

Comparison of Locus of Control Behaviour Scores in Normal and Individuals with stuttering – A new way to Approach Stuttering Disorder for Speech – Language Pathologists

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Abstract

Background: The important factors that are frequently focused for treatment of stuttering and in research comprises of apparent severity, locus of control, and avoidance. Locus of control behaviour (LCB) is one such scale which is known to distinguish between personality types, that is, internal and external. Thus, the present study aims at investigating the response of individuals with stuttering to the locus of control behaviour scale. **Material and Methods:** The present study comprised of 70 individuals, 35 Individuals with stuttering (IWS-Group A) and 35 age matched typical individuals (TI-Group B) in the age range of 18-30 years. The 17 item Locus of Control Behaviour (LCB) scale was used for analysis. The mean, SD was calculated and ‘unpaired t-test was used to compare the scores of Locus of Control Behaviour (LCB) scale of TI with scores of IWS. **Results:** The present study found that there was a significant difference observed between IWS ($M= 37.29, SD = 9.28$) and typical individuals ($M= 20.46, SD = 4.6$), $t(38) = 5.206, p < 0.05$. The LCB scores ranged from 25 to 57 for the IWS and that for TI ranged from 13 to 38. **Conclusions:** The present study concludes that there was a significant difference for the LCB scores between typical individuals and individual with stuttering. LCB can be used as a tool to assess the pre-therapy, during- therapy and post therapy changes in person’s attitude and can act as a tool to predict any chances of relapse in stuttering.

Keywords: *Speech stuttering; Stuttering assessment; Locus of control behaviour*

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INTRODUCTION

The production of stuttered speech signifies only a small part of a speaker’s overall life experience of stuttering. The speaker’s daily experience of living with stuttering disorder can involve far more than just disruption in speech output. Most clinicians and researchers have realised stuttering is multidimensional in nature.¹ Stuttering includes

‘surface’ elements as well as elements that exist “below the surface.”² The former elements comprises of the core behaviours of stuttering. Elements that exist below the surface include covert or affective aspects of stuttering, such as communication avoidance, reduced social and occupational participation, and negative affective functioning in areas like locus of control, mood, and anxiety.³ So, it appears that stuttering would be best treated using a versatile approach that

includes addressing both the core, or surface, elements as well as elements of stuttering that exist below the surface. According to researchers, focusing on affective and cognitive changes as well as on behavioural changes will result in a new generation of stuttering clinicians who are concerned more with the counselling aspects of their client-clinician relationships than with the client's frequency of stuttering.^{4,5} The important factors that are frequently focused for treatment and in research comprises of apparent severity, locus of control, and avoidance. Locus of control Behaviour (LCB) has been defined as the degree to which an individual can perceive a causal relationship between his own behaviour or actions and ultimate consequences or reward.⁶ LCB is known to distinguish between personality types, that is, 'internal' Vs 'external'. The former is a label for those who attribute events to their own control and the later is for those who attribute events in the life to external circumstances. The forgoing suggest that if a clinician can determine whether the PWS has an internal or an external control, it can help the clinician to counsel the client intensively in order to change his attitude which in turn will motivate the client to work with determination. Additionally the knowledge of internal control of a client may also assist the clinician in predicting relapse. This will in turn help the clinician to prepare the PWS for relapse and prevent the same. The present study aims at investigating the response of individuals with stuttering to the locus of control behaviour scale. Following are the objectives of the present study. The specific aim of the study is to investigate the response of individuals with stuttering and typical individuals on the locus of control behaviour scale. i. e. its objective is to compare the scores of Locus of Control (LCB) scale of typical individual (TI) with scores of individual with stuttering (IWS). The hypothesis stated as that there is no significant difference between the scores of LCB behaviour scale in typical individuals (TI) and individuals with stuttering (IWS).

MATERIAL AND METHODS

The present study comprised of 70 individuals, 35 Individuals With Stuttering (IWS-Group A) and 35 age matched Typical Individuals (TI-Group B) in the age range of 18-30 years. The criteria of selection comprised of individual in both the groups should have a minimum qualification of having passed the 12th grade from any university in Marathi, Hindi or English medium of instruction. Each individual in Group A (IWS) should have had

no history of any other speech language and hearing problems and individuals in Group B (TI) should not have had any speech, language and hearing problems. The individuals with stuttering who have undergone the traditional therapy were also assessed. Number of sessions for IWS ranges from 1-25 in the group. The 17 item Locus of Control Behaviour (LCB) scale (table 1) was obtained and translated from English to Marathi and Hindi by professors in Hindi and Marathi literature. Reverse translation was done in English by a professor in English literature in the arts college who was also a native language of Marathi and Hindi. Before giving the scale to respond, oral information regarding the research was given and permission was obtained from each individual. The study was provided ethical clearance by the Institutional ethical committee. The case history was taken for the individuals with the stuttering. This includes the brief history, description of the problem, number of therapy sessions attended. The scale was then assessed on individuals in group A and how they reported to the clinic. Then age matched typical individuals were also given the scale to respond which comprised of mainly students from the campus studying in various streams of the university such as engineering, arts, etc.)

