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EFFECTIVENESS OF A PROGRAM TO AWAKEN EMPATHY IN ADOLESCENTS

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Abstract

Empathetic behaviour in youth, can be beneficial for the youth as well as our nation and the world. Davis (1983) views empathy as, a multidimensional phenomenon including four subscales-perspective taking, fantasy, empathic concern and personal distress. The purpose of present study was to find the effectiveness of the program on the empathy level of Std. XI students. A sample of 70 students was randomly selected to undergo the community service program. Two unmatched group pre-test and post-test design usingDavis' Interpersonal Reactivity Index (IRI) (Davis, 1980) were used. Findings revealed a significant difference between means, of Empathic Concern, Perspective taking and Personal distress.This indicates that the Program had a positive impact on the Empathy level in terms of,Perspective taking and Personal distress and not on Empathic Concern. More Research is needed needs to be done by incorporating service programs in the regular schedule of adolescents between 14-20 years and study the effectiveness on their empathy and social responsibility level.

Keywords: *Effectiveness, Awaken, Adolescents, Empathy*

INTRODUCTION

Youth form a major percentage of today's population of India. To realize our dream of a peaceful and caring world in future, we need to inculcate proper values and divert youth energy to positive action. This is possible, by engaging the youth in community service, to awaken the dormant empathy in them. Empathetic behaviour in youth, can be beneficial for the youth as well as our nation and the world.

BACKGROUND OF STUDY

Education

Education helps children to adjust and adapt to their socio-environmental condition, to cooperate with each other by broadening vision, sharing hardship for the upliftment of society. A society is composed of individuals and when the ideas of individuals change, the society is bound to change. (Kumar and Ahmad, 2015)

Adolescence

Erikson's Psychosocial Stages proposed that, adolescents build on all earlier experiences to develop a sense of self-identity. Failure to reach this goal, may cause confusion in sexual identity, the choice of an occupation, and the roles they perform as adults. Behaviourally, early adolescents experiment with new ways of behaving, while middle adolescents involve in risk-taking, which ends in late stage during which assessment of one's own risk taking occurs (ReCAPP, 2003).During the period of adolescence, peers, are a source of influence and support (Dacey and Travers, 1996)

Community service

Community service programs are generally, non-curriculum based, recognized by school, may be compulsory or voluntary, and include activities that take place off school grounds or within school. Some schools do not have service learning due to lack of time, lack of funding, absence of coordinator, etc. (Spring, Grimm and Dietz, 2007)

Empathy

Davis (1983) views empathy as, a multidimensional phenomenon including four subscales- perspective taking, fantasy, empathic concern and personal distress. (Hakansson, 2003)Empathy is among the ten core life skills, as enlisted by UNICEF, UNESCO and WHO, as a part of social skills. Empathy is one of subset of Social Awareness which in turn is a domain of Emotional Intelligence. (Goleman, 1995)

RATIONALE OF STUDY

Children attending urban schools are subjected to extreme competition from a very early age, to qualify for admission into the best schools. (Report on system of education in India, 2006) A significant increase in the problematic use of mobile phones (Bianchi and Phillips, 2005) has led to, technological addiction, cause loneliness, anxiety, psychiatric and sleeping disorder, depression and physical symptoms such as headache and earache. (Harenstam and Hagberg, 2011) Currently, suicide is the third leading cause of death among youth aged between 15-24 years (Heron et al, 2006)

Developing empathy, altruism and other humanitarian behaviours among the world's children, play a key role in the development of social understanding and positive social behaviours (Staub, 1971) and reduce aggression and destructive tendencies. It can lead to a focus on cooperation and concern for a larger community of human mankind (Eisenberg, 2002). Very few researchers have focused on, positive youth development and how to promote empathy during adolescence, although, interest in it has started increasing (Eisenberg et al, 2002)

Hatcher et al (1994) showed that empathy, coping skills and self-esteem may influence the social and emotional loneliness of youth, who are at high risk for drop-out, delinquency and other problems. McCarthy (1994) argues that short term SL experiences when conducted appropriately provide elements of challenge and support that lead to changes in student perceptions and a commitment to further service. (as in Bowman et al, 2010)

Although, research been carried out on, the effect of community service on empathy, very few have studied about, students in current Indian background. So, the researcher planned to find out the effectiveness of program on the Empathy level of Std. XI students.

