



# Construction of Achievement Motivation Inventory (AMI)

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## Abstract:

*The term 'Achievement Motivation' can be defined as the need for success or the attainment of excellence. Individuals satisfy their needs through different means and they are driven to success for varying reasons both from internal and external stimuli. Motivation is the fundamental drive for all of our actions. It is a process that maintains and controls certain behaviors of people. Achievement motivation plays a crucial role in learning. The degree of one's tendency to achieve is referred to as resultant of achievement motivation. To find out the degree of achievement motivation the researchers tried to construct a tool for the same. By which achievement motivation can be measured of Post Graduate of students and so one. By measuring achievement motivation, we can initiate every possible and effective decisions to make our teaching-learning process fruitful.*

**Keywords:** Achievement motivation, Construction of tool, P.G. level students.

## Introduction:

Education has to be made accessible to all, in spite of financial, psychological, social conditions. But it depends on some internal and external determinants. There may be scarcity of external resources to build up our learners through education. But motivation is indeed play as a great weapon to achieve anything. Therefore, Achievement motivation can be defined as the striving to increase or to keep as high as possible, one's own efficiencies in all actions in which a standard of excellence is thought to apply and where the accomplishment of such activities can, therefore either succeed or fail. Thus, it becomes clear that basically achievement motivation is the predisposition or internal urge or desire of an entrepreneur to accomplish something important and solitary to gain a feeling of self-accomplishment and satisfaction. To measure the personal arrangement to strive a specific goal, the researchers constructed a standardized achievement motivation inventory and for this they organized a scientific way of research. This tool is very essential for the betterment of the teacher and the taught. So that the student can achieve more difficult and complex knowledge.

## Objectives:

Every investigation is being investigated for the purpose to fulfill some objectives. Thus, this study has also considered some unique and genuine objectives to achieve. The objective of the present investigation is to develop a tool to measure achievement motivation of post graduate level students of both the regular and open & distance mode. As there is no such suitable tool for this level of standard students, the investigators have constructed a standardized tool to measure the degree of achievement motivation of the said group of students.

## Methodology:

Methodology is the procedure or technique which is adopted in a research study. In order to undertake any study, the researcher should select proper methods in advance. The decision about the method depending upon the nature of the problem selected. The present researchers had chosen the descriptive survey method for conducting his research. In the present research, the researcher wanted to construct a standardized tool to measure the degree of achievement motivation of the said group of students.

## Population and sample:

For this study, the researchers selected few universities, few departments and specific standards of the students to establish the research fruitfully. In view of certain constraints, the researchers extended to include pupils of different modes of different universities situated in West Bengal. All the students studying through distance and regular mode of West Bengal constructed the population of the present study. A sample of 350 from distance and 350 from regular students were considered from four Universities in West Bengal. All the samples from four Departments of four universities of both the streams were collected through stratified randomly.

## Construction of achievement motivation Inventory (AMI):

The scale was consisted of eight dimensions and the dimensions are (a) Educational aspiration with 4 items, (b) Careerist aspiration with 5 items, (c) Home study with 5 items, (d) Classroom communication with 4 items, (e) Leisure time activities with 6 items, (f) Competitiveness with 5 items, (g) Self- control with 4 items, (h) Engagement with 5 items. Hence the total items of this scale are 38 including positive and negative items. The positive and negative types of items are intermixed in the scale. The dimension wise items are clearly represented in the table below in Table No.1.

