a study among engineering and management graduates to measure their stress. The Factors contributing for stress majorly were the overloading of loads, stagnation of their parts and distance from self-judgement and self-capacity understanding and these were the reasons to generate stress among students.

In the today's life style filled with conflicts, not only adults, students, youngsters and professionals many times face unusual and unprecedented situations which cause them stress, worry, anxiety, tension and frustration. Due to lack of Self control, proper guidance and motivation, many of them commit suicides etc.. There has been observed a pattern of unusual and abnormal behaviour and one may not be able to predict the next action or thought process of any individual. US, UK and other developed countries are suffering badly with the problem of mental disorders and rising shoot out cases by teen agers. May it be reason of study, love or profession. The timely counselling by the institutions, teacher and parents, or the appropriate concern from their friends, peers or siblings plays a pivotal role in this turbulent condition (**Chen et al, 2006**), which then affect the learning achievements and adjustment capabilities of students. **Rao K and D K Subbakrishna (2006)** of National Institute of Mental Health and Neuron Science (NIMHANS), tried to compute the behavioural characteristics of stress and coping behaviour, on a group of 258 male and female undergraduates. Piekarska (2000) revealed that the necessary factors for the formation of stress are frequent and strong. Stress, Psychology and personality characteristics have strong connection and correlation. Those having frequent stress syndrome and negative attitude majorly suffer with poor personality and fluctuating disorders. College chronic 'Life Stress Survey' constructed by **Towbes and Cohen (1996)** observed on the frequency of chronic stress in the lives of college students. Peer level clashes at the interpersonal order, self respect maintenance, monetary issues are the one of the very common challenges that our teen agers and students face in their day to day life. Scales contain items that depict, tries to quantify the same characteristics to measure the personality, attitude and social impact of individual.

Murphy and Archer (1996) contributed significantly the academic stress factors and compared with of their previous study with those experienced eight years later. The core academic stressors were obtained to be relatively unchanged over time. (**Archer and Lammin, 1985**). The property of time specific or subject specific of the most significant stressors items which support contention **Carroll's (1963)** that it

represented that learning is a function of time allowed, aptitude, quality of instruction and ability to understand instruction.

The previous researchers like (**Larson, 2006**) found the stress factors in college goers may consist of: academics, social relationship, finances, extra marital affairs, increased expenditure, false ego, daily hassles (eg. parking and being later) and familiar relationships. In present scenario, the stress has increased due to each domain conflict, insufficient or less resources, demanding time constraints, and new responsibilities had characterized stress. Most significant method is the brain-storming technique. The brain-storming group comprise of small number of people who are encouraged to think many ideas as to solve problems of creative nature. It encourages delayed evaluation, because evaluation during production has reducing effect on the members. The brain-storming session may have two or more hours. It is a free-wheeling affair with ideas coming very rapidly from all sources. Checklists are prepared by researchers and they must stimulate the production of ideas.

The Gordon technique is a modified form of brain-storming technique. **Gorden (1961)** has developed a process called 'operational creativity'. In this technique an abstraction of the problem is presented to the group members instead of detailed specific problems as given in Osborn's brain-storming. His argument is that by presenting an extreme abstraction we may get many ideas that are not ordinarily brought out.

The creative problem is the morphological analysis. This technique originally was developed by them and was assigned to Fritz Wacky of Aero-Jet Corporation. **Osborn (1957) and Aenold (1962)**. Creative problem solving technique is The Collective Bulletin Board Method. This method was devised by **Lefrancois (1965)**. He has combined the brain-storming method and collective notebook method and redesigned to suit to the classroom situation.

III. STRESS AND PROBLEM SOLVING

Stress, is defined as the response to event that threatens or challenges a person. Whether it is a paper or exam or even a cumulative series of small events such as those faced by people on job etc. Stress as a word means "to draw tight" and has been used to describe hardship, affliction, force, pressures, strain or strong effort. It is also external pressure or pressure supplied on the individual. Stress is a feeling of strain and pressure other symptoms are overwhelmed insecurity, nervousness, depression etc.

A. Causes of stress:

Korchin (1965) have distinguished some classes of stressful situations as follows:

1-Uncertainty and under stimulation, 2-Informative overload, 3-Danger, 4-Ego control failure, 5-Ego-mastery failure, 6-Self-esteem danger, 7-Other esteem danger

B. Symptoms of Stress:

Stress Warning signs and Symptoms are as below

- (1)-Symptoms due to Cognitive characteristics
- (2)-Symptoms due to Behavioral characteristics
- (3)-Symptoms due to Physical characteristics
- (4)-Symptoms due to Emotional characteristics

IV. CREATIVE PROBLEM SOLVING

If one has skill to solve the present problems creatively and finding solutions, he/she has creative problem solving. It is a special form of the problem solving in which the solution is not learned and searched by an assistance but developed independently. This area of expertise demands more practical knowledge and social skills rather merely the bookish knowledge. Creative problem solving always involves creativity. However, creativity often does not involve creative problem solving, especially in fields such as music, poetry, and art. The creativity factor is measured and generated by newness or novelty as a characteristic of what is created, but what is created has value or is appreciated by other people is not necessarily implied. The problem should be a P problem ie should be solvable in polynomial time but should not be NP hard or NP complete problem. The factors to emphasize a problem to be a creative problem should justify to qualify as a problem that it has a solution possibility and should clearly solve the stated problem, or it should be confessed by those for whom the problem has been solved and situation has improved.