REVIEW OF RELATED LITERATURE

Lipsitz, (1984) suggests that early adolescents require assistance to, deal with the developmental challenges in, forming self-identity and involving in intimate relationships, that can be promoted by participating in community service. Youngsters, need opportunities to participate in groups of interconnected members to, develop a sense of connectedness and productivity, begin making decisions from a less egocentric perspective, take on responsibilities and master challenges. (Roth, 2000) A requirement to do service, can introduce adolescents to civic lifeexperience, their capacity to help others and improve the larger community (Jennings, 2002). Participation in service activities can provide reflective material needed for process of identity exploration and identity development in adolescents. (Youniss et al, 1999) As per studies. Community based, extracurricular activity foster a sense of social relatedness and encourage teamwork whereby, youth are expected to fulfil certain commitments to the group. (Hart et al, 2007)

NEED FOR FURTHER RESEARCH

The current research is needed due to the following gaps in existing literature as reviewed by the researcher. 1) A striking fact is that research at middle adolescent level i.e. junior college level appears to be a neglected field. One of the major reason for this might obviously be the hectic HSC schedule. 2) While searching for relevant researches carried out at High school level the researcher could locate only a handful of Indian high school level researches that were partially relevant for this research. 3) Separate studies have proved that service learning programs do improve empathy and social responsibility levels of adolescents but not on Indian High school backgrounds.

Statement of problem

To find out the effectiveness of the program developed to awaken empathy in Std. XIstudents, on their level ofEmpathic Concern,Perspective taking and Personal distress as indicators of Empathy and on level of overall Empathy.

Objectives

1) To develop and implement the program foradolescents to awaken empathy in them.
2) To find the effectiveness of the program to awaken empathy on the level of Empathic Concern in adolescents.
3) To find the effectiveness of the program to awaken empathy on the level of Perspective Taking in adolescents.
4) To find the effectiveness of the program to awaken empathy on the level of Personal Distressin adolescents.
5) To find the effectiveness of the program to awaken empathy on the level of Overall empathyin adolescents.
6) To find the effectiveness of the program to awaken empathy on the level of Overall empathy in adolescentBoys and Girls.

Research Questions

1) What program can be developed for adolescents to awaken their empathy?
2) What is the effectiveness of the program to awaken empathy on the level of Empathic Concernin adolescents?
3) What is the effectiveness of the program to awaken empathy on the level of Perspective Takingin adolescents?
4) What is the effectiveness of the program to awaken empathy on the level of Personal Distressin adolescents?
5) What is the effectiveness of the program to awaken empathy on the level of Overall Empathyin adolescents?
6) What is the effectiveness of the program to awaken empathy on the level of Overall Empathy in adolescentBoys and Girls?

Null hypothesis

1) $H_0$1:A There will be no significant difference in the mean scores onEmpathic concern of the experimental group before and after implementing the program.

   $H_0$1: B There will be no significant difference in the mean scores of gains in Empathic concern of the experimental group as compared to control group after implementing the program.
2) $H_0$2: A There will be no significant difference in the mean scores on Perspective Taking of the experimental group before and after implementing the program.

$H_0$2: B There will be no significant difference in the mean scores of gains inPerspective Taking of the experimental group as compared to control group after implementing the program.

3) $H_0$3: A There will be no significant difference in the mean scores on Personal Distress of the experimental group before and after implementing the program.

   $H_0$3: B There will be no significant difference in the mean scores of gains in Personal Distress of the experimental group as compared to control group after implementing the program.

4) $H_0$4: A There will be no significant difference in the mean scores on Overall Empathy of the experimental group before and after implementing the program.

   $H_0$4: B There will be no significant difference in the mean scores of gains in Overall Empathy of the experimental group as compared to control group after implementing the program.

5) $H_0$5: A There will be no significant difference in the mean scores on Overall Empathy of Boys and Girls (separately) in the experimental group before and after implementing the program.

   $H_0$5: B There will be no significant difference in the mean scores of gains in Overall Empathy of boys and girls (separately) in the experimental group as compared to control group after implementing the program.

OPERATONAL DEFINITIONS

1. **Empathy:**For this research, it is a skill to understand another person's needs and feelings and taking an active interest in their concern in the Std. XIth students. The indicators considered for this research are- empathic concern, perspective taking and personal distress. Empathy is the ability to be aware of and understand how others feel. (Baron, 2006)
2. **Adolescence:** For this Research, Adolescents are students studying inStd. XI whose age group lies between 15-16 years.
3. **Effectiveness:** It is the difference in pre-test and post-test scores after implementation of the program to awaken empathy and social responsibility in adolescents.
4. **Awaken:** For the current research awaken denotes to trigger or raise feeling of empathy and sense of social responsibility in Std. XI adolescents.

RESEARCH METHODOLOGY

To find the effectiveness of program on the Empathic Concern, Perspective Taking, Personal Distress and Overall empathy level of Std. XIstudents (together and gender-wise), an

Experimental method was most suitable due to its quantitative approach.Two unmatched group pre-test and post-test design was used to find the effectiveness of the program wherein, the experimental and control group were randomly selected from existing divisions without pairing. Test was conducted on the experimental and control group using the Davis' Interpersonal Reactivity Index (IRI) (Davis, 1980) scale. The effectiveness of the program was studied on the levels of -Empathic Concern, Perspective Taking and Personal Distress, as indicators of Empathy along with effectiveness on Overall empathy.

