
Development and Standardization of an Alienation Scale for Visually Impaired Students

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Structured abstract: *Introduction:* The present study was undertaken to develop a valid and reliable scale for measuring a feeling of alienation in students with visual impairments (that is, those who are blind or have low vision). *Methods:* In this study, a pool of 60 items was generated to develop an Alienation Scale for Visually Impaired Students (AL-VI) based on a review of the literature and discussions with colleagues and experts in the field. The items were organized into six dimensions of alienation, namely powerlessness, meaninglessness, normlessness, social isolation, self-estrangement, and cultural estrangement, and were rated on the five-point Likert scale. The standardization of the scale was completed with 118 students with visual impairments in the age group of 10 to 25 years, selected randomly from specialized and inclusive schools in the state of Haryana, India. *Results:* The item analysis was done by calculating *t*- and *r*-values; seven items were deleted, and a final 45 items were retained. The calculated value of Cronbach's alpha and split-half correlation came out to be 0.87 and 0.86, respectively. The construct validity was determined by computing the coefficient of correlation between scores of this scale and the scores obtained by using the Student Alienation scale (SAS) of R. R. Sharma (Sharma, 2012). The percentile norm for the scale was determined after verifying normality of the scores by using a Q-Q plot. *Discussion:* The findings of the present study suggest that the AL-VI may serve as a useful tool in future research to assess alienation in persons with visual impairments in India. The findings further demonstrate that the AL-VI produced scores that are reliable and valid. The AL-VI can be used outside India after determining its reliability and validity in context-specific conditions. *Implications for practitioners:* The AL-VI scale is applicable to students with visual impairments, teachers of students with visual impairments, principals, social workers, psychologists, and rehabilitation professionals. Practitioners could use this tool for assessing and understanding the level of alienation among students with visual impairments, thereby helping them in planning and executing strategies for remediating alienation.

The background of the concept of alienation can be traced back to the sociological theories of Hegel, Marx, and Durkheim (as cited in Skosireva, 2010). Hegel (1977) used the German term *Entäusserung* in his work *Phenomenology of Spirit*. According to Arthur (1986), Hegel used *Entäusserung* to refer to a feeling of alienation. Marx first introduced the concept of alienation for the social sciences. Maxwell (2006) similarly referred to alienation as a sense of not belonging and a feeling that one is not integrated into ongoing society. The majority of current research in social alienation is based on the factors identified by Seeman (1959, 1967, 1971, 1975, and 1983, as cited in Schmidt, 2011) as powerlessness, meaninglessness, normlessness, isolation, self-estrangement, and cultural estrangement.

Gourd (1969, as cited in Sahu, 2012) explained personality-related traits of alienated youths and found that they were characterized by the rejection of socially approved rules of interpersonal conduct, social introversion, and poor control. Mohanty (1984) and Mohan, Mahajan, and Kakkar (1999) found that alienated adolescents differed significantly from their nonalienated peers on all the dimensions of personality such as psychoticism; extraversion; neuroticism; lie scale; aesthetic values; and home, social, emotional, and total adjustment. Crowder

(1970, as cited in Sharma, 2012) found that the feeling of alienation increased with the feeling of deprivation. Roeser, Lord, and Eccles (1994) investigated alienated students and found them more negative on a broad array of variables, indicating a general sense of alienation. Singh and Sahu (2010, as cited in Sahu, 2012) reported an insignificant effect of socioeconomic status, gender, and residence on alienation. Grover (2002) conducted a study on adolescents and found that loneliness was positively related to perceived stress. Even poor physical appearance was found to be associated with powerlessness and overall alienation (Downs, 1990). Calabrese and Adams (1990) found that incarcerated adolescents had significantly higher levels of isolation, normlessness, powerlessness, and overall isolation in comparison to adolescents who were not incarcerated. It was suggested that a reduction of alienation and an acceptance of societal norms should be major components of rehabilitation programs for incarcerated juvenile delinquents. As per the findings of Calicchia and Barresi (1975), alienation may lead to alcoholism. Moyer and Motta (1982) reported a negative correlation between alienation scores and social involvement. Sexton (1983) observed a positive relationship between alienation and dogmatism. Further, these variables showed a correlation with anxiety, low self-esteem, and social estrangement.

