

**Correlation between problem solving and Achievement Motivation of  
Adolescent Girl Students of Government, Aided and Unaided P.U. Colleges**

**Atavalagi Suvarna**  
Research Scholar & Lecturer  
A.D.B. First Grade College,  
Harapanahalli, Bellary

**Dr. M. M. Pattanashetti**  
Associate Professor (now retired)  
M. M. College Of Education  
Davangere

---

**Abstract:**

In present study researcher has selected 600 adolescent girl students from rural and urban P U Colleges in Davangere district to study the correlation of problem solving and Achievement motivation of Adolescent girls. The following tools were used for reliable assessment of the variables L.N. Dubey's problem solving inventory and Dr. V.P. Bhargav's Achievement Motivation Inventory. The investigator is interested in finding the correlation between problem solving and achievement motivation of adolescent girl students of rural and urban P U Colleges. Sample (Rural – 300 and urban 300) was selected by random sampling technique. The descriptive survey method was used in the study.

This study revealed that there is significant and positive correlation between problem solving and achievement motivation among Government, Aided and Unaided P U College students.

**Introduction:**

Educated manpower is the emerging need of any nation as educated and skilled human resource is asset for any country in the present society Adolescents have an important role in society and they have enormous potential physical, ideational and intellectual. At the same time they are faced with great challenges on account their rapid physical growth. They search for identity as they are neither considered as a children nor adults their growing sexual desires, heightened emotions and lack of appropriate energies for channelizing her enormous energy and also they faces problems like lack of problem solving skill and achievement motivation. “All these issues and problems make the adolescence period as the period of stress and storm”.

## **Need of the Study**

The problem solving and achievement motivation are important psychological aspects influencing on development of adolescents personality. Hence the investigator made on attempt to study the problem solving and achievement motivation of the girl students of Government, Aided and Unadied PU Colleges of Davangere District.

## **Meaning of Problem Solving**

1. The process of working through details of a problem to reach a solution, problem solving may include mathematical or systematic operations and can be a gauge of an individual's critical thinking skills (Pranita)
2. Problem solving is the process of identifying a problem, developing possible solutions, paths, and taking the appropriate course of action. Problem solving is an essential skill in the work place and personal situations, learn how to solve problems more.
3. A problem is any unpleasant situation which prevents people from achievement what they want to achieve. some of the benefits of problem solving are
  - a. Make the impossible possible
  - b. Make individual a stand out
  - c. Increases confidence.

## **Meaning of Achievement Motivation**

Motivation can be defined as the force behind all the actions of an individual. The influence of an individuals needs and desires both have a strong impact on the direction of their behavior. Motivation is based on emotions and achievement related goals, so “Achievement motivation can be defined as the need for success or the attainment of excellence.”

1. Achievement motivation is a pattern of planning of action and of feelings connected with striving to achieve some internalized standard of excellence as contrasted for example, will power of friendship”.
2. According to Murray (1938) “Achievement motivation as a desire to accomplish something difficult to overcome obstacles and attain a high standard to excel one self.”

This study has the need and importance to study correlation of problem solving and Achievement Motivation of Adolescent girls. Achievement motivation is the attitude to achieve rather than the achievements themselves, it can be considered as extended personal – intrinsic motivation because its reinforcement is delayed, it arises from an interaction with in the person.

Totally problem solving helps us to solve problem effectively and also achievement motivation is based on reaching success and achieving all of our aspirations in life.

### **Objectives of the Study**

- 1) To find out the difference in problem solving between adolescent girl students of rural and urban P U Colleges.
- 2) To find out the difference in achievement motivation between adolescent girl students of rural and urban P U colleges.
- 3) To find out the difference in problem solving among adolescent girl students of government, aided and unaided P U Colleges.
- 4) To find out the difference in achievement motivation among government, aided and unaided P U Colleges.
- 5) To find out the relationship between problem solving and achievement motivation of adolescent girl students of P U Colleges.
- 6) To find out the relationship between problem solving and achievement motivation of adolescent girl student of rural P U Colleges.
- 7) To find the relationship between problem solving and Achievement motivation of adolescent girl students of urban P U Colleges.