Assumptions

All the selected students will be undergoing the interactive program.2)The students will be taking part in the program for a definite period.3) Some students may remain absent during the program.4) Few students may be unable to complete the program.

Scope, limitations and delimitations

A) Scope: This program is applicable to all students who have completed their S.S.C and enrolled in STD XI of any stream in Pune city, Maharashtra.

B) Limitations: The aspects like family background, IQ levels, motivation, interest, and attention of students and motivation of mentor teachers are beyond the control of the researcher. **C) Delimitations:** This research is delimited to Std. XI English medium students of Science or Commerce stream, affiliated to HSC Board enrolled in urban Junior Colleges in Pune City, Maharashtra only.

Population

The population is all Std. XI English medium students of any stream from co-ed Junior Colleges affiliated to H.S.C Board Pune city of Maharashtra State.

Sample

The sample for research was randomly selected English medium students of Std. XI of a Junior College in Pune city, Maharashtra. For this part of research study, random sampling was employed to select students for experimental and control group.

The sample size was 70 students of Std. XI including35experimental group and 35 control group.Sample had who hadroughly 50% each ofboysand girls.

Variables of present research study

A) Independent Variables: The community interaction program to awaken empathy in adolescents, developed by the researcher.

B) Dependent Variables: The Scores on the post-test for each indicator and overall empathy.

C) Control Variable: Age of allStd. XIth students was between 15+ to 16 +years.

Procedure

Previous researches and researchers experience along with anti-social issues, mentioned in daily newspapers had indicated a dire need to tackle anti-social situations throughout the world. The program being extensive, involved permission challenges, safety issues and financial requirements. So, Dr. Kalmadi Shamarao Junior College, Pune was selected to conduct the program.The community interaction program was one of the many topics for Environmental Education project, that was mandatory to all students. The program that was developed by the researcher,was a group activity and involved mentoringof Std XI students by teachers and guidance to planthe activities. The students had to conductthese activities during their community service visits to schools for underprivileged.

Std. XIth students were divided into groups of 18-20 students and each group was assigned a mentor teacher. Few groups were randomly selected to form experimental group while others formed the control group. The control group wasn't an ideal control group as those students performed another activity based on different topic, instead of community service. Actual sample size was 95 but there was a sample loss due to change in divisions, subjects, absenteeism for program and incomplete filling of tests. So, the sample available for statistical analysis was 70. (35E+35C)

A student detail form and pre-test using IRI scale (Davis, 1980) was filled by students in presence of mentor teachers. Orientation and sensitization of subjects was done for appropriate mental and psychological approach during the visit. Discussion and planning of content of fun/interactive sessions was done, i.e. conditions, age group and group activities based on same. To encourage their creative ideas and imagination, plans were done by youth under guidance of mentor. This included planning and conducting educational, recreational games and activities for the primary school children, who come from low socio-economic background.

Each group conducted two visits to a school for underprivileged in a term, to conduct activities for the primary children. The schedule for the visit was planned as per the approval of the school/organization. After each visit, thementors interactedwith theirgroup to discuss challenges and modifications if any. At the end of program a post-test using same scale (IRI by Davis, 1980) was filled by the experimental and control group.Youth's active involvement in community encourages growth in social life and other practice skills promoting reliance and helping youth to better navigate society. (Brennan, 2008; asin McKay,2011)

Limitation of study

The control group wasn't an ideal control group as those students performed another activity instead of community service, which could be the limitation of the study. Also, due to hectic schedule all the scheduled visits weren't possible that could be another limitation of study.

Data Collection Tool

For the given objective of this study, the data collection tool was a pre-test and post-test. This was done using a shortened version of standardised Empathy scale,**Davis' Interpersonal Reactivity Index (IRI) (Davis, 1980)** that measures **Empathic Concern, Perspective taking and Personal distress** as indicatorsfor empathy. Researcher did not administer Fantasy scale for the present study like Barr and Higgins-D'Alessandro (2007).14 questions together of three subscales are taken directly from Davis (1983). Participants were asked to rate how well each item describes them on a 5-point scale ranging from 1 (does not describe me well) to 5 (describes me very well).The responses for positive oriented questions were scored as A=0, B-1, C-2, D-3 and E=4. While negative oriented questions were scored in reverse order. The Cronbach's Alpha coefficient was found to be 0.63 for 14 items.