Almost all of these studies on alienation highlighted the importance of reducing the feeling of alienation for the normal development of an individual. On the other hand, the feeling of alienation increases with feelings of deprivation, bias, and injustice, which are commonly perceived by persons with disabilities.

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Being social animals, human beings always have strong emotional needs and desires associated with society. Even the behavior and personality of an individual are influenced by his or her experiences in society. Persons with disabilities have been isolated and segregated from societies across the world, including in India, and this situation leads to the emergence of diverse patterns of alienation, dominated by feelings of powerlessness, meaninglessness, normlessness, and severe isolation. This social discrimination affects the self-image, confidence, self-esteem, and social behavior of individuals with visual impairments. Agarwal (2010) concluded that people with disabilities live in a world in which they are continually under the shadow of social biases and prejudices. The Centers for Disease Control and Prevention, U.S. Department of Health & Human Services (2016) observed that negative attitudes toward individuals with disabilities act as barriers that limit the functioning of these persons. According to Munyi (2012), societal attitude plays a significant role in determining the personal, social, educational, and psychological needs of persons with disabilities. Moreover, the message that a child with a disability receives from such attitudes determines his self-image, self-concept, and abilities (Hobbs, 1973). Richman and Leary (2009) suggested that the reaction of people is influenced by their construals of the rejection experience, which predicts motives for prosocial, antisocial, and socially avoidant responses. Thus, certain emotional and social problems of people with disabilities are due to the attitude and behavior of society rather than the actual disability.

Mittler and Mittler (2000) explained that a social model of disability is based on the notion that it is society and its institutions that are repressive, biased, discriminatory, and disabling. Brabyn, Schneck, Haegerstrom-Portnoy, and Lott (2007) emphasized that visually impaired people are prevented from moving freely and comfortably in society. Punia and Dahiya (2015) asserted that people who are disabled are more likely to develop various behavioral problems due to the experiential feeling they receive from others, and this leads to social isolation, lack of participation in the community, and psychological maladjustments. Thus, people with visual impairments very often tend to become isolated and excluded from society, which may ultimately lead to alienation.

Alienation has been found to be an important variable that affects the typical development of a child, which is particularly true for children who are visually impaired. Research shows that visual impairment causes more isolation (Odle, 2009), complicates social interaction (Strickling, n.d.), and results in feelings of loneliness and alienation (Kumar, 2011). If an instrument were to be developed to assess feelings of alienation, then intervention and remedial measures for decreasing these feelings could be executed and planned. Many items on an existing alienation scale for the general population were found to be unsuitable for students with visual impairments, so it was decided by the investigators to develop and standardize an alienation scale meant exclusively for students with visual impairments.

The aim of the present study was to construct an alienation scale to evaluate the feelings of alienation among students

with visual impairments studying in inclusive and special schools in the state of Haryana, India. Various tests, scales, and batteries for measuring alienation are available for the general population, but a scale for measuring the feeling of alienation among persons with visual impairments was lacking. In India, besides having two types of educational settings for persons with visual impairments (that is, specialized and inclusive schools), the notion of having these students in inclusive schools has been the prime focus of policymakers in recent years. In inclusive schools, students with visual impairments are taught alongside their sighted peers for the whole day, while in the case of special schools they are taught in a segregated environment as per their unique needs. These latter schools are specially designed to cater to the needs of students with disabilities, with the provision of teachers of students with visual impairments, experts in orientation and mobility, placement officers, counselors, occupational therapists, clinical psychologists, and specially designed teaching of learning materials like braille.

Methodology

DEVELOPMENT OF THE ALIENATION SCALE FOR VISUALLY IMPAIRED STUDENTS

Each of the six dimensions of alienation, according to Seeman (1983), were used to develop the item pools for the Alienation Scale for Visually Impaired Students (AL-VI).

Powerlessness

Powerlessness is the feeling of a lack of power and strength. The behavioral char-

acteristics associated with powerlessness are: lack of power and locus of control (differences in the degree to which success or failure is attributable to external factors like luck and chance), a conscious gap between one's likings and capabilities, the feeling of being controlled by others, poor self-perception of decision making, a lack of control on an immediate or current situation or immediate happening, dependence on others, an inability to use personal resources or a lack of personal resources, and a lifelong sense of helplessness.

Meaninglessness

Meaninglessness relates to a lack of importance and significance in one's life. The behavioral characteristics associated with meaninglessness are: the sense of a meaningless life, decreased attachment to society, and estrangement from society. Rationality of the individual becomes meaningless from a functional point of view, resulting in a lack of autonomy and creativity.