**Table No. 1: Dimension wise Items of AMI.**

Sl. No.	Name of the Dimensions	Positive items	Negative items	Total
1	<b>Educational aspiration</b>	20,5,33	13	4
2	<b>Careerist aspiration</b>	1, 8, 14, 25	1	5
3	<b>Home study</b>	2, 15, 21, 34	9	5
4	<b>Classroom communication</b>	10, 14, 22	3	4
5	<b>Leisure time activities</b>	4,23,26,29,35	11	6
6	<b>Competitiveness</b>	5, 17,27,30,36	Nil	5
7	<b>Self- control</b>	6,31,37	18	4
8	<b>Engagement</b>	7, 12, 32, 38	19	5
<b>Total</b>	<b>Eight Dimensions</b>			<b>38</b>

## Item Selection:

Keeping in mind the objectives mentioned previously, achievement motivation inventory was developed jointly by the researchers to measure the achievement motivation of postgraduate level students. To develop the idea, especially for item writing, the researchers studied different literatures covering students' motivation, career of students, education, thoughts and theories and thoughts about motivation, social status of students. Moreover, the researchers asked a number of students verbally to gather a view on achievement motivation levels of students. The

discussion with the students developed the bases of some statements of the scale. Besides, some statements were developed by the help of different previous studies related to achievement motivation of the students and the researcher considered different dimensions mentioned in the scale from the literature reviews of the past. The researchers also had undertaken experiences from the experts' opinion. Preliminary draft of the questionnaire was thus prepared by sorting out and changing the items as well as constructing few new items according to the requirements of the study. At the time of structuring the questionnaire, few questions were included and a few questions were excluded and modified by which the levels of achievement motivation of the students could be measured. The researchers selected items by the said ways and sources and established a questionnaire and the total number of items thus pooled was 66.

### **Preparation of Draft:**

The investigators prepared all the items as statement which was written in local Bengali language and they also maintained the general criteria of item writing of scale such as statement should be simple, short in length, clear cut, non-ambiguous, pin point type and expressing the items either positive or negative orientation to the students. These items or statements of the questionnaire were submitted to four subject experts of the different universities in West Bengal to express their critical comments and suggestions for the further modification and the draft was modified according to the experts' opinion and the content and structure of few statements were modified and some items were rejected. Thus, the total number of items was developed and selected was fifty-four (54) and the rules and instruction to response on the questionnaire to the students and the blank space for requisite information were written down on the top of the first page of the questionnaire. The items and dimensions of the scale are clearly presented in the given below in Table No.3.

**Table No. 2: Dimension wise Items of Draft AMI.**

<b>SI. No.</b>	<b>Dimensions</b>	<b>Total Items</b>
1	Educational aspiration	7
2	Careerist aspiration	6
3	Home study	6
4	Classroom communication	6
5	Leisure time activities	8
6	Competitiveness	7
7	Self- control	7
8	Engagement	7
<b>Total</b>	<b>Eight Dimensions</b>	<b>54</b>

### **Preliminary Try out:**

To administer the questionnaire, the researchers first applied to the respective Heads of the Departments to allow the students to response on the survey. The researchers prepared a preliminary tool named Achievement Motivation Inventory to measure the achievement motivation of the students of selected areas like male, female and he administered the tool to a representative sample of 40 on both the distance and regular students of Kalyani University, West Bengal in the month of November, 2016. The sample was chosen randomly. The students were provided necessary time to response on the questionnaire. All the Heads of the Departments and the students cooperated with the researcher.

## Item Analysis:

For the purpose of item analysis, discrimination index (DI) was calculated with the SPSS software, 19.1 version of each item. The discriminating power of an item is considered as a decimal fraction maximum positive discrimination is directed by an index of 1.00. This value is obtained only when all the students in the upper group answer the item correctly and no one can make the correct answer in the lower group. Zero value is considered when an equal number of students answer the item correctly in each group. Negative discriminating power is assigned when more students belong to the lower group answered correctly than in the upper group. In this way, discrimination index was calculated for 54 items of the achievement motivation inventory. Then the researchers eliminated few items with lesser discrimination index and the length of the questionnaire was reduced to 38. The researchers decided the cut off value as 0.350 and above. The item wise values of DI are presented below in the Table No. 5.