IRI scale defines empathy as the "reactions of one individual to the observed experiences of another (Davis, 1983)." The indicators for empathy as defined by IRI (Davis, 1983) are given below.

a) Perspective Taking – the tendency to spontaneously adopt the psychological point of view of others
b) Fantasy – taps respondents' tendencies to transpose themselves imaginatively into the feelings and actions of fictitious characters in books, movies, and plays
c) Empathic Concern – assesses "other-oriented" feelings of sympathy and concern for unfortunate others
d) Personal Distress – measures "self-oriented" feelings of personal anxiety and unease in tense interpersonal settings

For the present study, researcher felt that Perspective taking (PT), empathic concern(EC) and personal distress (PD) were theindicators relevant to be studied for finding the effectiveness of the community interaction program. Review of literature had revealed, that the Community interaction program was expected to have a positive impact on the levels of PT, EC and PD than Fantasy scale. Fantasy was an indicator that was non-relevant to present study, as it's level was not expected to increase by the community interaction program in the present study. Hence, fantasy scale questions weren't included in the actual scale used for the research study.

Statistical Tools:

1. Mean: - To find out separately the average score of both sets of pre-test and the post-test. It was also used to calculate the average gains in each indicator and overall empathy of experimental and control group.
2. Standard Deviation: - To find out the deviations from mean in both sets of pre-test and the post-test scores.
3. t-Test: Paired Two Sample for Means -To find out the effectiveness of the program on level of EC, PT, PD and Overall empathy in experimental and control group.
4. t-Test: Two-Sample Assuming Unequal Variances for all indicators- To compare the gains in levels of EC, PT, PD and Overall empathy of experimental with that of the control group.

ANALYSIS OF DATA

Data analysis and interpretation is the process of assigning meaning to the collected information and determining the conclusions, significance, and implications of the findings.

After data collection, the responses filled by the subjects were tabulated, converted into scores and analysed for testing the Null hypothesis.Mean, standard deviation and t-test for paired two sample of means (pre-test and post-test), were calculated for the experimental and control group, eachto determine whether difference was significant. t-test assuming unmatched groups was calculatedfor experimental as compared to control group to find if the difference in Empathy gains was significant. Empathy gains in Boys and Girls of the experimental group was compared to gains in Boys and Girls of control group respectively. The detailed scores and statistical values for experimental, control, comparison of gains in levels of each indicator and levels of overall empathy of entire sample as well as gender-wise sample, are given in the tables below.

Table No. 1 Descriptive statistics of experimental group for all indicators EC, PT and PD

Indicator	Test	Mean	SE	SD	Kurtosis	Skewness
Empathic Concern	Pre-test	12.24	0.38	2.2	-0.58	-0.35
	Post-test	13.12	0.33	1.93	-0.51	0.33
Perspective Taking	Pre-test	11	0.46	2.7	-0.027	-0.22
	Post-test	12.94	0.34	1.98	-0.53	-0.11
Personal Distress	Pre-test	12.09	0.42	2.45	0.43	-0.29
	Post-test	13.38	0.33	1.92	-0.13	-0.23

Table No. 1 shows the calculated values of means (pre-test and post-test), standard deviations and standard errors for difference in meansof levels in EC, PT and PD for the experimental group. It shows a considerable increase in the mean of post-test than pre-test. The low value of standard error indicates that extraneous variables were in control that denotes the reliability of the process.

Table No. 2 Descriptive statistics for control group for all indicators, EC, PT and PD

Indicator	Test	Mean	SE	SD	Kurtosis	Skewness
Empathic Concern	Pre-test	12.12	0.36	2.13	-0.58	-0.2
	Post-test	12.85	0.41	2.4	-0.97	-0.19
Perspective Taking	Pre-test	11.06	0.47	2.72	-0.83	-0.027
	Post-test	11.47	0.42	2.48	0.17	-0.71
Personal Distress	Pre-test	12.29	0.49	2.87	-0.89	0.05
	Post-test	12.09	0.4	2.31	-0.61	-0.21

Table No. 2 shows the calculated values of means (pre-test and post-test), standard deviations and standard errors for difference in meansof levels of EC, PT and PD for control group. It shows an increase in the mean of post-test than pre-test in case of EC and PT, and a decrease in means for PD. The low value of standard error indicates that extraneous variables were in control thatdenotes the reliability of the process.

Table no.3: t-Test: Paired Two Sample for EC, PT and PD Means of Experimental group

Empathy Indicator	Pre-test mean	Post-test Mean	Pearson Correlation	t Stat	P(T<=t) two-tail	t Critical two-tail
Empathic Concern	12.2	13.2	0.4	2.59	0.014	2.03
Perspective Taking	10.91	12.91	0.71	6.2	4.80E-07	2.03
Personal Distress	12.14	13.4	0.41	3.09	0.004	2.03

Table No. 3 shows the calculated values of t-test for paired two sample for means (pre-test and post-test of experimental group), correlation coefficient and t-critical value for comparison of means in EC, PT and PD. It shows a significant difference between means of EC, PT and PD.The higherdifference in means and t-test scores for PTindicates that the program had a greater positive impact on Perspective Taking than on Personal Distress with least impact on Empathic concern.

