International Journal of Research in Social Sciences
Vol. 8 Issue 12, December 2018,
ISSN: 2249-2496 Impact Factor: 7.081
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gate as well as in Cabell's Directories of Publishing Opportunities, U.S.A

DEVELOPMENT AND STANDARDIZATION OF ADOLESCENT DECISION-MAKING STYLE (ADMS)

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Abstract

Several factors are responsible to play an important role in career decision-making abilities of adolescents and is believed to be one of the most significant and inevitable tasks of life. Decision-Making Style has become one of the widely investigated construct since researchers focused on an individuals' self-efficacy beliefs and outcome expectations regarding career making choices. The present study focuses on the development and standardization of Decision Making Style specifically designed for adolescent students. Adolescents (N=533) studying in secondary students of different schools of Chandigarh served as participants. The preliminary scale consisted of 78 items and after proportion agreement method, 60 items were retained for item analysis. Final ADMS consists of 54 items. The reliability coefficient of the scale was found to be high (α= 0.85). Further the content validity confirming the validity check of the scale.

Introduction

Decision-making style has been considered a crucial factor that affects an individual's career development (Harren, 1979; Jepsen & Prediger, 1981; Super, 1980).

Decision-making styles refer to the characteristic ways in which different people behave in decision-making situations. The earliest efforts to identify these differences proposed trait-like categories of deciders who appeared to be planners, agonizers, delayers, impulsives, intuitives, fatalists, or compliant. From this perspective, it is expected that a decider who showed, for instance, impulsivity in choosing the first available alternative would display same decisional behavior across all decision-making situations.

The most widely used taxonomy in this tradition is that of Harren (as cited in Mau, 2000), who argued that decision making varies in the extent to which the individual assumes personal responsibility (versus assigning responsibility to fate, peers, and

authorities) as well as in the extent to which the decider is logical (versus emotional) in the decision-making process.

Johnson (1978) described a systematic information-gathering style in which persons tend to analyze their experiences into constituent parts and form independent reactions to each part. They tend to delay psychological commitment until they have had an opportunity to analyze each component of their experience, and they move from thought to thought and goal to goal in a very deliberate, organized manner. Johnson (1978) further described that systematic individuals will find it difficult and frustrating to be required to state provisional career decisions during career counseling. This type appears to be related to the rational decision-making type postulated by Harren (1979).

As no standardized tool was available to measure Decision-Making Style of Indian adolescents within reach of researcher, the investigator had to undertake the construction of the needed tool. After consultation with her supervisor and other educational experts, the investigator took the tool on dimensions of decision making style i.e. Self confidence, Panic, Avoidance and Impulsive.

Development of the Scale

Planning of the test

The test construction specifies the broad and specific objectives of the test in clear terms. Hopkins (1978) observed that the planning stage of a test include nature of the test, test items and a statement of conditions under which it will be administered.

The Adolescent Decision-Making Style (ADMS) was developed with the objective of measuring decision-making style of adolescents in Indian situations. For the construction of the scale, literature on decision-making style was taken into account while framing the statements. To acquaint with the existing scales related to decision-making style, the researcher studied the tests and manuals of available tools related to decision-making style. These were London decision-making style, Decision-making questionnaire by Harren's, Tuinstra etc. Further various other sources such as newspapers, magazines and journals viz. Journal of Career Development, Journal of Career Assessment etc were also consulted.

Discussions was also held with university teachers, educators from colleges of education, student teachers, school teachers and students to seek their views to plan appropriately for decision-making style for adolescents.

After careful exploration and survey of literature, four dimensions as given by Tuinstra et al. (2002) were included in the present scale. It measures four decision making styles: Self confidence, Avoidance, Panic and Impulsive. Out of which one is adjusted style and three are non-adjusted styles.

- Self confidence- Adjusted Style.
- Avoidance, Panic and Impulsive- Unadjusted style

The following aspects were kept in mind for planning the test:

Purpose of the test

The purpose of the test Adolescent Decision Making Style (ADMS) was to measure the decision-making style of adolescents. The inventory includes four styles of decision-making i.e. Self-Confidence, Panic, Avoidance and Impulsive for class XII students of different streams.