Normlessness

Normlessness is the condition in which norms are completely eroded from one's life or there is a lack of social norms. The characteristics associated with normlessness are: a state in which norms are eroded, losing the ability to bind with social codes, and societal failure to provide adequate regulation of its members.

Social isolation

Social isolation is the feeling of having a partial or complete separation from society. The behavioral characteristics related to social isolation are: loneliness; apartness; anxiety; absence of social interaction; lack

of contacts and relationships with family, friends, and neighbors; social loneliness; emotional loneliness; emotional stress; a lack of quality relationships; and inadmissible personal relationships.

Self-estrangement

Self-estrangement is the feeling of being detached from society and having no sense of identity or personal accomplishment. The identified characteristics of self-estrangement are: preventing the feeling of completeness and identity, adversely affecting performance, feeling like an alien, a state of losing the natal meaning of self, and awareness that one is engaged in activities that are not rewarding in themselves.

Cultural estrangement

Cultural estrangement is a value segregation; that is, an individual's refusal of commonly held values in society. The behavioral characteristic related to cultural estrangement is a rejection of the basic values and lifestyles that are available in society, which leads to deviance in individual and group behavior.

The services of experts were used to refine the initial item pool, and a preliminary draft containing 60 items was sent to eight subject experts. The expert review resulted in the removal of 8 items, leaving a total of 52 items. These 52 items formed the basis of construction and standardization of the final version of the AL-VI.

ITEM SCORING

A Likert format was used for this scale, and each statement was rated on a five-point scale, ranging from "strongly disagree," "disagree," and "undecided," to

"agree" and "strongly agree." In the item scoring of the AL-VI, positively keyed items were scored as 1, assigned to strongly agree; 2 to agree; 3 to undecided; 4 to disagree; and 5 to strongly disagree. The scoring was reversed in cases of negatively keyed items; that is, 5 was assigned to strongly agree, 4 to agree, 3 to undecided, 2 to disagree, and 1 to strongly disagree.

SAMPLE

Prior to the pilot study, a purposive sample of 30 students with visual impairments was drawn from the Government School for the Blind, Panipat, Haryana, to identify the difficult and confusing words in the items. The comments and feedback of the students were recorded by the investigators. Afterward, slight modifications were made on a few of the items based on the students' feedback. The sample for the final development of the tool consisted of a random selection of 118 students with visual impairments, ages 10 to 25 years, who were studying in 5 special schools and 52 inclusive schools situated in Haryana. There are 119 educational blocks in the state of Haryana. The investigators obtained a list of inclusive schools (5,605) and special schools for blind students (7) situated in these educational blocks, out of which 52 inclusive schools and five special schools were selected randomly. Thereafter, a list of 670 students in those schools, ages 10 to 25 years, was prepared. Out of 670 students, 125 were drawn randomly through a lottery method. Seven students were omitted for various reasons such as incomplete responses or having multiple disabilities in addition to blindness. One hundred

and eighteen students were finally retained for data collection. Written permissions from the administrators of their schools were obtained. The subjects were told about the purpose of the study, and their consent regarding participation in the study was obtained.

PILOT STUDY

The pilot testing was conducted with a sample of 118 students with visual impairments selected on the basis of random sampling. The investigators established a rapport with the respondents and apprised them of the purpose of the scale. Then, the instructions were explained to every subject individually, and the refined draft of 52 items was then administered individually. To obtain construct validity, the Student Alienation Scale (SAS) of R. R. Sharma (Sharma, 2012) was also administered individually along with the AL-VI. The responses for both scales (AL-VI and SAS) were noted by the researchers for later analysis. After collection of data, the response sheets were scored and item analysis was carried out (see Box 1 for the full text of the AL-VI).

ITEM ANALYSIS AND ITEM SELECTION

Item analysis of the AL-VI was done by computing the *t*-values and *r*-values as presented in Table 1. It is evident from Table 1 that six items showed poor discrimination on the basis of *r*-values, while seven items showed lesser *t*-values than 1.75. According to Edwards (1957), the items having *t*-values less than 1.75 should be weeded out from the item pool; as a result, after item analysis seven items were dropped from the scale and 45 items were retained.