Table no.4:t-Test: Paired Two Sample for EC, PT and PD Means of Control group

Empathy Indicator	Pre-test mean	Post-test Mean	Pearson Correlation	t Stat	P(T<=t) two-tail	t Critical two-tail
Empathic Concern	12.09	12.83	0.68	2.41	0.021	2.03
Perspective Taking	11.11	11.54	0.23	0.79	0.44	2.03
Personal Distress	12.31	12.11	0.32	-0.39	0.7	2.03

Table No. 4 shows the calculated values of t-test for paired two sample for means (pre-test and post-test of control group), correlation coefficient and t-critical value for comparison of means for EC, PT and PD. It shows a significant difference between means of EC, and no significant difference between means of PT and PD.The positive difference in means and greater t statistical value for EC indicates that the program (that was different for control group) had a positive impact on Empathic Concern. A lower positive difference in means and non-significant t-value for PT indicates a small positive impact on Perspective Taking. The negative difference in means and t-test scores for PDindicates a negative impact on the Personal Distress level.

Table no.5: t-Test: Two-Sample Assuming Unequal Variances for EC, PT and PD

Indicator	Mean of Experimental Gain	Mean of Control Gain	t Statistical	P(T<=t) two-tail	t Critical two-tail
Empathic Concern	0.88	0.74	0.30	0.77	2.00
Perspective Taking	1.94	0.41	2.36	0.02	2.01
Personal Distress	1.29	-0.21	2.24	0.028	2.00

Table no. 5 shows the values for t-test assuming unequal variances for EC, PT and PD in Experimental and Control group. Apositive difference in means of EC gains between two groups indicatedslightly greater impact on EC level of experimental group whichwas non-significant.A higher positive difference in means of PD gains between two groups indicated a greater impact of program on PD level of experimental group that was significant. A positive difference in means of PT gains between two groups indicated a positive impact of program on PT level of experimental group that was significant.

Table no. 6: t-Test: Paired Two Sample for OE means of Experimental and Control group

Groups	Pre-test Mean	Post-test Mean	Pearson Correlation	t Statistical	P(T<=t) two-tail	t Critical two-tail
Experimental	35.26	39.51	0.76	7.41	1.36E-08	2.03
Control	35.51	36.49	0.49	0.999	0.32	2.03

Table No. 6 shows the calculated values of t-test for paired two sample for means (pre-test and post-test of experimental group and control group) of Empathy (sum of all indicator scores), correlation coefficient and t-critical value for comparison of means of Overall Empathy. It shows a significant difference between pre-test and Post-test means of Empathy in experimental group. There is a positive difference in means of control group which is not significant yet indicative of some positive impact of alternate program on Control group. The higher difference in means and t-test scores for experimental group isindicative of a positive impact of the program on their Overall Empathy level.

Table no. 7: t-Test: Two-Sample Assuming Unequal Variances for OE

Control group Mean	Experimental group Mean	t Stat	P(T<=t) two-tail	t Critical two-tail
0.97	4.26	2.91	0.00522	2.01

Table no. 7 shows the values for t-test assuming unequal variances for OE (sum of all indicators) in Experimental and Control group. A high positive difference in means for OE between two groups indicates a positive impact of program on OE level of experimental group as compared to control group that was significant.

Table no. 8: t-Test: Paired Two Sample for OE means of Boys and Girls

Gender	Pre-test Mean	Post-test Mean	Pearson Correlation	t Stat	P(T<=t) two-tail	t Critical two-tail
Boys	34.29	39.04	0.66	6.71	7.59E-07	2.07
Girls	37.36	40.55	0.92	3.38	0.007	2.23

Table No. 8 shows the calculated values of t-test for paired two sample for means (pre-test and post-test of experimental group and control group) of OE (sum of all indicator scores), correlation coefficient and t-critical value for comparison of means for OE in boys and girls. It shows a significant difference between pre-test and post-test means of OE in boys and girls of experimental group. The higher difference in means and t-test scores for boys than girls wasindicative of a greater impact of the program on the OE level in boys.

Table no. 9: t-Test: Two-Sample Assuming Unequal Variances for OE in Boys and Girls

Gender	Experimental gain	Control gain	t Statistical	P(T<=t) two-tail	t Critical two-tail
Boys	4.75	1.33	2.33	0.028	2.05
Girls	3.18	0.59	1.46	0.156	2.05

Table no. 9 shows the values for t-test assuming unequal variances for OE (sum of all indicators) in Boys and Girls of Experimental and Control group. A positive difference in means for OE between two groups indicates a positive impact of program on OE level of Boys and girls experimental group. Significant difference is observed between gains in OE level ofBoys in experimental group. Non-significant difference can be observed in OE level of Girls in experimental group.

