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ABSTRACT

This study examined the use of two locus of control instruments for teachers in the Caribbean: the Adult Nowicki-Strickland Internal-External Locus of Control (LOC) Scale (T. Wolf, M. Sklov, M. Hunter, and G. Berenson, 1982) and the Medway and Rose Teachers' LOC Scale (F. Medway and J. Rose, 1981). Participants were 183 teachers from 10 high schools in Jamaica who agreed to be tested and retested with these measures. The structures of the instruments were analyzed, as was the appropriateness of their scoring methods for measuring teacher LOC. Results show moderate to high reliabilities for both instruments and suggest a scoring modification to improve test-retest reliabilities. Concurrent validity for the two measures, however, was low for this sample. The paper also discusses possibilities for modifying and monitoring the LOC orientation of teachers in training and for showing teachers how to use this information in self-evaluation. (Contains 4 figures, 1 table, and 22 references.) (SLD)

Methods Chosen by Novice Teachers and Their Locus of Control

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Methods Chosen by Novice Teachers and their Locus of Control

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Abstract

Teacher educators and school personnel lament the rapidity with which novice teachers cease to apply important concepts and methodologies learned during training. Novice teachers report that they are discouraged in applying these methods and concepts, seemingly because of student resistance. They hold their students responsible for blocking possibilities for change in their classrooms. This reasoning, which defines teaching behaviour as a response to dissident student demands and blames students for the inability to apply these concepts and methods, is indicative of an Internal Locus of Control (LOC) orientation. It is reported that experienced teachers, on the contrary, tend to have an External LOC orientation. Experienced teachers are more likely to believe they can influence dissident student demands through their choice of teaching behaviours, and they take responsibility for their failures. Teachers who are internally LOC oriented do not easily conform to such external pressures, but are "active in shaping their environment, making better use of their experience" (Kremer, 1981). Thus LOC orientation of novice teachers appears to be important for maintaining their efforts in applying the concepts and methods learnt during their professional training.

This paper critically examines two locus of control instruments for use with teachers in the Caribbean: The Adult Nowicki-Strickland Internal-External LOC scale and the Medway and Rose Teachers' LOC scale. Teachers (n=183) from ten high schools in Jamaica agreed to be tested and re-tested with these instruments. The structures of the instruments were analysed and so was the appropriateness of their scoring methods for measuring teacher's locus of control.

This research demonstrated moderate to high reliabilities for both instruments and suggests a scoring modification to improve test-retest reliabilities. Concurrent validity for the two instruments, however, was low for this sample.

This study sheds light on the relevancy of using the two instruments within a Caribbean context. Possibilities are discussed for modifying and monitoring LOC orientation of teachers in training, and for showing teachers how to use this information for self-evaluation. It is suggested that novice teachers be made aware that their LOC orientation critically influences successful application of concepts and methods learnt during their professional training.

Introduction

This study considers the use of Locus of Control (LOC) measures for improving the performance of teachers in Jamaica. LOC is a venerable personality construct, first identified by Rotter in 1954, that continues to stimulate a range of educational research from new concepts in adolescent psychology (Kelley & Stack, 2000) to meta-studies of applications for learning disabilities (Kelley & Stack, 2000) and predictors to identify successful school principals (Klein & Wasserstein-Warnet, 2000). Rotter (1954) originally defined LOC to mean the extent to which an individual believes that his or her behaviour determines specific life events. Subjects with an Internal Locus of Control tend to believe that they are in control of their destinies and that they are instrumental in causing events. Subjects with an External Locus of Control tend to believe that events are caused by factors beyond their control, factors such as fate, luck or powerful others.

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Since Rotter introduced the construct, teacher research has identified a relationship between teachers' Locus of Control, attitudes and behaviour in the classroom (Kremer & Lifman, 1982; Northington, 1999; Parkway, Olejnik & Proller, 1988; Rose & Medway, 1981; Schlenk, 1999). For example, Sherman and Giles (1981, p. 139), note that if the teacher does not believe "in a direct relationship between what they do and what their student learns then learning may be perceived as the result of random events for which the teacher has no responsibility". Research has also been carried out in Israel (Kremer, 1982), Australia (Stanton, 1982) and North America (Guskey, 1982; Rose & Medway, 1981) that demonstrates a significant correlation between teachers' Locus of Control orientation and their behaviour in the classroom. It is reported in the literature that teacher age and experience are possible mediating variables between LOC and classroom behaviour. For example, Sherman and Giles (1981, p. 142) also found that teachers with more than 5 years experience had significantly higher ILOC scores than teachers with less than 5 years experience. This finding is collaborated in a study by Kremer and Lifmann (1982) with results from their sample of teachers showing "the two extreme age groups (20-30) and over 50's were found to be more externally oriented than the 31-40 age (p .211). They offer the following explanation:

> "It seems that the age group 20-30 years are at the start of their career and therefore are disposed to anxieties because of lack of confidence and fear of failure in the classroom. They also seem to lack the ability to control discipline. Those teachers who are over 50 probably feel fatigue and job erosion could add to this phenomena." (p. 214).