Scoring Criteria: The 17-item test is scored in the same direction as a Rotter I-E scale, that is, high scores indicate externality. Thus, as may be the 10 items which relate to externality and the scores for the seven items relating to the internality (item 1, 5, 7, 8, 13, 15, 16) are transposed so that 5 (Strongly agree) is scored as 0 (strongly disagree), 4 (Generally agree) becomes 1 (generally disagree), etc. After transposing the seven items the test is scored by summing the scores for all 17 items.

The mean, SD was also calculated for the LCB scores obtained for both the IWS and TI group. Qualitative analysis was done to see the no. of individuals responded for each of the items of LCB in both the groups. The present study investigated the response of individuals with and without out stuttering to the LCB scale. The 'unpaired t-test was used to compare the scores of Locus of Control Behaviour (LCB) scale of TI with scores of IWS.

RESULTS

LCB for IWS and typical individuals: The present study found that there was a significant difference observed between IWS (M= 37.29, SD = 9.28) and typical individuals (M= 20.46, SD =

Table 1: Scale for Locus of Control of Behaviour Scale

Directions: Below are a number of statements about how various topics affect your personal beliefs. There is no right or wrong answers. For every item there are a large number of people who agree or disagree. Could you please put in the appropriate space the choice you believe to be true?

	1	2	3	4	5
	0				
Strongly Disagree	Generally disagree	Somewhat disagree	Somewhat agree	Generally agree	Strongly agree

1.	I can anticipate difficulties and take action to avoid them
2.	A great deal of what happens to me is probably just a matter of chance
3.	Everyone knows that luck or chance determine one's future
4.	I can control my problem(s) only if I have outside support
5.	When I make plans, I am almost certain that I can make them work
6.	My problem(s) will dominate me all my life
7.	My mistakes and problems are my responsibility to deal with
8.	Becoming a success is a matter of hard work, luck has little or nothing to do with it.
9.	My life is controlled by outside actions and events.
10.	People are victims of circumstance beyond their control.
11.	To continually manage my problems I need professional help
12.	When I am under stress, the tightness in my muscles is due to things outside my control.
13.	I believe a person can really be a master of his fate.
14.	It is impossible to control my irregular and fast breathing when I am having difficulties.
15.	I understand why my problem(s) varies so much form one occasion to the next.
16.	I am confident of being able to deal successfully with future problems.
17.	my case maintaining control over my problem(s) is due mostly to luck.

Table 2: Mean age and standard deviation of subject in Group A and Group B.

S.no	Study group		Control Group
	Severity Of Stuttering	LCB scores for IWS	LCB scores for of TI
1	Severe Stuttering	26	20
2	Severe Stuttering	27	15
3	Severe Stuttering	30	23
4	Moderate Stuttering	27	18
5	Moderate Stuttering	26	21
6	Severe Stuttering	30	20
7	Severe Stuttering	51	19
8	Severe Stuttering	39	28
9	Mild stuttering	25	20
10	Moderate Stuttering	39	25
11	Moderate Stuttering	49	15
12	Mild stuttering	25	20
13	Severe Stuttering	32	20
14	Moderate Stuttering	34	21
15	Mild stuttering	35	24
16	Severe Stuttering	32	22
17	Severe Stuttering	28	15
18	Moderate Stuttering	39	21
19	Severe Stuttering	46	21
20	Severe Stuttering	40	22
21	Severe Stuttering	51	21
22	Severe Stuttering	57	21
23	Severe Stuttering	38	18
24	Moderate Stuttering	39	20
25	Mild stuttering	25	18
26	Moderate Stuttering	39	19
27	Mild stuttering	55	24
28	Severe Stuttering	54	26
29	Severe Stuttering	34	21
30	Moderate Stuttering	51	13
31	Mild stuttering	32	24
32	Mild stuttering	37	38
33	Severe Stuttering	36	14
34	Severe Stuttering	37	14
35	Moderate Stuttering	40	15
Mean		37.29	20.46
Standard deviation (sd)		sd=9.28	sd=4.69

Table 3: Results of 'unpaired t' test for LCB scores of typical individuals and individuals with stuttering.