Reliability and Validity of IRI Scale (Davis, 1980)

The original scale has reported following values for Internal reliability: αs=.70 to .78, and for Test-retest reliability (60 to 75 days): Correlations -Males: between .61 and .79 and Females: between .62 and .81Additional Studies Reporting Validity Evidence: The IRI is widely used in a variety of populations and was validated in several languages. The IRI was chosen in the General Social Survey (GSS), a nationally representative sample of American adults, for two years. (Konrath, 2013, in press)The scale was extensively validated and checked for reliability, and cited by more than 31 researches. Researcher took the opinion of experts in the field to reconfirm the selection of scale and relevance of questions for the present study.The Cronbach's Alpha coefficient was found to be 0.63 for 14 items.

Testing of Null hypothesis

Table no.10 Values of t statistical and t critical for EC, PT, PD and OE

Indicators	Type of Group	t Statistical	t Critical two-tail
Empathic Concern	Experimental group	2.59	2.03
	Comparison of gains	0.30	2.00
Perspective Taking	Experimental group	6.02	2.03
	Comparison of gains	2.36	2.01
Personal Distress	Experimental group	3.09	2.03
	Comparison of gains	2.24	2.00
Overall Empathy	Experimental group	7.41	2.03
	Comparison of gains	2.91	2.01
Boys	Experimental	6.71	2.07

	group		
	Comparison of gains	2.33	2.05
Girls	Experimental group	3.38	2.23
	Comparison of gains	1.46	2.05

Table no. 10 shows the values of t-statistical and t-critical for EC,PD, PT and OE in experimental group and comparison of gains in their levels in both groups.

1) $H_0$1: A There will be no significant difference in the mean scores on Empathic concern of the experimental group before and after implementing the program.

   $H_0$1: B There will be no significant difference in the mean scores of gains in Empathic concern of the experimental group as compared to control group after implementing the program.

- It can be observed that t-statistical > t-critical value (two-tail) which indicates a significant difference in both means scores for Empathic Concern of the experimental group.

  $H_0$1: A rejected as t stat < t critical. (2.59> 2.03)

  Significant difference between pre-test and post-test means for Empathic Concern in experimental group.

- It can be observed that t-statistical < t-critical value (two-tail) which indicates a non-significant difference in gains for Empathic Concern between experimental and control group.

  $H_0$1: B retained as t stat < t critical. (0.3 < 2)

  No significant difference in mean scores of gains in Empathic Concern between experimental and control group.

2) $H_0$2: A There will be no significant difference in the mean scores on PT of the experimental group before and after implementing the program.

   $H_0$2: B There will be no significant difference in the mean scores of gains in PT of the experimental group as compared to control group after implementing the program.

- It can be observed that t-statistical >t-critical value (two-tail) which indicates a significant difference in both means scores for PT of the experimental group.

  $H_0$2: A rejected as t stat > t critical. (6.02 > 2.03)

  Significant difference between pre-test and post-test means for PT in experimental group.

- It can be observed that t-statistical > t-critical value (two-tail) which indicates a significant difference in gains for Perspective Taking between experimental and control group.

  $H_0$2: B rejected as t stat > t critical. (2.36 > 2.01)

  Significant difference in mean scores of gains in PT between experimental and control group.

3) $H_0$3: A There will be no significant difference in the mean scores on PD of the experimental group before and after implementing the program.

   $H_0$3: B There will be no significant difference in the mean scores of gains in PD of the experimental group as compared to control group after implementing the program.

- It can be observed that t-statistical >t-critical value (two-tail) which indicates a significant difference in both means scores for PD of the experimental group.

  $H_0$3: A rejected as t stat > t critical. (2.24 > 2)

  Significant difference between pre-test and post-test means for PD in experimental group.

- It can be observed that t-statistical > t-critical value (two-tail) which indicates a significant difference in gains for PD between experimental and control group.

  $H_0$3: B rejected as t stat > t critical. (3.09 > 2.03)

  Significant difference in mean scores of gains in PD between experimental and control group.

4) $H_0$4: A There will be no significant difference in the mean scores on OE of the experimental group before and after implementing the program.

   $H_0$4: B There will be no significant difference in the mean scores of gains in OE of the experimental group as compared to control group after implementing the program.

- It can be observed that t-statistical > t-critical value (two-tail) which indicates a significant difference a significant difference in both means scores for OE of the experimental group.

  $H_0$4: A rejected as t stat > t critical. (7.41> 2.03)

  Significant difference between pre-test and post-test means for OE in experimental group.

- It can be observed that t-statistical > t-critical value (two-tail) which indicates a significant difference in gains for OE between experimental and control group.

  $H_0$4: B rejected as t stat > t critical. (2.91> 2.01)

Significant difference in mean scores of gains in OEbetween experimental and control group.

5) $H_0$5: A There will be no significant difference in the meansof Boys and Girls scores (respectively) on OE of the experimental group before and after implementing the program.

   $H_0$5: B There will be no significant difference in the mean scores of gains in OE of boys and girls (respectively) of experimental group as compared to control group after implementing the program.