Reliability

Reliability of the scale was calculated by using Cronbach's alpha and the split-half method. Internal consistency of the scale was improved by deleting items that were lessening the value of Cronbach's alpha, and the split-half correlation coefficient and the elimination of these items resulted in an increased value for Cronbach's alpha and the split-half correlation coefficient, as shown in Table 2. The value of Cronbach's alpha came out to be 0.87 after deleting poor items from the scale. Alpha values greater than or equal to 0.80 suggest acceptable reliability. The split-half reliability of the scale was 0.86, which was reasonably higher than 0.70 (Nunnally, 1978), indicating that the AL-VI had an acceptable reliability. Hence, these two different measures of reliability provided the indices for good reliability of the AL-VI. Table 2 shows different measures of reliability calculated for the AL-VI before and after inserting the corrections based on the item analysis.

Validity

Three kinds of validity measures—content, face, and construct—were applied to the AL-VI. For determining content and face validity, a preliminary draft consisting of 60 items of the AL-VI was submitted to 8 experts from different areas, as mentioned earlier, and 52 statements in the scale were retained based on the feedback given by them. Only those items were included that showed an 80% or above agreement. Thus, out of a total of 60 items, 8 statements were dropped and 15 were modified. The unanimity of experts on the items was taken as an indicator of the face validity of the scale,

Alienation Scale for Visually Impaired Students items **(P = positive statement; N = negative statement)**

1. I take my decisions independently. P
2. I can move freely to the places I like to visit. P
3. Most of the time, I feel unhappy without any reason. N
4. People give importance to me. P
5. My family is very cooperative. P
6. I have my own identity. P
7. Sometimes, I get upset about the surrounding environment. N
8. Every ritual and festival has got some importance associated with it. P
9. I enjoy cultural programs even though I have visual problems. P
10. Many people discriminate against me because of my visual impairment. P
11. I am satisfied with my performance at school. N
12. I usually feel anxious. N
13. It is all right to do anything you want as long as you stay out of trouble. N
14. This world is selfish. N
15. Visual impairment has increased my dependency on others. N
16. I cannot utilize all the resources available to me because of my visual limitations. N
17. I participate actively in the rituals and festivals celebrated at home. P
18. I feel comfortable in social gatherings. P
19. Everybody's life has its own importance. P
20. I feel connected with this world. P
21. The attitude of my neighbors is very loving towards me. P
22. My friends are good. P
23. I do not feel good when I am alone. P
24. I do not care about the rules and regulations framed by society. N
25. It is very difficult to trust anybody in the present time. N
26. To please others, I sometimes do things that are against the norms of society. N
27. I participate in decisions taken at home. P
28. My contribution in the development of society is significant. P
29. Success and failure are under our control. P
30. I consider it a waste of time to go to fairs because I am deprived of vision. N
31. I do not agree with the present norms of society. N
32. I am not confident about my future. N
33. I am confused about the goal of my life. N
34. My family members take care of me. P
35. I have many friends. P
36. I like meeting with people. P
37. My values are different from societal values. N
38. This world is directionless. N
39. I do not have much opportunity to be creative. N
40. My feelings are well taken care of by my family. P
41. My life is full of sadness. N
42. I feel like a stranger among the people with whom I live. N
43. I sometimes feel helpless due to visual impairment. N
44. Whatever is going to happen in the future, it can be controlled by us. P
45. My life has no importance. N

(continued)

Box 1

Corresponding scoring pattern of positive and negative items					
Item	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Positive	1	2	3	4	5
Negative	5	4	3	2	1

Box 1–Continued

and their unanimous consent on each item separately was considered an index of content validity. Construct validity was determined by computing the coefficient of correlation between the scores of this

scale and the scores obtained by using the SAS. The coefficient of correlation was found to be 0.74, which was highly significant, and this provided the indices for construct validity.

Table 1
Item analysis and correlation between items and total scores of the Alienation Scale for Visually Impaired Students (AL-VI).

