



CONSTRUCTION AND STANDARDIZATION OF ADJUSTMENT ABILITY INVENTORY

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Abstract

Adjustment Ability Inventory is an inventory designed to measure the adjustment ability of an individual or a group of individuals. The present study was conducted to construct and standardize an adjustment ability inventory for higher secondary school students. A well-structured scale was administered among them. The sample consists of 200 higher secondary school students randomly selected from 2 higher secondary schools situated in Purulia District, West Bengal, India. Initially, it was constructed with 89 statements covering five dimensions related to adjustment ability, such as home adjustment, emotional adjustment, social adjustment, educational adjustment and health adjustment of higher secondary school students. The inventory was standardized using the 't'-test and finally, 66 statements were retained for the final study. The reliability and validity of this inventory were also determined by a specific procedure. The internal consistency or reliability of this inventory is 0.85. The present research discusses the development of the scale to measure the level of adjustment ability among higher secondary school students.

Keywords: Adjustment Ability, Higher Secondary School Students, Adjustment Ability Inventory, Reliability & Validity.

Introduction

Adjustment is a behavioural process by which humans and other animals maintain equilibrium among their various needs or between their needs and the obstacles of their environments. The ability, which helps an individual to adjust, is called adjustment ability. It also helps a person's mental and physical development to go smoothly. The academic achievement of students depends on their adjustment ability. If a child is well adjusted to his surroundings, then he will be motivated to excel in the activities assigned during school, and it leads to academic achievement. The academic achievement and adjustment ability of the students are positively related to each other (Irasur, J. M. 2021; Sarkar, S. & Banik, S. 2017; Sannakkanavar, P. 2019). At present, students are focusing more on acquiring achievement in various fields. Their main goal in life is to become proficient in various fields of life. Parents often pay special attention to this aspect of students.

Parents often try to get their needs met by themselves; they do not emphasize the interest, needs, and capabilities of the students. As a result, students often suffer from an inferiority complex that gives rise to a variety of maladjusted behaviour among students which disturbs their focus on work, harming their academic achievement. Hence, adjustment ability directly or indirectly has some effect on the academic achievement of the students. Therefore, it is important to know and measure students' adjustment ability. With the help of this study, the researchers have tried to discuss the development of the inventory to measure the level of adjustment ability among higher secondary school students.

Literature Review

Chourasia, R., Kanade, R. & Supriya, K. (2020) conducted a study on the construction and standardization of an achievement test in mathematics. The main purpose of this study was to construct and standardize an achievement test in mathematics for VIII grade students to measure their achievement. This test can be used by teachers to assess student's achievement in mathematics when they have covered the content areas of VIII class. Kar, D., Saha, B. & Mondal, B. C. (2016) examined the relationship of emotional intelligence and adjustment ability of the higher secondary school students. The findings of this study revealed that the emotional intelligence affects the home, school and peer adjustment of the students. Sharma, H. L. & Sarita, (2018) constructed and standardized an achievement test in science. The objective of this study was to construct and standardization of an achievement test in science. Researchers concluded that this test can be used by teachers to assess student's achievement in science when they have covered the content areas of the VII class. Kar, D. & Saha, B. (2021) examined the relationship of leadership style and adjustment ability of undergraduate students and they revealed that adjustment ability is significantly correlated with the leadership style of undergraduate students. Balodi, J. & Rekha, (2022) conducted a study on the construction and standardization of achievement tests for numeracy skills. The main purpose of this study was to present the details of the construction and standardization of the achievement test for numeracy skills for grade III students. This tool will be helpful to measure the level of achievement in basic numeracy skills. Osadebe, P. U. (2014) conducted a study for the standardization of tests for assessment and comparison of students' measurements. The main objective of this study was to standardize economics achievement tests for senior secondary school students in Nigeria. The investigator said that this test could be used to assess and compare students' measurements. Osadebe, P. U. (2015) conducted a study on the construction of valid and reliable test for the assessment of students. This test was carried out to construct a valid and reliable test in economics for secondary school students. Kundu, M., Saha, B. & Mondal, B. C. (2015) revealed that male and female as well as science and humanities students of undergraduate students did not differ significantly with regards to their adjustment ability. Singh, P. (2015) constructed a standardized achievement test for mathematics for ninth-grade students. The main purpose of this study was to construct and standardize the achievement test by determining the reliability and validity of the test. Choudhury, S. & Tyagi, S. K. (2017) conducted a study on the construction and standardization of achievement test in educational psychology. The researchers concluded that this research tool was used to measure the educational achievement of an individual. Mondal, B. C., Saha, B. & Kar, D. (2014) developed and

validated an emotional intelligence inventory for secondary school students. This scale was found to be performs exceptionally well as a general measure of emotional intelligence with acceptable internal consistency and construct validity. Kaur, J. & Singh, G. (2015) conducted a study on the construction and standardization of achievement test in social science. The main purpose of this achievement test was to evaluate the achievement of secondary school students under the Punjab School Education Board in the area of social studies.

