

Development of Interpersonal Relationship Scale (IRS) For High School Students

Emmanuel Joel Dean¹, Dr. E. Ahmad²

¹ Research Scholar, Department of Education, Integral University, Lucknow

² Head of Department, Department of Education, Integral University, Lucknow

Abstract

Growth and development play a crucial role in a student's life. High school (age 15-16) is the time in the life of student where they learn new facts and form new ideas. These ideas pave the way for them and generations in the coming future. This study aims to study if participation in co-curricular activities actually has any impact on the interpersonal relationships of the high school students. The study can be conducted successfully by developing a valid and reliable scale. This paper focuses on the development of one such scale used to compare the interpersonal relationships of the high school students who participate and don't participate in the co-curricular activities.

This paper will explain in detail the conceptual framework of the scale, scale development process, process of validation, methods of reliability and how and where can this tool be used for research.

Keywords: High school students, Interpersonal Relationships, Validity, Reliability

1. Introduction

Adolescence is a period in students' life that creates constant anxiety and fear. This all can also affect social, emotional and cognitive changes that are happening during this stage, During the period of adolescence it is important to maintain interpersonal relationships with peers, family members and the community. Interpersonal relationships are foundation of social confidence, identity formation and overall well-being of the individual (Steinberg, 2014). At the same time, it is also important to reduce behavioral problem and improve mental health outcomes.

Although mental health and behavioral issues are common amongst the adolescents but there is a scope of improvement. This tool is needed to measure various aspects of interpersonal relationship of a student on individual level.

Further in this paper we will, step by step, discuss the process of formation of the inventory designed specifically keeping in mind the objectives of this research.

Objectives

1. To develop a scale for measuring interpersonal relationships of the high school students participating and not participating in co-curricular activities.
2. To establish the technical properties of the scale (validity and reliability).

Methodology

The procedure of tool development is:

Step 1: Identification of need of research tool

The investigator searched for a relevant scale that might have been already available in the market for this study, but no such tool was available in the standard form. Hence the investigator decided to develop the tool for assessing “the interpersonal relationships of students participating and not participating in co-curricular activities”.

The need of development of new inventory for the research is:

1. Relevance to research
2. Alignment with the objective of research
3. Validity and reliability
4. Flexibility for the researcher
5. Enabling high engagement with respect to local language
6. For addressing any gap in pre-existing research tool or inventory
7. Contribution to research
8. Financial constraints
9. Avoiding legal conflicts

Step 2: Review literature

Designing, planning and preparation are the basic and preliminary stages in the process of tool development. There are multiple resources available online related to the various issues regarding the tool development of this research. For the development of the tool relevant to this study the researcher referred to various related literature for:

1. Better understanding of the concept of tool development
2. Identification of the domains that will be helpful in measuring the interpersonal relationships
3. Examining the existing tools
4. Identification of the research gaps in the existing tools
5. Development of the valid items for the Interpersonal Relationship Inventory
6. Provide support to validity and reliability
7. Building a theoretical framework

Step 3: Identification of domains

In order to develop the tool, the researcher first needed to describe the domains in which the research was to be conducted for distinguishing between the interpersonal relationships of the students participating and not participating in co-curricular activities.

As per the review of related literature, discussion with various educators and suggestions from different educationists the following domains were established.

1. Leadership
2. Motivation
3. Responsibility
4. Active listening
5. Team work
6. Dependability
7. Patience
8. Empathy

9. Flexibility
10. Communication

Step 4: Item construction

Based on the domains obtained in the second and third step, first draft of the tool named “Interpersonal Relationship Scale” was developed by the researcher for the current study.

After establishing the domains that were needed to be studied the researcher then focused his attention on the pre-existing tools that were used to measure different domains before. He then compiled the items from different tools into one tool and prepared the first draft which consisted of 98 items.

S. No.	Dimension name	No. of items
1.	Leadership	15
2.	Motivation	6
3.	Responsibility	7
4.	Active listening	8
5.	Team work	12
6.	Dependability	12
7.	Patience	10
8.	Empathy	12
9.	Flexibility	5
10.	Communication	11
	Total	98

These items consisted of statements that were both positive and negative in nature. Each item, both positive and negative, was associated to a different domain, hereby collectively measuring the level of the students for that particular domain.

Since this study is based on the participation of students in co-curricular activities the researcher, at the starting of the tool, asks the students about their status regarding their participation in the same. This helps in dividing the students into two groups of participants and non-participants.