**Table No. 3: Discrimination Index (DI) of Achievement Motivation Inventory.**

Item No.	Critical value	Result	Item No.	Critical value	Result
1	0.144	<i>Rejected</i>	28	0.362	Accepted
2	0.874	Accepted	29	0.399	Accepted
3	0.355	Accepted	30	-0.016	<i>Rejected</i>
4	0.338	Accepted	31	0.107	<i>Rejected</i>
5	0.542	Accepted	32	0.137	<i>Rejected</i>
6	0.666	Accepted	33	0.873	Accepted
7	0.868	Accepted	34	0.379	Accepted
8	0.814	Accepted	35	-0.241	<i>Rejected</i>
9	-0.224	<i>Rejected</i>	36	-0.341	<i>Rejected</i>
10	0.653	Accepted	37	0.741	Accepted
11	0.778	Accepted	38	0.431	Accepted
12	0.438	Accepted	39	-0.152	<i>Rejected</i>
13	0.399	Accepted	40	0.330	<i>Rejected</i>
14	-0.315	<i>Rejected</i>	41	0.271	<i>Rejected</i>
15	0.269	<i>Rejected</i>	42	0.412	Accepted
16	0.836	Accepted	43	0.341	<i>Rejected</i>
17	0.465	Accepted	44	0.671	Accepted
18	0.491	Accepted	45	0.495	Accepted
19	0.478	Accepted	46	0.879	Accepted
20	0.351	Accepted	47	0.451	Accepted
21	0.079	<i>Rejected</i>	48	0.692	Accepted
22	0.551	Accepted	49	0.388	Accepted
23	0.358	Accepted	50	0.748	Accepted
24	0.530	Accepted	51	0.810	Accepted
25	0.791	Accepted	52	0.551	Accepted
26	-0.410	<i>Rejected</i>	53	0.763	Accepted
27	0.715	Accepted	54	-0.249	<i>Rejected</i>

### Final Try out:

After deducting few items with low DI value, the scale was finally consisted of 38 items. This scale was tested on one hundred (100) samples of the students which consist of the Dept. of Bengali, Dept. of English, Dept. of History and the Dept. of Education of Kalyani University. The sample was selected from both distance and regular streams and also from male, female during February to March, 2017. In this session of the survey, data collection environment was quite healthy and easy. The respondents were selected their desire options very easily and willingly with no hesitation. A well developed and suitable tool was prepared to measure the achievement motivation of the sample with their participation on the survey and through this process.

### Standardization of Achievement Motivation Inventory:

To standardize the scale, the researcher measured reliability, validity and homogeneity and internal consistency of achievement motivation inventory.

### Reliability of Achievement Motivation Inventory:

In this research, the researcher determined reliability of the inventory. For this purpose, he measured Test-retest method. To find out the reliability of achievement motivation inventory, 50 samples were selected from 100 samples from the final try out. The samples were selected from both male and female categories. This is explained below in the Table No: 07.

**Table No. 04: Test- Retest Reliability of Achievement Motivation Inventory.**

Sl. No	Respondent No	Test Score	Re-test Score	Sl. No	Respondent No	Test Score	Re-test Score
1	1	150	158	26	37	138	127
2	3	155	148	27	39	158	166
3	4	154	160	28	41	176	165
4	7	164	154	29	42	182	190
5	8	155	163	30	49	132	140
6	9	151	142	31	50	137	128
7	11	158	149	32	51	150	140
8	12	152	169	33	52	165	147
9	14	167	175	34	53	85	175
10	15	167	160	35	55	156	145
11	16	186	196	36	56	158	166
12	17	173	181	37	57	137	130
13	18	155	148	38	64	132	139
14	19	164	154	39	65	144	134
15	20	167	160	40	66	137	146
16	22	150	141	41	73	117	128
17	23	153	161	42	75	126	118
18	26	158	151	43	77	126	135
19	27	157	158	44	81	140	132
20	28	155	165	45	82	138	147
21	31	186	175	46	85	117	108
22	32	158	166	47	89	115	126
23	33	151	160	48	94	131	124
24	34	156	149	49	95	129	136
25	35	144	152	50	97	138	128

**Test-Retest Reliability=0.88**

After a statistical calculation, the co-efficient of correlation was found the value of 'r' was (0.88) when N=50. Generally, value of coefficient correlation is considered well if the value of r = 0.70. The value of 'r' of the tool achievement motivation inventory is higher than 0.70. So, the achievement motivation inventory established a good Test-retest validity which provides a high consistency of the tool overtime.