### **Hypotheses**

- 1) There is no significant difference in problem solving among adolescent girls students of rural and urban P U Colleges.
- 2) There is no significant difference in achievement motivation between adolescent girl students of rural and urban P U Colleges.

- 3) There is no significant difference in problem solving between girl students of government, aided and unaided P U College students.
- 4) There is no significant difference in Achievement motivation between adolescent girl students of Government, Aided and Unaided P U College students.
- 5) There is no significant relationship between problem solving and achievement motivation among adolescent girl students of P U Colleges.
- 6) There is no significant relationship between problem solving and achievement motivation among adolescent girl students of urban P U Colleges.
- 7) There is no significant relationship between problem solving and achievement motivation among adolescent girl students of rural P U Colleges.

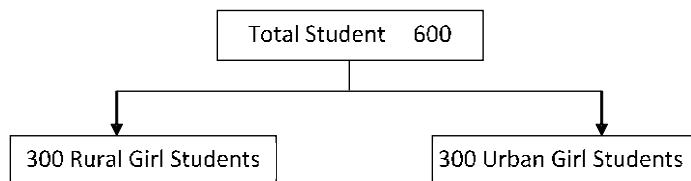
### **Methods of the Study**

In the present study descriptive survey method was carried out for Identifying the correlation between problem solving and Achievement motivation among adolescent girl students of urban and rural P U Colleges in Davangere district.

- 1) Moderate Variables
  - a. Location
  - b. Types of Management
- 2) Study variables
  - a. Problem solving
  - b. Achievement motivation

### **Sampling Size and Design**

The investigator made an attempt to study the problem solving and achievement motivation of the girl students with respect to rural and urban colleges. A Sample of 600 students (300 students from urban colleges and 300 students from rural colleges) of Davangere district were selected by stratified random sampling technique.



## **Tools for Data Collection**

### **1) Problem Solving Inventory : Developed by LN Dubey, Jabalpur (2003)**

In this test some problem related statements along with their four possible answers are given. Students have to write the serial number of correct answer in the box given against that statement correct answer has '1' marks and wrong answer has '0' marks. Dubey's 'key answer list' was used while scoring the answer sheets.

### **2) Achievement Motivation Scale**

Developed by Dr. V.P. Bhargava, this tool is based on sentence completion method and the test consists of 50 items of incomplete sentences/ items which are to be completed by the students by putting a check – mark on any one of three alternative responses given against each item, according to scoring key list. Each correct item indicating achievement motivation is given a score – '1' the scoring samples were category wise classified into \* High \* Above Average \* Average \* Below Average and Low Average.

### **3) Collection of Data**

The appointment for data collection was taken from the principals of 6 colleges (3 rural colleges and 3 urban colleges) with written document, data collection was done from students in their respective college class rooms.

### **4) Statistical Techniques Used for Analysis of Data:**

- 1) t' test
- 2) Mean
- 3) Standard deviation
- 4) One way ANOVA – (followed by tukeys multiple porthoc procedure)
- 5) Karl pearson's correlation co-efficient method.