Item	t-value	r-value	Cronbach's Alpha, if item deleted	Decision	Item	t-value	r-value	Cronbach's Alpha, if item deleted	Decision
1	4.49	0.430	0.841	Retained	27	3.00	0.291	0.844	Retained
2	2.29	0.289	0.844	Retained	28	4.88	0.553	0.839	Retained
3	4.84	0.348	0.842	Retained	29	1.55*	0.185	0.846	Rejected
4	4.78	0.487	0.841	Retained	30	2.06	0.294	0.844	Retained
5	3.21	0.313	0.844	Retained	31	6.06	0.542	0.839	Retained
6	0.33*	-0.01*	0.851	Rejected	32	0.70*	0.06*	0.848	Rejected
7	3.67	0.274	0.844	Retained	33	4.02	0.321	0.843	Retained
8	1.87	0.182	0.846	Retained	34	4.42	0.349	0.842	Retained
9	2.85	0.341	0.843	Retained	35	2.44	0.225	0.845	Retained
10	6.14	0.510	0.839	Retained	36	3.93	0.278	0.844	Retained
11	6.91	0.514	0.838	Retained	37	3.57	0.148	0.846	Retained
12	4.17	0.378	0.842	Retained	38	5.49	0.391	0.841	Retained
13	3.08	0.246	0.844	Retained	39	2.70	0.292	0.844	Retained
14	3.12	0.198	0.845	Retained	40	4.73	0.368	0.842	Retained
15	2.36	0.165	0.846	Retained	41	0.59*	-0.04*	0.851	Rejected
16	3.10	0.213	0.845	Retained	42	4.04	0.315	0.843	Retained
17	5.62	0.483	0.839	Retained	43	1.11*	0.072*	0.847	Rejected
18	6.30	0.616	0.838	Retained	44	2.44	0.169	0.846	Retained
19	6.61	0.492	0.839	Retained	45	2.82	0.248	0.845	Retained
20	2.31	0.339	0.843	Retained	46	3.09	0.319	0.843	Retained
21	5.83	0.527	0.840	Retained	47	8.04	0.517	0.839	Retained
22	4.04	0.346	0.843	Retained	48	-0.46*	-0.17*	0.853	Rejected
23	2.91	0.348	0.843	Retained	49	0.57*	-0.02*	0.849	Rejected
24	2.13	0.171	0.846	Retained	50	4.5	0.325	0.843	Retained
25	4.62	0.369	0.842	Retained	51	3.19	0.226	0.845	Retained
26	1.90	0.161	0.846	Retained	52	5.19	0.389	0.841	Retained

* Values necessitating rejection of the item.

Table 2
Different measures of reliability.

Reliability measures	Preliminary draft of the AL-VI scale	Final AL-VI scale
Cronbach's alpha	0.85	0.87
Split-half (odd-even) correlation	0.81	0.86

AL-VI = Alienation Scale for Visually Impaired Students.

Norms

Norms for the scale were determined on the basis of percentile scores obtained from the AL-VI. Before norms were established, however, the scale was tested for normality by using the Shapiro Wilk test and the Q-Q plot shown in Figure 1. The p value of the Shapiro Wilk test was 0.21, which was greater than 0.05, implying that the data were normally distributed. In addition, the Q-Q plot was used to determine normality graphically, and it clearly showed that the data points were very close to the diagonal line, meaning that the data were normally distributed. The mini-

imum score of the AL-VI was 45, while the maximum score was 225. The scores were divided into five categories: very high, high, moderate, low, and very low alienation. Table 3 summarizes the percentiles and corresponding interpretation for alienation.

DESCRIPTION OF THE RESULTING AL-VI

The AL-VI was designed to measure the level of alienation of students aged 10 to 25 years. The scale contains 45 items, and these were sorted into six subscales: powerlessness, meaninglessness, normlessness, social isolation, self-estrangement, and cultural estrangement. Table 4 shows the distribution of the items included in these subscales.

This scale consisted of both positively and negatively keyed items. Out of the 45, 22 were negative statements and 23 were positive. Items were randomly placed in the scale so that balance was maintained and so that the most appropriate responses could be calculated. Item scoring of the resulting