- It can be observed that t-statistical > t-critical value (two-tail) which indicates a significant difference a significant difference in both means scores for OE of the experimental group.

  $H_0$5: A rejected as t stat > t critical. (Boys-6.71 > 2.07 and Girls-3.38 > 2.23)

  Significant difference between pre-test and post-test means for OE in Boys and Girls of the experimental group.

- It can be observed that t-statistical > t-critical value (two-tail) which indicates a significant difference in gains for OE between Boys in experimental and control group.

  $H_0$5: B rejected as t stat > t critical. (Boys-2.33 > 2.05)

  $H_0$5: B retained for Girls (1.48 < 2.05)

  Significant difference in mean scores of gains in OEin Boys of experimental group as compared to control.

  No Significant difference in mean scores of gains in OE in Girls of experimental group as compared to control.

General Observations

After discussing with mentor teachers, it was found that most of the students could respond to all the questions. It was brought to notice that some students tried to peep into the other students' sheet to simply follow the same. Few students did ask forclarification of few statements from the mentor. One or two student had to be given the form again as they had realized that they responded the reverse way than they wanted to. Sample was more but few students filled the tests incompletely or marked at multiple places thereby leading to some sample loss at data entry stage, besides the sample loss at the data collection stage.

A striking observation was that, of a disinterest in the class,as many students were reluctant to fill the scales. This may be due to Std. XI students being pre-occupied in

coaching classes and pressurized due to same. Especially, during the period when post-test was conducted, the Std. XI students had enrolled in classes for next level which had commenced by then.

Moreover, on knowing that these scores wouldn't be fetching them marks, their interest and seriousness reduced further. This might have affected the results of post-test since,difference between means although significant,was less than expected. Also, the overall scores showed lot of variations in differences between pre-test and post-test scores of each indicator.The difference in scoresofthe control group seemed to be more negative than that of experimental; there has been an increase in scores in few cases.

FINDINGS AND DISCUSSION

A paired sample t-test was conducted to evaluate the impact of the program on students' mean scores followed by a t-test assuming unequal variances to find out whether the gains in indicators of Experimental group than control group were significant. The community interaction program did improve students' levels of EC, PD and PT, and OE that was indicated by the mean and t-test scores for the indicators. There was a significant difference between mean scores of gains in PD and PT of the experimental group as compared to control group, after implementing the Community interaction program. There was no significant difference between mean scores of pre-test and post-test of the experimental group for EC after the program.

- **Empathic Concern**:

  A) EC [Pre-test M_1 =12.2, SD = 2.2, Post-test M_2 = 13.2, SD = 1.93, t = 2.59]

  Since the t-statistical > t-critical (2.59> 2.03) there was a Significant difference between pre-test and post-test means for EC in experimental group. It implies that there was an improvement in scores of EC level in post-test. Significant difference between pre-test and post-test means for EC in control group too implies that there was an improvement in scores of EC level in post-test.

  B) EC [Experimental gain=0.88, Control gain= 0.74, SD = 1.93, t = 0.30]

  Since the t-statistical < t-critical (0.30 < 2.00) for t-Test: Two-Sample Assuming Unequal Variances for EC, there was No significant difference in mean scores of gains in EC between experimental and control group. No significant difference between mean scores indicates that impact of program on the students EC level wasn't as expected. The mean for EC of experimental group was greater than mean for control group.It denotes a greaterincrease in the EC levelof experimental group than control group. Less than expected value, implies that the program did have some positive impact on EC.

C) An unexpected significant difference between means of EC scores of the control group indicated a positive impact of alternate program.

- **Perspective Taking**:

A) **PT [Pre-test M_1 =10.91, SD = 2.71, Post-test M_2 = 12.91, SD = 1.98, t = 6.20]**

Since the t-statistical > t-critical (6.02 > 2.03) there was a Significant difference between pre-test and post-test means for PT in experimental group. This implies that there was an improvement in scores of PT level in post-test.

B) **PT [Experimental gain=1.94, Control gain = 0.41, SD = 1.93, t = 2.36]**

Since the t-statistical > t-critical (2.36 > 2.01) it indicated that there was a significant difference in mean scores of gains in PT between experimental and control group. Significant difference between mean scores implies that program had a positive impact on the student's PT level as expected.

- **Personal Distress**:

A) **PD [Pre-test M_1 =12.14, SD = 2.45, Post-test M_2 = 13.4, SD = 1.92, t = 3.09]**

Since the t-statistical > t-critical (3.09 > 2.03) there was a Significant difference between pre-test and post-test means for PD in experimental group. This implies that there was an improvement in scores of PD level in post-test.

B) **PD [Experimental gain=1.29, Control gain = -- 0.21, SD = 1.93, t = 2.24]**

Since the t-statistical > t-critical (2.24> 2.01) it indicated that there was a significant difference in mean scores of gains in PD between experimental and control group. Significant difference between mean scores implies that program did have a positive impact on the students' PD level as expected.