Step 5: Selection of response format

The scale will be a Five Point Likert Scale where points will be awarded on the basis of answer provided by the subject. According to the behavior of the child the child will agree to each of the statement on a certain level. Levels are

- Strongly agree (SA)
- Agree (A)
- Neutral (N)
- Disagree (DA)
- Strongly disagree (SDA)

The subjects will mark their answers in the tool and then the research scholar will mark the score for each answer based on the table below.

	SA	A	N	DA	SDA
Positive Statements	5	4	3	2	1
Negative Statements	1	2	3	4	5

Total score will be marked and noted at the end of the inventory for each domain for further processing.

Step 6: Expert validation

The scale was presented before experts for validation of the first draft of the developed scale. The expert’s panel were appealed to evaluate the Interpersonal Relationship Inventory for:

1. Relevance of domains for subjects
2. Length of the scale
3. Formation of statements
4. Language of the statements
5. Clarity in the statements
6. Appropriateness of the scales objectives
7. Scoring pattern
8. Categorization
9. Overall content.

On the basis of experts’ suggestions, statements were restructured, removed, merged and modified.

S. No.	Dimension name	No. of items After opinion
1.	Leadership	4
2.	Motivation	4
3.	Responsibility	3
4.	Active listening	4
5.	Team work	4
6.	Dependability	4
7.	Patience	4
8.	Empathy	4
9.	Flexibility	2
10.	Communication	6
	Total	39

Step 7: Pilot Study

Item analysis is done by administering the tool to a small group of test subjects for the pilot study. Here the tool is administered to a group of 50 students who mark their answers in the scale provided. After this the research scholar will mark the scores for each answer.

After the scores are marked, the research scholar will arrange the obtained data in Microsoft Excel software and use its functions to perform the following analysis on the data.

T value

T-test is a test that is used to check whether the difference between the answers submitted by the two groups is significant or not.

Here the data is arranged in ascending order. After that, we divide it into two groups. Upper group and lower group. We take 27% results from the upper group and 27% results from the lower group.

After this the mean (M) or average of each group is calculated.

After that standard deviation (SD) is calculated with the help of mean.

T value of each statement is calculated with the help with M and SD.

If the t value is greater than 1.96 then we accept the item and carry it forward in the final draft of the inventory. If the t value of any item is lower than 1.96 then we reject it.

After conducting t test the items in the tool were reduced from 39 to 38.

Step 8: Item analysis

The process of item analysis is important as:

1. It improves the quality of the tool
2. Ensures existence of meaningful items
3. Enhances reliability and validity
4. Helps in reduction of bad data collection

After careful statistical analysis and comparison one item was rejected as a large number of samples gave the same answer. Since this yielded same result in all the cases this item was removed from the Interpersonal Relationship Scale.

S. No.	Dimension name	No. of items	
		Before	Now
1.	Leadership	4	4
2.	Motivation	4	4
3.	Responsibility	3	3
4.	Active listening	4	4
5.	Team work	4	4
6.	Dependability	4	4
7.	Patience	4	4
8.	Empathy	4	3
9.	Flexibility	2	2

10.	Communication	6	6
	Total	39	38

Step 9: Reliability

In research, reliability is the degree to which a study’s methods and results are accurate and stable. It’s a measurement of how consistently study can be repeated to produce the same results.

Reliability is important because it helps determine if a study’s methods are accurately gathering data. This information can be used to support future studies, reviews and experiments. To test the reliability the research scholar used the method of Cronbach Alpha.

For the final draft of the tool, the Cronbach’s Alpha coefficient was found to be **0.78** which is the acceptable limit for the current tool.

Step 10: Validity

Validity is the term used to tell if the tool is working as it is supposed to be or not. If tool has high validity then it means that the tool is working properly and gathering the data as intended. The results that will be produced by the tool will be real in the physical and social atmosphere. This particular scale has high face validity.

Step 11: Finalization of the tool

Once the final draft of the Interpersonal Relationship Inventory was ready, the researcher followed these steps:

1. Preparation of a cover page, where the subject would enter their preliminary details which included their name, age, class, gender, name of school and board. Here the researcher also inquired about the interest of students in relation to participation in co-curricular activities that is whether the subject liked to participate in co-curricular activities or not.
2. The cover page also consisted of a set of instructions that were required to be followed by the subject during the process of answering.
3. The items were shuffled randomly where all the items were rearranged thoroughly.
4. The spacing between the lines and size of the alphabets were checked.

Step 12: Administration of the tool

Since the final draft of the tool is ready, it will be administered to the larger population sample in various other institutions for a larger data collection and analysis.

Result

Through this method a total of 38 items were selected and finalized for the final draft of the scale.

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