Target Population

The students studying in class XII in different streams (Medical, Non-Medical, Commerce & Arts) in Government schools of Chandigarh formed the target population.

Type of Test Items

Adolescent Decision-Making Style (ADMS) questionnaire is a four point scale. Each item is in the statement form. Positive and negative statements are included in the scale to add variety and reduce the students tendency to respond perfunctorily. Four response categories are provided for responding to each item. These response categories are:

- Always
- Often
- Sometimes
- Never

In these response categories, the subject is required to select the most appropriate response category indicating his/her behavior.

Preparation of the test

The following points were considered while framing the test items:

- Language used was simple
- Items were comprehensible to the respondents
- Textbook language was avoided
- The number of test items was larger than the number to be retained finally.
- Interdependence among the items was avoided.
- Such items that provide a clue to the answer of other items were avoided.
- Items were related to their responsible behavior based on situation known to them.

On the basis of nature of problem, 78 items were tentatively framed pertaining to four dimensions. Distribution of items into four dimensions is presented in table 3.1

Table 3.1

Distribution of Items in the first draft

S.No.	Name of Dimension	No. of Positive Items	No. of Negative Items	Total No. of Items
1	Self-Confidence	16	4	20
2	Panic	14	6	20
3	Avoidance	16	2	18
4	Impulsive	14	6	20
	Total Items	60	18	78

The draft of said items was given to educationists for their judgments and suggestions on the following points:

- To critically analyze each item for its adequacy in terms of language and content included in the test.
- To suggest any other questions.
- To add any other area of relevance.
- To correct ambiguities, poor phrasing etc.
- To examining the relationship between the objectives of the study and test items.

Keeping in view their judgments, comments and suggestions, some statements had to be deleted and some were reworded and reframed in order to make them ambiguous and more precisely relevant. A pool of 62 items was tentatively prepared while 13 items were dropped and 3 new items were added for first try out on a small group of secondary school students as shown in table 3.2.

Table 3.2

Retained, rejected and added items for second draft of ADMS scale

S.No.	Statement No.	Total No. of Items	Remarks
1	1,2,3,4,5,6,8,10,11,12,13,15,16,17,18,19,20,21,24,25, 26,27,28,30,31,32,33,34,35,37,38,39,41,42,43,45,46, 47,48,49,50,51,52,53,55,56,57,59,60,61,62,63,65,67,68, 69,70,71,74,75,76,78	59	Retained
2	7,9,14,22,23,29,36,40,44,54,58,64,66,72,73,77	19	Rejected
3		3	Added

Hence, the second draft included 62 items, distributed into four dimensions. Distribution of items in these four dimensions is being presented vide table 3.3

Table 3.3

Positive and Negative Items of Adolescent Decision-Making Style (ADMS)

S.No.	Name of Dimension	No. of Positive Items	No. of Negative Items	Total No. of Items
1	Self-Confidence	14	2	16
2	Panic	09	6	15
3	Avoidance	13	2	15
4	Impulsive	10	6	16
	Total Items	46	16	62

Out of the 62 items, 46 are positive and 16 are negative statements. These 62 items were ready for further try out.

Directions for administration

While administrating the scale, the administrator has distributed the booklet to the subjects. Although the directions are written on first page, which are self-explanatory, even then assistance in translating the meaning can be given where & when required. Some basis and necessary guidelines for administration for scale are stated below:

- The scale can be used in individual as well as group testing situations
- The responses are to be given on the booklet itself. Against each item of the scale four response categories are given.
- The subject has to read each item carefully and mark his/her response category.
- There is no right or wrong responses. They are designed to have differences in individual behavior.
- Circle only one out of the four response categories which are most suitable and spontaneous.
- Go through all the items carefully and select the appropriate response category.
- There is no time limit for the administration of the scale, usually it takes about 30 minutes for its completion.

Procedure for Scoring

The ADMS scale can be scored by hand The weightage to be given to responded statements was also planned to be ranging from 4 to 1. For positive statements 4 marks were given to response *Always*, 3 marks to *often*, 2 marks to *Sometimes* and 1 mark to *Never*. In case of negative statements, the order was reversed as shown in table 3.4

Table 3.4

Scoring procedure of Items for ADMS

S.No.	Statements	Always	Often	Sometimes	Never
1	Positive	4	3	2	1
2	Negative	1	2	3	4

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Item Analysis of the Scale

The second draft of Adolescent Decision-Making Style (ADMS) containing 62 items was administered to 60 adolescents for item validity.