t	df	Sig 2 tailed
5.206	38	0.000*

4.6), $t(38) = 5.206$, $p < 0.05$. The LCB scores ranged from 25 to 57 for the IWS and that for TI ranged from 13 to 38. To prove the above mentioned hypothesis unpaired 't-test' was used on the data obtained and the analysis shown in table 3

DISCUSSION

In the present study, the LCB scores ranged from 25 to 57 for the IWS and that for TI ranged from 13 to 38. Craig A et al also found similar results in their study, they got high LCB scores that is, 32.0 for adults who stutter and 27.00 for non-stuttering adults.⁷ This difference was found to be statistically significant. They therefore suggested that on administering this scale, the individuals can be placed on a continuum which has two poles: 'internally controlled' and 'externally controlled'. They advocated PWS have greater external locus of control with high scores compared to normal individuals who were found to have lower scores. However, Mc Donough A et al found ANS-IE (Adult Norwick- Strickland Internal- External scale) scores were slightly higher, but not clinically significant for IWS than those of non-stutterers.⁸ The reason could be that they used the scale designed to assess the general locus of control which consisted of 40 'Yes-No' type of items. Nil LD et al⁹ found that individuals with stuttering have high average scores of 28.52(SD=8.99) on the LCB scale. The scores ranged from 11 to 46 with median value of 28.00 before therapy. The score reduced after therapy to 19.05(SD= 9.6) which ranged from 6.00 to 36.00 with a median value of 17.50. The individuals in group A have been in therapy at the hospital of this study for varying number of sessions. 11 individuals have taken the therapy for less than 10 sessions (mean LCB Scores =33.81), 4 individuals within 11-20, (mean LCB Scores =35), and 5 individuals have taken therapy for more than 20 sessions (mean LCB Scores =33.2), The LCB scores did not show any difference inspite of the difference in the number of sessions. The possible explanation for this could be that, the fluent speech approach has been the

major approach with major emphasis on the surface behaviours and very little emphasis on the attitudes and belief systems of an individual. The above results strongly support the view that, if individual with stuttering ranked more on the 'external', the management strategy used for the individual will be different to that of the individual with stuttering who ranked more on the internal control.¹⁰ When a person with stuttering is counselled on the basis of LCB score, he may learn to perceive stuttering as an explainable consequence of competing demand, rather than an unreliable signal of personal inadequacy. He may also learn to see himself differently. Explicit discussion of a client's increasing control, even when that control is still imperfect, helps foster feelings of self- achievement and self-responsibility. Thus therapy can be given in a more effective way for such individuals. Although the checklist is not viewed as a complete accurate measure to predict the severity of stuttering in terms of the stuturer i.e. how much he or she perceives his severity is. Awareness of having difficulty with speech fluency is not in itself a bad thing. Where the difficulty comes in is if the IWS, because of his or her inborn personality traits or for the reason that of external dissatisfaction, starts to have unreasonable thoughts which direct to thoughts of disappointment intolerance and some potentially self-defeating habits. The review of literature suggested that the individuals with greater internal locus of control are more apt to work for higher goals, with more patience and good planning ability whereas the individuals with external control mainly have lower control on their planning and abilities, they have lesser patience compared to the other group if they fail in a given trial to give it a next try. Thus they are at ease for higher achievements. The important factors that are frequently focused for treatment and in research comprises of apparent severity, locus of control, and avoidance. If stuttering treatment is effective, than these latter aspects will be seen as changing and that change will be very much differential. For e.g., to say it in other manner is that although the overt features may remain the same if not decreased, but the level of covert features severity will show a consistent and marked change. This is the reason why the approach of Cognitive restructuring is gaining prominence in the management of PWS. Cognitive restructuring refers to changing the attitudes, feelings, belief systems, and emotions associated with speaking

and stuttering. Therefore once we know the individual's attitude is toward externality, we can counsel the individual and attempt to change the attitude towards the internality.¹¹ This change is certainly desirable as it will help the individual participate socially and occupationally and also facilitate reduction of negative attitude. As a result, there is likely to be an improvement in the quality of his life. The futuristic implications of the present study is after administering the LCB on a larger sample of typical and individuals in the Hindi and Marathi speaking Typical and IWS, this assessment can be made a routine part of the assessment protocol for PWS. A better client and clinician relationship can be created which can help in better management

CONCLUSION

The present study concludes that there was a significant difference for the LCB scores between typical individuals and individual with stuttering. Thus, this suggests that the clinician can find out the degree of externality and internality for a given IWS and can further focus therapy accordingly. This may also help in preventing relapse. The need for counselling can be determined depending on whether the individual has greater external or internal control. LCB can be used as a tool to assess the pre-therapy, during- therapy and post therapy changes in person's attitude. LCB can act as a tool to predict any chances of relapse in stuttering.

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