## **Analysis and interpretation of Data**

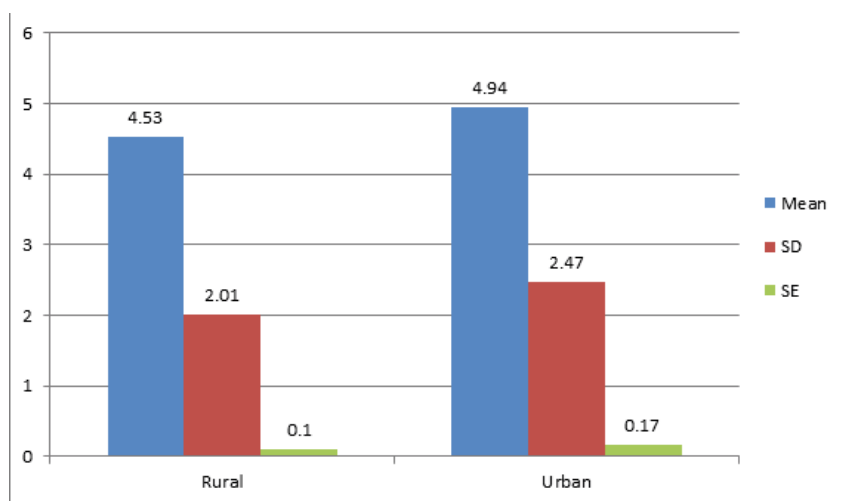
**Hypothesis -1 :** “There is no significant difference in problem solving among adolescent girl students of rural and urban P U Colleges”.

To achieve this hypothesis the independent 't' test was applied and the results are presented in the following table.

Table – 1: “Results of Independent 't' test between Adolescent girl students of Rural and Urban P U Colleges with respect to problem solving scores

Location	Mean	SD	SE	t-value	p-value	Significant
Rural	4.53	2.01	0.10	-2.1798	0.0297	Yes
Urban	4.94	2.47	0.17			

Graph – 1: Comparison of mean of problem solving scores of Adolescent girl students of Rural and Urban P U Colleges.



### Interpretation

The results of above table and graph clearly indicated that, the adolescent girl students of rural and urban P U Colleges differ statistically significant with respect to problem solving scores 't' = - 2.1798,  $p < 0.05$  at significance level of 5 percent. Hence the null hypothesis is rejected and alternative hypothesis is accepted.

It means that the adolescent girl students of urban P U Colleges have significant higher problem solving scores as compared to rural P U College girls.

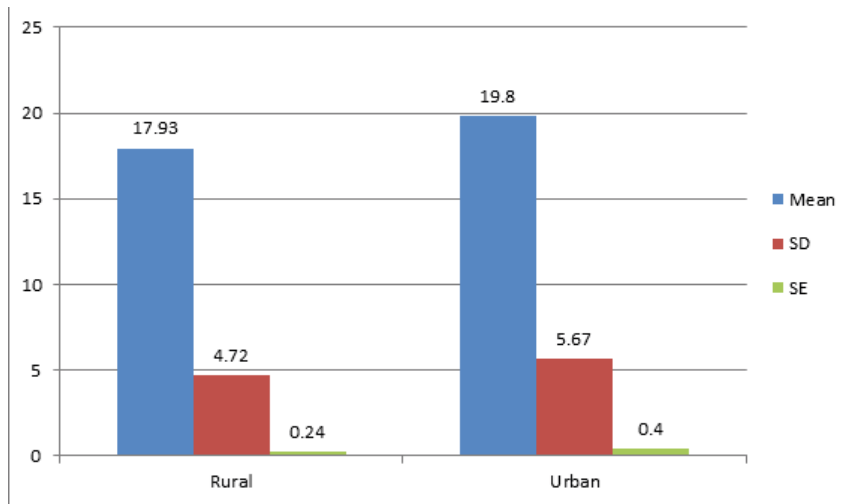
Hypothesis -2 : “There is no significant difference in achievement motivation between adolescent girl students of rural and urban P U Colleges.

To achieve this hypothesis, the independent 't' test was applied and the results are presented in the following table.

Table – 2: “Results of Independent 't' test between Adolescent girl students of Rural and Urban P U Colleges

Location	Mean	SD	SE	t-value	p-value	Significant
Rural	17.93	4.72	0.24	-4.2762	0.0001	Yes
Urban	19.80	5.67	0.40			

Graph – 2: comparison of mean of achievement motivation scores of Adolscent girl students of rural and urban P U College students.