Objectives of the study

Objectives of this study were as follows:

- i. To construct an adjustment ability inventory to measure the adjustment ability of the higher secondary school student.
- ii. To standardize the constructed adjustment ability inventory for the higher secondary school students
- iii. Preparation of the inventory manual for the adjustment ability inventory constructed and standardized in this study.

Method of construction and standardization of an adjustment ability inventory

This inventory is constructed and standardized based on five dimensions of adjustment; Home Adjustment, Educational Adjustment, Health Adjustment, Emotional Adjustment and Social Adjustment. The process of inventory construction and standardization was carried out in three phases.

1. Planning of the inventory
2. Construction of the inventory
3. Standardization of the inventory

1. Planning of the inventory

The first step in the development of a standardized scale is the preparation of a plan. The plan will vary, depending upon the type of tool that a researcher is preparing. Planning an inventory is a very important step in the construction of an adjustment ability inventory. An adjustment ability inventory needs careful planning. For proper panning of the inventory, the investigators have to keep the following aspects in mind such as to whom, what, when and how to measure. Planning is not only an important but an essential aspect of inventory construction. At this stage, the researchers develop a complete blueprint or replica of the inventory. For developing the adjustment ability inventory, five areas of adjustment were taken into consideration – Home Adjustment, Educational Adjustment, Health Adjustment, Emotional Adjustment and Social Adjustment.

2. Construction of the inventory

This phase involved the following steps:

- i. Preparation of the item pool
- ii. Editing of the items
- iii. Scoring procedure
- iv. Preliminary try out of the inventory
- v. Final tryout of the inventory
- vi. Item analysis
- vii. Final form of the inventory

2. i. Preparation of the item pool

An important step in the construction or standardization of an inventory is the creation of an item pool. If poor items are prepared or if the items are not related to the tool's purpose, we cannot meet the tool's objectives. Items for constructing the present inventory were collected through critical and careful study of the available literature on adjustment ability inventories from books and journals and in consultation with experts. 135 statements were tentatively framed in the Bengali language for the first preliminary draft of the adjustment ability inventory for higher secondary school students.

2. ii. Editing of the items

After completing the preliminary draft, the tool was verified by the experts. The experts analyzed the tool for the relevance of areas, item difficulty, language accuracy and clarity. After scrutiny of the items, based on 95% among the experts, 89 items were chosen to be included in the provisional draft. Thus, the provisional draft of the adjustment inventory consisted of 89 items which cover five areas of adjustment namely; Home Adjustment, Educational Adjustment, Health Adjustment, Emotional Adjustment and Social Adjustment.

2. iii. Scoring procedure

Responses had to be made on a five-point Likert, scale ranging from totally agree to totally disagree. The response categories for negatively stated items were 1 for strongly agree, 2 for agree, 3 for undecided, 4 for disagree and 5 given for strongly disagree. Another side the response categories for the positively stated items were 5 for strongly agree, 4 for agree, 3 for undecided, 2 for disagree and 1 for strongly disagree. So, if one student chooses a strongly agree response for a negatively worded statement then he gets a score of 1 and if a student chooses a strongly agree response for a positively worded statement then he gets a score of 5. And only for the undecided response, one gets always a score of 3 whether a statement is positively or negatively worded.

2. iv. Preliminary try out of the inventory

After the selection and editing of items, the provisional draft was administered to 50 students of class XI (eleven), to determine the level of understanding of the appropriateness of the areas and the items of the test. For the adjustment ability inventory, no time limit was fixed for students to give their responses. Complete freedom was given to the students to ask about the difficulties they faced during the test. Some linguistic and syntactical changes were made to the statesmen after the completion of the preliminary tryout.

2. v. Final tryout of the inventory

For the final tryout, the adjustment ability inventory, consisting of 89 items was then administered to 200 students studying in class eleven of two higher secondary schools of Purulia District for a further statistical operation like calculation reliability and validity of the inventory and preparation of norms for the final inventory.

2. vi. Item analysis

Item analysis is another important step for the construction and standardization of a research tool. After the tryout, the next step in the standardization of an inventory is to find out the 't'-value of each item, which forms the basis for item selection. The individual scores of all the 200 respondents were arranged in descending order from the highest to the lowest score and 't'-value for all the items has been calculated with the help of the formula suggested by Allen Edwards (1957). Items with a 't'-value equal to or greater than 1.75 (Edwards, 1957) were retained and those with 't'-value below 1.75 were not retained. For 66 't'-values out of 89 't'-values was found equal or greater than 1.75. Therefore, 66 items were retained in the adjustment ability inventory for the final tryout.