**Table No. 05: Value of 'r' and Corresponding Correlation.**

Ranges of 'r'	Correlation
0.00 to ±0.20	Very poor
± 0.21 to ±0.40	Poor
± 0.41 to ±0.60	Moderate
± 0.61 to ± 0.80	Strong
± 1.00	Perfect correlation

**Homogeneity of Achievement Motivation Inventory:**

In this research, the researchers determined homogeneity of AMI. For this, they measured 'F' test. This is explained below in Table no. 09,10,11.

**Table No.06: Test of Homogeneity of Achievement Motivation Inventory.**

SL. No.	Odd Items	Even Items
1	346	392
2	326	304
3	354	361
4	340	344
5	358	362
6	339	372
7	450	349
8	224	398
9	332	238
10	306	351
11	366	450
12	313	370
13	445	365
14	414	312
15	348	348
16	342	353
17	362	292
18	330	398
19	334	354

**Table No. 07: Descriptive Statistics on AM Scale.**

Group	Mean	SD	N
Odd	354.68	39.865	19
Even	353.32	45.382	19
Total	354	42.137	38

**Table No. 08: Levene’s Test of Equality of Error Variance.**

F	df1	df2	Sig.
0.055	1	36	0.816

The result of 'F' value is not significant at 0.05 level ( $p > 0.05$ ) which implies that both the groups. (odd and even) have homogeneous data.

**Internal Consistency Reliability of AMI:**

In this research, the researcher determined internal consistency reliability of the inventory. The correlation coefficient was calculated with the help of Spearman Brown method between the said two sets (odd and even) of scores which produced overall internal reliability value = 0.96. The two sets of scores are presented below in Table No. 12.

**Table No. 09: Internal Consistency of AMI.**

SL. No.	Total Score		SL No.	Total Score		SL No.	Total Score		SL No.	Total Score	
	Odd	Even		Odd	Even		Odd	Even		Odd	Even
1	72	78	26	83	75	51	69	81	76	62	62
2	81	77	27	77	90	52	84	72	77	61	65
3	78	77	28	77	78	53	43	42	78	62	66
4	83	71	29	88	88	54	90	92	79	61	68
5	75	76	30	82	80	55	84	72	80	69	63
6	76	77	31	94	92	56	77	81	81	73	67
7	82	82	32	81	77	57	68	69	82	70	68
8	77	78	33	75	76	58	70	68	83	42	41

9	76	75	34	84	72	59	40	31	84	42	44
10	84	72	35	74	70	60	42	44	85	64	53
11	83	75	36	69	81	61	88	88	86	69	63
12	82	80	37	70	68	62	39	52	87	65	61
13	88	88	38	67	70	63	38	43	88	38	43
14	83	84	39	77	81	64	66	66	89	57	58
15	77	90	40	84	72	65	74	70	90	42	41
16	94	92	41	88	88	66	67	70	91	43	42
17	84	89	42	90	92	67	38	43	92	61	65
18	78	77	43	83	71	68	42	41	93	73	67
19	82	82	44	40	31	69	42	44	94	70	61
20	83	84	45	38	43	70	43	42	95	61	68
21	76	75	46	39	52	71	35	52	96	62	66
22	72	78	47	43	42	72	57	58	97	70	68
23	76	77	48	42	44	73	64	53	98	42	41
24	84	89	49	66	66	74	70	61	99	35	52
25	83	71	50	68	69	75	65	61	100	62	62

**Spearman Brown coefficient of Reliability = 0.96**

### **Construct Validity of AMI:**

The researchers, calculated scores of each dimension of the scale of 100 respondents. They also quantified the correlation coefficient of the score of each dimension with the total score. The result shows that all the dimensions are highly correlated. So, the scale claims adequate construct validity.