### Interpretation

The results of the above table and graph clearly indicated that the adolescent girl students of rural and urban P U Colleges have significant with respect to achievement motivation scores  $t=4.2762$ ,  $p<0.05$  at significance level of 5 percent.

Therefore Hence, the null hypothesis ( $H_0$ ) is rejected and alternative hypothesis ( $H_A$ ) is accepted.

It means that the adolescent girl students of urban P U Colleges have significant higher achievement motivation scores as compared to adolescent girl students of rural P U Colleges.

Hypothesis -3 : “There is no significant difference in problem solving between adolescent girl students of government , aided and unaided P U College students.

To achieve this hypothesis, the one way ANOVA test was applied and the results are presented in the following table.

Table – 3: “Results of one way ANOVA test between Adolescent girl students of government, aided and unaided P U Colleges with respect to problem solving scores.

Sources of Variation	Degree of freedom	Sum of squares	Mean sum of squares	F- value	p- value	Significant
Between Managements - ??	2	161.16	80.58	17.9359	0.0001	Yes
Within Managements - ??	597	2682.17	4.49			
Total	599	2843.33				

#### Interpretation

The results of the above table clearly indicated that the adolescent girl students of government aided and unaided P U Colleges differs statistically significant with respect to problem solving scores.

$F = 17.9359$ ,  $p < 0.05$  at significance level of 5 percent

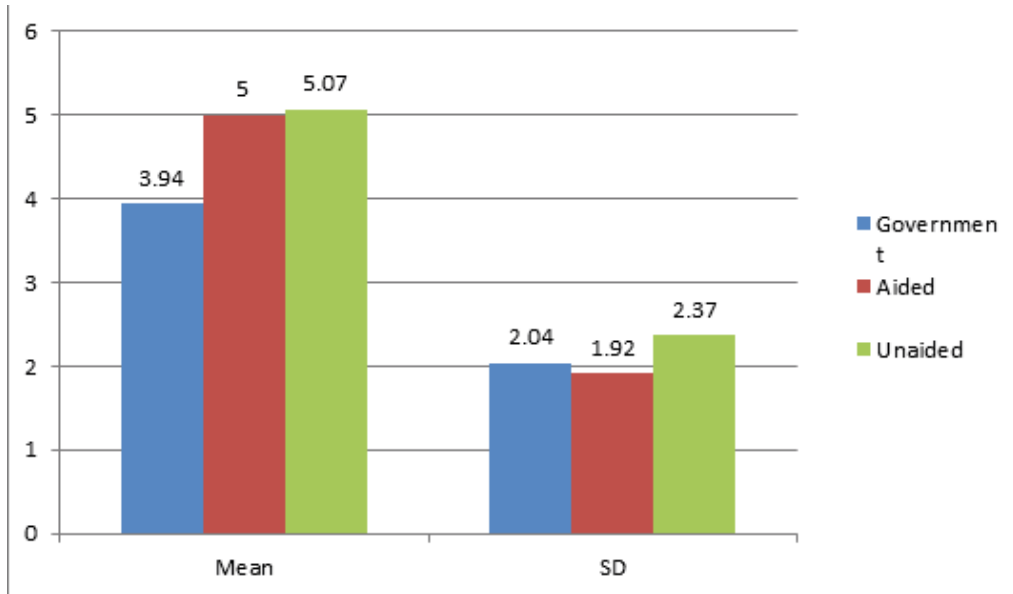
Hence null hypothesis is rejected and alternative hypothesis is accepted .

The adolescent students of government aided and unaided colleges, students have significant difference in problem solving scores.