V. EXPERIMENT AND RESULTS

Hypothesis:-There is a significant effect of positive thinking on stress management

There is a significant increase in the level of creative problem Solving by positive thinking practices.

Independent Variable - Positive thinking, Spiritual attitude.

Dependent Variable - Stress Management, Problem solving

A. Dependent Variable

DEPENDENT VARIABLE:-

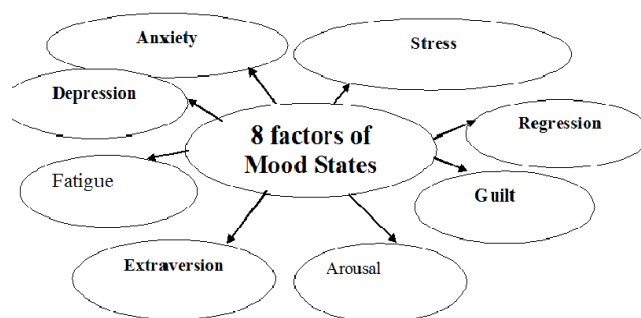


Fig.1.

B. Study-

In this study used questionnaire (stress scale) constructed by DR. M. Singh, 2002. The university which emphasis achievement and evaluation perhaps growth keeps students in more intensive stress state that does a more relaxing setting. Physiological stress are as much responsive to psychological threats, such as infection, injury, physical exertion and other physiological tremors response to anxiety and other psychological conditions. The stress – scale is self-reporting scale of measuring stress. Possible reasons may be Continuous long journeys, Change in job, Transfer, Retirement, Loss of business, Un-fulfilment of commitment, Trouble in neighbourhood, Not being married, Examination or interviews, Death of dear one, Break up with spouse, Family conflict, Large Loan etc.

C. Sample Size-

Sixty healthy volunteers both male and female were selected for the study from Gayatri Shaktipeeth, Shantikunj-Hardwar. All participants were student of ninth class students. The age range of the participants was around of 12 to 14 years. Participant were divided randomly into two groups; one was group A-experimental group (n=30) and another was Group B –control group (n=30).

Participants with any of following was excluded-

- History of smoking, intoxicants, or consumed caffeinated beverages.
- Chronic illness and chronic use of medication.
- The signed informed consent was obtained from all participants before they participated in the study.

VI. DESIGN OF THE STUDY

The participants were assessed before and after the session. The intervention was held in four sessions, which was being conducted twice in a week. There are two groups- Group A

(Experimental group) and group B (control group). This intervention was held to compare between group A and group B as well as with the aim of showing the effect of positive thinking on group A (Experimental group). All the participants took part in the study voluntarily. Along with their interest these session were being successful in completing this whole study with intervention. The study had the approval of department of psychology of DSVV-Haridwar.

A. Assessment:

Many scales have been developed and designed to measure the stress level and creative problem solving of an individual, of different age group. The scale used to measure the stress level and level of creative problem solving of the students was –“Stress Scale and creative problem solving” Stress Scale – This is a self-reporting scale of measuring stress. The scale consists of 40 items and 3 response categories as – “always”, “sometimes” and “never”. It was used to measure the stress level of the subject before and after the intervention of both the group.

B. Reliability:

Reliability coefficient of the scale was estimated by Split half method and Test – retest method and correlation was found 0.82 and 0.79 respectively. The reliability of the creative problem solving test was estimated by test – retest method is 0.85 and also significant on 0.01.

C. Validity:

Bits Battery of Stress Scale (Abha Rani Bits) was used to compute the validity coefficients and correlation was found 0.6 ie high to the average, Correlation coefficient for $c = 1$.

D. Scoring:

Allot 2 marks on “always”, 1 mark on “sometimes” and 0 marks on “never”. Sum up all marks and interpret in term of state of stress.