**Table No. 10: Coefficient of Correlation between Total score of Entire Questionnaire And Total scores of Each Dimension (A-H).**

<b>Name of Dimensions</b>	<b>Coefficient of Correlation</b>
<b>Educational aspiration</b>	0.93
<b>Careerist aspiration</b>	0.83
<b>Home study</b>	0.93
<b>Classroom communication</b>	0.58
<b>Leisure time activities</b>	0.86
<b>Competitiveness</b>	0.91
<b>Self- control</b>	0.91
<b>Engagement</b>	0.93

**Table No.11: Coefficient of correlation matrix among total scores of eight dimensions (A-H)**

<b>DIMENSIONS</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>
<b>Educational Aspiration (A)</b>	1							
<b>Careerist Aspiration (B)</b>	0.07	1						
<b>Home Study (C)</b>	0.86	0.74	1					
<b>Classroom Commu. (D)</b>	0.50	0.49	0.50	1				
<b>Leisure time Activities (E)</b>	0.77	0.60	0.80	0.50	1			
<b>Competitiveness (F)</b>	0.85	0.71	0.83	0.44	0.77	1		
<b>Self-control (G)</b>	0.84	0.77	0.82	0.48	0.71	0.80	1	
<b>Engagement (H)</b>	0.86	0.74	0.86	0.47	0.73	0.86	0.85	1

So, the scale was standardized by the above said methods to measure the achievement motivation of the sample and it bears a good face validity content validity with the experts' evaluation and construct validity with the help of statistical analysis and the validity of the scale ensure the reliability also.

### **Conclusion:**

A good research begins with the help of a good measurement tool. We did not find out a tool to measure the achievement motivation of post graduate level students. We could not find out this type of scale our purpose. We have provided scientific method for achievement motivation scale development and analyze in the hope that the researcher may use this tool and we also used this tool to investigate in our research work. As the tool was formed by quantitative method, we are confident about the standardization of the scale. We hope this scale will provide

accurate and usable data for any research work. Mention that any research may follow our method to construct any kind of measurement.

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**Appendices:**

**Achievement Motivation Inventory:**

Sl. No.	Statement	1	2	3	4	5
1	I try to get a good job					
2	I study at home to acquire knowledge					
3	I feel good when class dissolved					
4	When there is no class, I study at the library					
5	I study with a competitive mindset					
6	I try to keep to my own ethics					
7	I keep on doing new things					
8	I respect people who are higher post than me					
9	I think no study is needed after formal education					
10	I question instantly when I understand anything in the class					
11	I am a bit lazy					
12	I try for a long time to reach the success					
13	I think study is a misuse of time and money					
14	I think study brings success to professional life					
15	I am ambitious					
16	I do not like to attend classes daily					
17	I try to be the best in fields other than study					

18	I feel sad in any incident very easily					
19	I start a new task, when I feel the previous to be tough					
20	I enjoy to study					
21	I feel a day to be wasted without study					
22	I take part in class test regularly					
23	I feel disgusted to see my friends wasting time					
24	I look for new information and knowledge through study					
25	One should take familial responsibility after getting established					
26	I work hard to get established in life					
27	I think it is possible to remain in life through competition					
28	I feel about others' success than mine					
29	I try to do something constructive during leisure time					
30	I feel disturbed when someone obstructs my study					
31	I proceed in a work with confidence					
32	I study throughout the year for good result					
33	I try to be the best in the class					
34	I spend more time at home in study					
35	I read various books other than those in syllabus					
36	When someone praises my result, try to do it better again					
37	I do not hesitate to undertake risky tasks					
38	I like to do my task without any body's help					

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