Table – 3.1: Pair wise comparisons of students of government, aided and unaided P U Colleges with respect to problem solving scores by Tukeys multiple posthoc procedure

Managements	Government	Aided	Unaided
Mean	3.94	5.00	5.07
SD	2.04	1.92	2.37
Government	-		
Aided	P = 0.0001	-	
Unaided	P = 0.0001	P = 0.9333	-

Graph – 3.1: Comparison of mean of problem solving scores of adolescent students of government aided and unaided P U colleges



The results of above table and graph clearly indicated that,

- There is a significant difference in problem solving scores between government and aided PU College students

- ✓ Aided P U College girl students have a significant higher problem solving scores as compared to government college P U students.
- There is a significant difference in problem solving scores between government and unaided P U College students.
- ✓ Un aided P U College girl students have a significant higher problem solving scores as compared to government students.
- There is no significant difference in problem solving scores between aided and unaided P U College students.
- ✓ The adolescent girl students of aided and unaided colleges have similar problem solving scores.

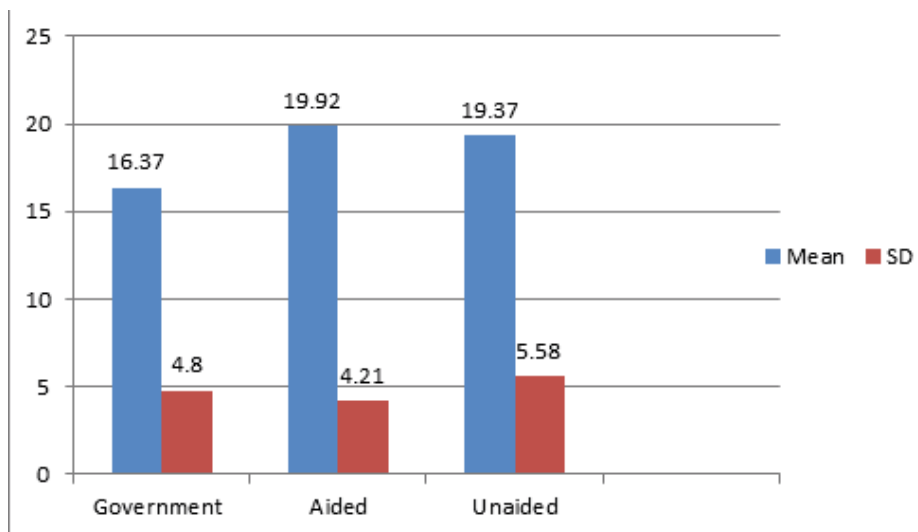
Hypothesis -4 : “There is no significant difference in Achievement motivation between Adolescent girl students of Government, aided and unaided P U college Students”

To achieve this hypothesis, the one way ANOVA test was applied and Results are presented in the following table.

**Table – 4: “Results of one way ANOVA test between Adolescent girl students of Government aided, and un-aided P U Colleges with respect to Achievement motivation scores.**

Sources of Variation	Degree of freedom	Sum of squares	Mean sum of squares	F- value	p- value	Significant
Between Managements - ??	2	1457.60	728.80	30.4288	0.0001	Yes
Within Managements - ??	597	14298.80	23.95			
Total	599	15756.40				

**Graph – 4.1: Comparison of mean of achievement motivation scores of adolescent girl students of government, aided and unaided P U Colleges.**



The results of above table and figure clearly indicated that

- There is a significant difference in Achievement motivation scores between government and aided P U College girl students.
  - ✓ Aided P U College girl students have a significant higher achievement motivation scores as compared to government college girls.
- There is a significant difference in Achievement motivation scores between government and unaided P U College students.
  - ✓ “Unaided P U College girl students have a significant higher Achievement motivation scores as compared to government students.
- There is no significant difference in achievement motivation scores between aided and unaided P U college students.
  - ✓ The adolescent girl students of Aided and un aided college have a similar or negligible difference in achievement motivation scores.

**Hypothesis - 5 :** “There is no significant relationship in between problem solving and achievement motivation among adolescent girl students of P U Colleges”.

**Hypothesis - 5 :** “There is no significant relationship in between problem solving and achievement motivation among adolescent girl students of P U Colleges”.