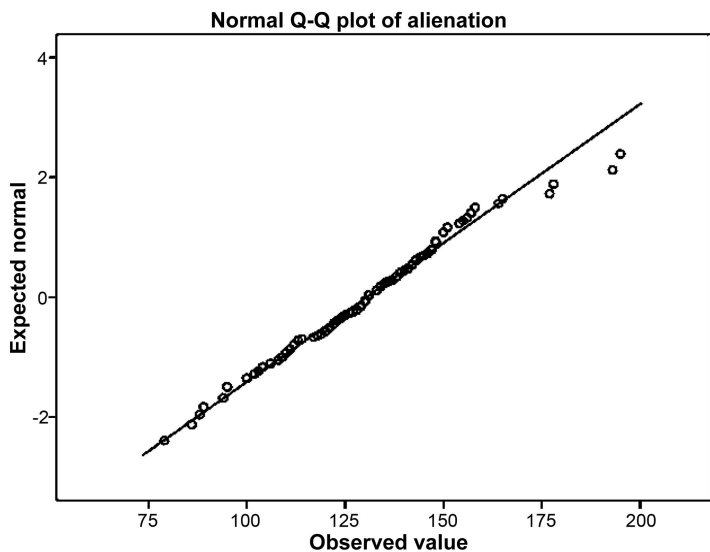


Figure 1. Normal Q-Q plot of data collected by using the alienation scale.

Table 3
Percentile norms for the Alienation Scale for Visually Impaired Students (AL-VI) and their interpretation.

Percentiles	Alienation scores	Quantitative interpretation	Qualitative interpretation (alienation)
95th	195.00	156 and above	Very high
90th	155.10		
80th	148.00		
75th	144.25	145 to 155	High
70th	142.00	117 to 144	Moderate
60th	135.40		
50th	131.00		
40th	126.60		
30th	120.70		
25th	116.25	102 to 116	Low
20th	111.80		
10th	101.80	101 and below	Very low
5th	94.00		

scale remained the same as it was in the pilot study.

Discussion

The present study's findings suggest that the AL-VI is a reliable and valid tool for measuring the feeling of alienation in students with visual impairments, ages 10–25. The AL-VI contains both positively and negatively keyed items and was constructed in both Hindi and English. The standardized version was converted into braille to facilitate its use by blind students.

The AL-VI offers an advantage over the previous scales because it makes it easy for

stakeholders to measure the alienation of visually impaired students through a scale that was developed and standardized with a visually impaired sample. It is important to mention that the present scale was constructed and validated with the specific emotional and psychological characteristics of visually impaired students in mind. The psychometric analysis of the AL-VI indicates that the reliability and validity of the scale was satisfactory, and that this tool would be valuable in assessing the alienation of students with visual impairments in India.

Like any other study, this one also has certain limitations that need to be

Table 4
Distribution of items in six subscales in the final draft of the Alienation Scale for Visually Impaired Students (AL-VI).

Sr. number	Subscale	Total number of items	Serial number of the items in the test
1	Powerlessness	7	1, 2, 15, 16, 29, 43, 44
2	Meaninglessness	8	14, 27, 28, 39, 40, 41, 42, 45
3	Normlessness	6	13, 24, 25, 26, 37, 38
4	Social isolation	11	3, 4, 5, 12, 20, 21, 22, 23, 34, 35, 36
5	Self-estrangement	8	6, 7, 10, 11, 18, 19, 32, 33
6	Cultural estrangement	5	8, 9, 17, 30, 31

kept in mind by researchers. The first was the lack of an existing alienation scale for visually impaired students so that the construct validity of the AL-VI could be assessed. It was due to this limitation that the AL-VI was validated with the SAS, which was constructed and validated for the sighted population. Second, this scale was standardized with a sample of 118 visually impaired students, a specific group—a group that is distinct from sighted students and representing about 0.4 % of the total population in India as per the 2011 census (Office of the Registrar General & Census Commissioner, 2013). Despite these limitations, the findings of the present study suggest that the AL-VI may serve as a useful tool in future research to assess alienation in persons with visual impairments in India. The results of the present study demonstrated that the AL-VI scores were reliable and valid. It can be used outside India after determining its reliability and validity in context-specific conditions. Also, the English version of AL-VI was converted to braille. Therefore, the AL-VI has its utility for students who are blind in addition to those with low vision. The scale may be utilized to reduce the school-dropout rate of students and to increase their academic achievements if their level of alienation is measured at an early stage and if appropriate interventions take place to minimize the feeling of alienation.

Conclusion

The review of the literature in the area of special education showed a lack of scales or related tools for assessing

the alienation of students with visual impairments in India. Therefore, the AL-VI was constructed and standardized by investigators after following due scientific procedure for standardization. The AL-VI can be used in a number of ways, since it is easy to administer and to assess the feeling of alienation across six subscales. Since various studies have shown that the feeling of alienation is detrimental to the overall development of children, timely interventions and remedial measures are required after a thorough assessment of alienation to mitigate the negative effects of visual impairments on students.

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