Item Validity

Item Validity means the item measures the same trait as the whole scale. It indicates the homogeneity of the test. To find out item validity, coefficient of correlation was calculated for each item with the scores of sub scales and scores of the whole scale by product moment method. Results are shown in Table 3.5

Table 3.5

Coefficient of Correlation for each item of ADMS with the scores of sub scales and Total scores of whole ADMS

Item No.	Coefficient of correlation with scores of whole scale
1	.253
2	.014
3	.335
4	.142
5	.376
6	.353**
7	.269
8	.256
9	.064
10	.395
11	.611
12	.477
13	.443
14	.287
15	.413
16	.360
17	.425
18	.445
19	.081
20	.466
21	.264
22	.457
23	.403
24	-.026
25	.500
26	.475
27	.282

28	-.130
29	.541
30	.442
31	.454
32	.424
33	.606
34	.460
35	.278
36	.261
37	.409
38	.287
39	.406
40	.561
41	.375
42	.083
43	.021
44	.030
45	-.021
46	.511
47	.303
48	.523
49	.341
50	.311
51	.423
52	.283
53	.273
54	.647
55	.381
56	.473
57	.521
58	.291
59	.423
60	-.085
61	.343
62	.304

Note: Significant r-value for 60 degrees of freedom at 0.05 and 0.01 level of significance are

Items with –ve coefficient of correlation and insignificant correlation were dropped. As depicted in table 3.5, one item had significant correlation and 5 items had negative coefficient of correlation. So, these items were dropped.

Discrimination Index/Power

To ascertain whether the item differentiate between high and low group, t-ratios were worked out between high and low group item wise. High and low groups were formed by

employing Kelley's method. On the basis of total scores, 27% top scorers formed the high group and 27% bottom scorers formed the low group. T-ratios were computed between two groups item-wise. Results are shown in Table 3.6

Table 3.6

Showing t-ratios between High and Low group for each item

Item No.	T-Ratio
1	11.984
2	14.380
3	10.661
4	13.729
5	10.304
6	13.678
7	12.223
8	8.429
9	14.033
10	12.671
11	14.863
12	11.341
13	13.805
14	19.000
15	13.363
16	11.196
17	17.513
18	12.728
19	20.125
20	8.510
21	17.000
22	10.826
23	10.247
24	10.661
25	19.000
26	9.971
27	9.983
28	9.667
29	10.434
30	33.669
31	16.994
32	9.983
33	10.247
34	20.125
35	10.738

36	21.706
37	20.006
38	24.597
39	10.040
40	9.798
41	12.593
42	9.971
43	10.738
44	9.971
45	11.041
46	12.122
47	20.125
48	12.649
49	18.643
50	18.643
51	9.925
52	13.624
53	7.652
54	19.030

Try out of the scale

The first draft was administered to a sample of 60 students of class XII (15 from each stream) and their answer sheets were evaluated with the help of scoring key.

Table 3.7

Retained & Rejected items for final draft of ADMS

S.No.	Statement No.	Total No. of Items	Remarks
1	1,2,3,5,6,7,8,9,10,11,12,13,14,15, 16,17,18,19,20,21,22,23,24,26,27,28, 29,30,31,32,34,35,36,37,38,40,41,42, 43,44,47,48,49,50,51,54,55,56,57, 58,59,60,61,62	54	Retained
2	4,25,33,39,45,46,52,53	08	Rejected

Discussions were held with experts and the students individually on the basis of the performance of the students. As a result of discussion, 08 items were dropped from the test and few items were modified and finally 54 items were retained for the final draft.

Table 3.8

Distribution of Items in the final Draft

S.No.	Name of Dimensions	No. of Positive Items	No. of Negative Items	Total No. of Items
1	Self-Confidence	12	02	14
2	Panic	09	05	14
3	Avoidance	14	-	14
4	Impulsive	07	05	12
	Total Items	42	12	54

Reliability of the test

Reliability is defined as the degree to which an instrument provides a consistent measure of whatever it measures. A test is said to be consistent over a given period of time when all the examinees retain their same relative ranks of two separate testing with the same test. In other words reliable tests that to what extent individual differences of scores can be assigned to chance error.