E. Statically Values:

TABLE 3

| Value | Male | Female |
|-------|-------|--------|
| Mean | 41.55 | 39.32 |
| SD | 7.78 | 8.96 |

Table4- Interpretation of row scores as stress state

| State of stress | Male | Female |
|-----------------|--------------|--------------|
| Severe state | 57 and above | 59 and above |
| High State | 47-56 | 49-58 |
| Moderate state | 37-46 | 39-48 |
| Low state | 27-36 | 29-38 |
| Very low state | 26 and less | 28 and less |

F. Intervention:

There were two Group A (experimental group) and Group B (control group). The intervention was given only to the experimental group. The intervention was held in four sessions, which was being conducted twice in a week. The sessions were taken with the during of 30 min. In one of the session a film was shown to group B (on positive thinking) that how positive thinking helps to reduce stress and increase the level of creative problem solving. Lecture was also given during these sessions to the subjects, making them to realize the importance of positive thinking. Later, reading materials were also provided to the participants about “the power of positive thinking”, “importance of self-analysis”, power of mind” etc. (Table3 and table4)

VII. DATA ANALYSIS-

Data was analysed using PASW version 18.0 (formerly SPSS). T-test measures significance between pre and post data of the study. The value of mean, SD and t-test of both Group A and Group B are given below in Table 1 and Table 2 respectively.

Hypothesis I-

There is a significant effect of watching Positive thinking on stress management.

Table 1

| Group | M | SD | SE d | t- value | Significant level |
|--------------|-------|------|------|-------------|--------------------|
| Experimental | 18.45 | | | | |
| | | 3.75 | 0.92 | 4.15 | Significantat 0.05 |
| Control | 22.93 | | | | level |
| N1=30 | N2=30 | d=58 | | | |

Graph 2



Null Hypothesis II

There is a significant increase in the level of creative problem solving due to the effect of watching positive thinking enhancing movie.

Table 2

| Group | M | SD | SEd | t-value | Significant level |
|--------------|-------|------|------|---------|---------------------|
| Experimental | 12.77 | | | | |
| | | 2.63 | 0.68 | 2.31 | Significant at both |
| Control | 11.2 | | | | 0.01 and 0.05 level |

N1=30 N2=30 df=58

VIII. DISCUSSION AND INTERPRETATION

The aim of the study was to saw the Effect of watching Positive thinking enhancing movie on stress management and creative problem solving. Compare the stress level and capacity of creative problem solving among the students of experimental and control group and low. The two hypotheses was constructed accordance with the different class groups of stress manage scale and creative problem solving test apply on class students. Hypothesis was tested statistically by using t-test method. The result of the study explains that the Effect of watching Positive thinking enhancing movie it helps in stress management and increase the level of creative problem solving of students in all classification areas in pre and post test data. Stress is physical response to a situation. Some level of stress is essential for response but continuous and high level of stress is harmful for the human manifest as physical and mental. Ninth class students tend to lack the time and the opportunity to develop interpersonal relationship (Hartshorne, 1976). Fear of academic failure related to these tasks is a definite stressor (Kolko, 1984). It is proved that high level of stress reduces academic performance in the students. And the present study interpreted that the positive thinking helps to manage stress and had a good coping capacity. This study also shows about the problem solving capacity.

IX. NOVELTY IN THIS PAPER

In the present study the effect of positive thinking to manage daily life stress and increase the capacity of problem solving. Stress is a most command term which we use in daily life without any reason. That means we use this term commonly but stress is not so easy to explain. Stress as a word means “to draw tight” and has been used to describe hardship, affliction, force, pressures, strain or strong effort. It is also external pressure or pressure supplied on the individual. We all experience episodic stress, like, getting ready for an important way of life. Problem solving is sometimes associated with decision-making. There are two higher mental processes. Problem solving has been conceived by psychologists as discovery of correct response to a problem. But decision-making refers to selection of a correct response, out of several correct responses already brought out and had been found that as people are getting older and their problem solving ability is reducing.

X. FUTURE SCOPE, LIMITATIONS AND POSSIBLE APPLICATIONS

This is an endeavour of a student to study the effect of watching positive thinking enhancing movie on stress management and creative problem solving. Due to these limitations this study was conducted in the university premises with small size of sample, similar studies can be done in different parts of the country on large samples for better scope of generalization. For the further researches it should kept in mind that environment also play a vital role in increment and decrement of mental health so, it should also include, it can be done on the sample of different age groups, gender differences, socio economic status, parents education, academic environment . This research is done in a very short time period due to limitation of some aspect left by the researcher. They should also build in further studies.

- Study the physiological, psychological and therapeutic effect of positive thinking and mindful meditation.
- Control group and long duration study suggested.
- Study of its effect on exclusion and inclusion criteria.
- Study the effect of meditation at microscopic level.
- Study its effect not only on mental and physical but at consciousness level too.

XI. CONCLUSION

This study concluded that the Effect of watching Positive thinking enhancing movie also helps in stress management and increase the level of Creative Problem solving among students. Because we also know that the students who watching this positive enhancing movie also perform good in their work and other students who did not watching movie have no difference before their work. And we know that, Stress is physical response to a situation. Some level of stress is essential for response but continuous and high level of stress is harmful for the human, manifest as physical and mental. Students had now a good coping capacity to manage stress and also done

their work very well, i.e. had a good problem capacity. In this study, the experimental group showed significant reduction in the level of stress. Hence it can be concluded that continuous positive thinking has the capacity to reduce stress among students and increase their working performance.

XII. ACKNOWLEDGEMENT

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