Dimensions	Summery	Problem Solving	Achievement motivation
Problem solving	r – value	-	
	p – value	-	
Achievement Motivation	r – value	0.8620	
	p – value	0.0001	

### Interpretation

A significant and positive correlation was observed between problem solving and achievement motivation scores of adolescent girl students of P U Colleges,  $r = 0.8620$ ,  $p < 0.05$  at significant level of 5 percent.

There fore the null hypothesis ( $H_0$ ) is rejected and alternative hypothesis ( $H_A$ ) is accepted.

It means that the problem solving and achievement motivation scores of adolescent students are dependent on each other. In another words the problem solving scores increases or decreases with increase or decrease in Achievement motivation scores of Adolescent girl students of PU Colleges.

**Hypothesis - 6 :** “There is no significant relationship between problem solving and achievement motivation among adolescent girl students of rural P U Colleges”.

To achieve this hypothesis the Karl Pearson's correlation co-efficient Technique has been applied and the results are presented in the following table

Table 6: Results of correlation co-efficient among scores of problem solving and achievement motivation scores of adolescent girl students of rural P U Colleges.

Dimensions	Summery	Problem Solving	Achievement motivation
Problem solving	r – value	-	
	p – value	-	
Achievement Motivation	r – value	0.8760	
	p – value	0.0001	

### Interpretation

A significant and positive correlation was observed between problem solving and achievement motivation scores of adolescent girl students of rural P U Colleges  $r = 0.8760$ ,  $p < 0.05$  at significance level of 5 percent.

Therefore the null hypothesis ( $H_0$ ) is rejected and alternative ( $H_A$ ) hypothesis is accepted. It means that the problem solving and achievement motivation scores of adolescent girl students of rural P U colleges are dependent on each other.

The problem solving scores increases or decreases with increase or decrease in achievement motivation scores of Adolescent girls students of Rural P U Colleges.

**Hypothesis - 7 :** “There is no significant relationship between problem solving and achievement motivation among adolescent girl students urban P U Colleges”.

To test this hypothesis, the Karl Pearson's correlation co-efficient technique has been applied and the results are presented in the following table.

Table 7: The results of correlation among scores of problem solving and achievement motivation scores of adolescent girl students of Urban P U Colleges.

Dimensions	Summary	Problem Solving
Achievement Motivation	r – value	0.8440
	p – value	0.0001

### Interpretation

From the result of the above table it can be seen that

A Significant and positive correlation was obtained between problem solving and achievement motivation scores of adolescent girl students of urban P U Colleges,  $r = 0.8440$ ,  $p < 0.05$  at significant level of 5 percent.

Therefore, the null hypothesis ( $H_0$ ) is rejected and alternative hypothesis ( $H_A$ ) is accepted. It means that the problem solving and achievement motivation scores are dependent on each other.

That means “the problem solving scores increases or decreases with increase or decrease in achievement motivation scores of adolescent girl students of urban P U Colleges.

### Findings

- 1) The adolescent girl students of rural and urban P U Colleges differ statistically significant with respect to problem solving scores.
- 2) There is significant difference between achievement motivation of adolescent girl students of rural and urban P U Colleges.
- 3) The adolescent girl students of Government, Aided and unaided P U Colleges differ statistically significant with respect to problem solving scores.

- 4) The adolescent girl students of Government, Aided and Unaided P U colleges differs statistically significant with respect to achievement motivation.
- 5) A significant and positive correlation was observed between problem solving and achievement motivation scores of adolescent girl students of PU Colleges.
- 6) A Significant and positive correlation was observed between problem solving and achievement motivation scores of adolescent girl students of Rural PU Colleges.
- 7) A significant and positive correlation was observed between problem solving and achievement motivation scores of adolescent girl students of Urban PU Colleges.

### **Conclusion**

The adolescent girl students of rural and urban P U Colleges differs statistically significant with respect to problem solving and achievement motivation. Problem solving and achievement motivations are dependent each other As one increases the other increases, hence we give the importance both of them because these two aspects are very important to personality development of adolescents.

■ ■ ■