- **Overall Empathy level**

A) **OE [Pre-test M_1 =35.26, Post-test M_2 = 39.51, t = 7.41]**

Since the t-statistical > t-critical (7.41 > 2.03) there was a Significant difference between pre-test and post-test means for OE in experimental group. This implies that there was an improvement in scores of OE level in post-test.

B) **OE [Experimental gain= 4.26, Control gain = 0.97, t = 2.91]**

Since the t-statistical > t-critical (2.91 > 2.01), it indicates that there was a significant difference in the means for gains in OE of experimental group as compared to control group.Significant difference between mean scores implies that program had greater positive impact on the students'OE level of experimental group than the control group as expected.

- **Overall Empathy in Boys and Girls**

  A) **OE [Pre-test M_1 =35.26, Post-test M_2 = 39.51, t boys = 6.71, t girls =3.38]**

  Since the t stat > t critical (Boys-6.71 > 2.07 and Girls-3.38 > 2.23),there was a significant difference between pre-test and post-test means for OE in Boys and Girls of the experimental group. Significant difference between pre-test and post-test means for OE in experimental group. This implies that there was an improvement in scores of OE level in post-test.

  B) **OE [Experimental gain= 4.26, Control gain = 0.97, t boys = 2.33, t girls =1.48]**

  Since the t-statistical > t-critical (2.33 > 2.05), it indicates that there was a Significant difference in mean scores of gains in OE in Boys of experimental group as compared to control. This implies that program had greater positive impact on the OE level of Boys in the experimental group than the control group as expected.

  Since the t-statistical < t-critical **(**1.48 < 2.05**)**, it indicates that there was no significant difference in mean scores of gains in OE in Girls of experimental group as compared to control. This implies that program had lesser positive impact on the OE level of girls in the experimental group than the control group that wasn't expected.

CONCLUSION AND INTERPRETATIONS

- There was seen an improved performance from pre-test to Post-test scores of the experimental group for all three indicators.
- The Community interaction program increased the level of EC in both groups, and had a negligible positive effect on the EC level of experimental group than control group.
- The Community interaction program increased the level of PT in experimental group, and had a significant positive effect on the PT level of experimental group than control group.
- The Community interaction program increased the level of PD in experimental group, and had a significantly positive effect on the PD level of experimental group than control group.
- The Community interaction program increased the level of OE in experimental group, and had a significantly positive effect on the OE level of experimental group than control group.
- The Community interaction program increased the level of OE in Boys and Girls of the experimental group, and had a significantly positive effect on the OE level of boys in

experimental group than control group, while a negligible positive effect on the OE level of girls in experimental group than control group.

- There was an improved performance seen from pre-test to post-test scores for EC indicator in Control group. There was no improvement in performance from pre-test to post-test scores for PDand PT in the Control group.
- There was an improvement in the OE level of the students in experimental group. The mean, SD and t-test values are indicative positive effect of a program on students' PT and PD level. There was a positive effect of program on EC level of experimental group which was less than expected.
- Students' attitude may have been influenced by factors such as school environment, age, maturation, lack of motivation, teachers' teaching style, etc. which affects their response.
- The SD obtained in the pre-test and post-test showed that, the post-test scores were more closely dispersed from the mean as compared to the pre-test scores in the Experimental group than the control group. (as observed from table no. 1 and 2)
- Thus, there was an improvement in Overall Empathy level of Experimental group as compared to control group after the implementation of the Community Interaction Program. So, it can be concluded that the community interaction program had a positive effect on the overall empathy level of the participants as was seen due to life-skill training by Yadav and Iqbal (2009).
- Program evaluation results have shown that schools where students are involved in programs designed to increase empathy and create "caring communities" have higher scores than comparison schools on measures of higher-order reading comprehension (Kohn, 1991).

SUGGESTIONS AND RECOMMENDATIONS

Educators should take up Research in areas of development in empathy and social responsibility in adolescents. Especially, the faculty at +2 level can take this as a challenge and conduct more research on the topic. Students and teachers must be motivated to be a part in community activities whole-heartedly during Research. Very few researchers have focused on positive youth development and how to promote empathy during adolescence although interest in it has started increasing (Eisenberg et al, 2002)

More Research needs to be done in the following areas at Junior College level:

- To enhance the students' empathy and social responsibility level.
- To conduct such similar programs for adolescents between 14-20 years' age group and study the effectiveness on their empathy and social responsibility level.

- To study effects on other indicators of empathy and social responsibility in adolescents
- To conduct a longitudinal study of such service activities on the empathy and social responsibility level of the youth.
- To develop varied programs to enhance empathy and social responsibility level in youth.

Probably, a combination of experiential learning along with community service activities for varied target groups could be used for greater impact on youth minds.

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