In the words of Anastasi (1951), Reliability refers to the consistency of scores obtained by the same individuals when re-examined with the same test on different occasions or with different sets of equivalent items or under other variable examining conditions.

Ebel (1979) defines it as the consistency which a set of test scores measure what every they do measure.

There are four procedures in common use for computing reliability. These are:

1. Alternative or Parallel form Method
2. Split half Method
3. Rational Equivalence Method
4. Test-Retest Method

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Test-Retest Method

In test-retest reliability the single form of the test is administered twice on the sample with a reasonable time gap. In this way, two administrations of the same test yield two independent sets of scores. The two sets, when correlated, give the value of the reliability coefficient. The reliability coefficient thus obtained is also known as the temporal stability coefficient and indicates to what extent the examinees retain their relative position as measured in terms of the test scores over a given period of time. Guilford (1956) writes in this regard, that, A retest coefficient of correlation tells us nothing concerning the internal consistency of a test. The key concept for this procedure is tat of stability. It answers the question concerning how stable or dependable are the measurements over a period of time. Morley (1970) remarked, The test-retest method is the only feasible approach to the establishment of the reliability of the test. The answer to one question given by a respondent in two instances can be compared for estimating consistency.

Keeping the above views test-retest method was found better option as assumptions of unifactor test and parallel items were not met so option of Kunder-Richardson formula was dropped. Then again as one form of the test was constructed, parallel form method was ignored. Lastly the split half method was discarded as items were not arranged on the basis of item type.

The reliability of the test was found by administering the test to another sample of 60 students of XII class of Govt. Senior Secondary School, Sec-21, Chandigarh who were not included in the sample of population using test-retest method. Sufficient time interval of about 3 weeks was given between the first and second administration of the test. The reliability value got by the investigator was computed as 0.83 which was high enough to testify the soundness of the scale (Koul 2001).

Validity of the test

Validity refers to the degree to which a particular instrument is useful in measuring that which it was designed to measure. If a measuring instrument produced an accurate assessment of the variable it was designed to measure it is considered to be a valid instrument.

According to Anastasi (1951) described the question of test validity concerns what the test measures and how well it does so.

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The process of validity involves checking the agreement between the responses elicited by each question item against the criterion. But in some cases, it is possible to validate question item against the behavior of the respondents (Guilford, 1956). Validity of a test can be established in four ways:

Content Validity

Content Validity, as its name implies is concerned with analyzing the subject content of instruments. When a test is constructed so that its content measures the same objectives decided for the whole test, the test is said to have content validity.

Anastasi (1988) has said that content validity involves essentially the systematic examination of the test content to determine whether it covers a representative sample of the behavior, domain to be measured. Content validity is need in the test, which are constructed to measure how well the examinee has mastered the specific skills or a certain course of study. Content validity of a test is examined in two ways (i) by expert's Judgment, and (ii) by statistical analysis.

In first case if the investigator wants to examine the content validity of a test, the items of the test will be submitted to a group of subject-matter experts. These experts will judge whether or nor the items represent all the important areas of the content to be measured, whether or not some additional items should be added for complete coverage, what should be relative weights of the items of a particular area, etc. The validity of the items will depend upon a consensus subject-matter experts.

Statistical methods may also be applied to ensure that all items measure the same thing, that is, a statistical test of internal consistency may provide evidence for the content validity. Another statistical technique for ensuring content validity may be to correlate the scores on the two independent test, both of which are said to measure the same thing. After such analysis the instruments is either accepted or rejected on its face value.

In the present study, the content validity was determined by comparing the items in a test with the content and objectives of the test and was given to 15 educationists individually and the test was found to possess content validity as there was correspondence between table of specifications and the test items.

Decision-making style refers to the process by which people usually make decisions, including the extent to which they may consult others, the speed with which a

decision is made, the amount of research performed about available options, and the extent to which potential consequences are considered. In summary, this paper reports on the development of a measure of decision-making style that can be used across contexts and decision situations.

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