Presenting 't'-values of adjustment ability inventory

Si. No.	't' value	Accepted (A)/ Rejected (R)	Si. No.	't' Value	Accepted (A) / Rejected (R)	Si. No.	't' Value	Accepted (A)/ Rejected (R)
1	5.86	A	31	2.98	A	61	2.23	A
2	2.96	A	32	2.02	A	62	1.54	R
3	1.71	R	33	1.70	A	63	2.38	A
4	1.70	R	34	6.04	A	64	5.81	A
5	6.36	A	35	5.78	A	65	4.23	A
6	6.39	A	36	3.62	A	66	1.85	A
7	6.27	A	37	2.96	A	67	9.75	A
8	9.23	A	38	2.62	A	68	6.89	A
9	6.80	A	39	3.22	A	69	3.55	A
10	1.13	R	40	8.92	A	70	6.33	A
11	1.36	R	41	5.78	A	71	9.92	A
12	1.21	R	42	1.62	A	72	3.55	A
13	2.23	A	43	1.61	R	73	6.94	A
14	6.04	A	44	2.78	A	74	6.38	A
15	1.08	R	45	6.94	A	75	3.20	A
16	7.66	A	46	2.78	A	76	2.38	A
17	3.53	A	47	1.58	R	77	2.28	A
18	1.31	R	48	5.76	A	78	4.08	A
19	8.88	A	49	1.48	R	79	9.72	A
20	2.67	A	50	7.60	A	80	3.25	A
21	3.22	A	51	2.30	A	81	6.27	A
22	1.56	R	52	1.09	R	82	9.60	A
23	1.52	R	53	1.72	R	83	7.33	A
24	1.58	R	54	1.21	R	84	3.90	A
25	8.71	A	55	3.22	A	85	6.26	A
26	2.38	A	56	1.34	R	86	1.21	R
27	3.33	A	57	1.48	R	87	6.28	A
28	1.34	R	58	1.44	R	88	3.06	A
29	4.05	A	59	5.07	A	89	1.56	R
30	2.53	A	60	6.64	A			

2. vii. Final form of the inventory

After doing item analysis, items with good discrimination value may be taken into the final draft and another item may be eliminated. The final form of this adjustment ability inventory consisted of 66 items related to five areas of adjustment. The maximum individual score on the adjustment ability inventory was 330 and the minimum individual score is 66.

3. Standardization of the inventory

3. i. Reliability of the inventory

A test is said to be reliable if it gives perfectly accurate and similar results after repeated application. The term reliability is defined as the 'consistency in measurement' (Spector, 1997). The investigator employed Cronbach's alpha to determine the internal consistency of the scale. Cronbach alpha of this scale is found 0.854 which is higher than the recommended reliability (0.80). So, it's implied that the tool being developed is reliable.

3. ii. Validity of the inventory

The validity of a tool means its truthfulness. If a test measures what it intends to measure, then it is said to be a valid test. The scale has the 'universe of content' as it includes items from all the selected dimensions of adjustment ability such as home adjustment, health adjustment, emotional adjustment, school adjustment and social adjustment. All selected dimensions have been equally weighted during item selection. The scale contains 66 items, which represents the universe of content and the content validity of this scale. It has also construct validity as items were selected having the 't'-values equal to or more than 1.75 (Edwards, 1957). The scale was given to the expert in the field of education to check the face validity of this scale and they supported that the items in this scale were relevant to the objectives of the study. Hence, it has face validity also.

3. iii. Norms of the inventory

To set the norm of the Adjustment Ability Inventory scale, the final form of the scale was administered to 1209 higher secondary school students. The highest probable individual score is 330 (66x5) and the lowest probable score by an individual respondent is 66 (66x1). The mean and standard deviation values are 225.88 and 22.64 respectively. The criteria $M \pm 1SD$ are used for dividing further into strata (Edward, 1957). Thus, a score equal to or greater than 248 is defined as a person with high adjustment ability, with a score of 204 to 247 denoting moderate or average adjustment ability and a score equal to or below 203 denoting low adjustment ability. **Table 4** represents the norms of the Adjustment Ability Inventory.

Table 4- Norms for adjustment ability inventory

≤ 203.24	Low Adjustment Ability
204-247	Average Adjustment Ability
≥ 248.52	High Adjustment Ability

Conclusion

Adjustment, in psychology, is the behavioural process by which humans and other animals maintain equilibrium between their various needs or between their needs and the obstacles of their environments. The ability, which helps the individual to adjust to his circumstances, is called adjustment ability. The academic achievement of students depends on their adjustment ability. If a child is well adjusted to his surroundings, then he will be motivated to excel in the activities assigned during school, and it leads to academic achievement. The investigators are hopeful that this tool would be helpful to measure the adjustment ability i.e. Home Adjustment, Educational Adjustment, Health Adjustment, Emotional Adjustment and Social Adjustment of higher secondary school students. Based on the results of this tool, teachers, administrators and other people associated with education can make different decisions about the adjustment ability of higher secondary-level school students.

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