In contrast to teacher problems associated with External LOC, it seems that Internal teachers tend not to experience these difficulties to the same extent. This may be because Internal teachers do not easily conform to these external pressures, but are "active in shaping their environment, making better use of their experience" (Kremer, 1981).

Several studies have indicated that an individual's LOC orientation is not so fixed that it cannot change (Kinnan, 2000; Lefcourt, 1982; Phares, 1976). Sherman and Giles (1981) also noted "it appears that experience generates a greater sense of personal control, perhaps because of a greater understanding of how to affect the system or working setting is developed" (p. 142). It has also been found possible to alter teacher LOC. For example, in an attempt to modify teachers' locus of control orientation, Stanton (1982) successfully applied the Relaxation-Suggestion-Imagery Technique (RSI) to a group of high school teachers and teacher trainees. Stanton found that "one and one half hours on RSI training is sufficient to increase internality" and "that such modified internality may be translated into improved teachers' performance" (p. 277). In a meta-study of training effects aimed at increasing Internal LOC, Tracy Hans (2000), found that subjects across the studies reviewed became significantly more internal as a result of their participation in the training programmes.

However, the psychometric properties of instruments used for measuring the LOC construct have come under some criticism (Fournier & Jeanrie, 1999; Pasquier & Lucot, 1999). Duttweiler (1984, p. 209), for example states that LOC instruments "have drawn increasing criticism and contain sufficient defects to make continued use questionable". Leone and Burns (2000), used three commonly used LOC instruments to investigate ambiguities in the conceptions and measurement of locus of control with 18-49 year-old subjects (n=79). Their results showed that, to different degrees, these common LOC instruments lacked both convergent and discriminate validity. Yet, given the beneficial influence of teachers' ILOC on classroom behaviour, the discipline problems associated with the ELOC of novice and retiring teachers, and the evidence that it is possible to encourage teachers to become more Internal as a means of improving their classroom performance, it is perhaps surprising that to date, the reliability and validity of LOC instruments has not been explored in a systematic way for such beneficial use with Jamaican teachers. This study explores the reliability and validly of two LOC instruments for possible use with Jamaican teachers.

Method

Instruments

Two LOC instruments used in this study were (i) the Adult Nowicki-Strickland Internal External Locus of Control Scale (Wolf, Sklov, Hunter & Berenson, 1982), referred to here as the Nowicki Locus of Control (NLC), and (ii) the Rose and Medway Teachers' Locus of Control scale (Rose & Medway, 1981), referred to here as the Teachers' Locus of Control Scale (TLC). The original rubric for these instruments requires dichotomous scoring, as illustrated by the first question from each instrument shown in Figure 1.

Figure 1: First question from the Adult Nowicki-Strickland Internal External Locus of control scale (NLC) and from the Rose and Medway Teachers' Locus of Control scale (TLC)

NLC

Yes/no 1. Do you believe that most problems will solve themselves if you just don't fool with them?

TLC

When the grades of your students improve is it more likely

a) because you found ways to motivate the students, or

b) because the students were trying harder to do well.

The rubric was changed to a forced choice True/False response for each question that was then rated on a percentage; 0% not true or false to 100% meaning completely true or false. This alternative rubric allowed the force choices to be dichotomously scored for comparisons with the original scoring. Also, by coding True and False ratings positively and negatively, this rubric offered a more discriminating -100 to +100 rating for each item, which allowed more powerful statistical analyses of reliability and validity of the instruments.

Subjects

Ten secondary schools, out of a total of twenty-two secondary schools within St. Andrew and Kingston areas of Jamaica, were randomly selected from a list of secondary schools made available by the Ministry of Education. A convenience sample of 263 teachers from these ten schools took part in the study. This was a good size sample equivalent to approximately 12.5% of the teachers in the 22 schools. Each teacher was required to respond twice - either to both instruments or to a test and re-test of the same instrument. Complete responses were obtained from 183 teachers. These were 135 female and 48 male teachers with a mean age of 32 years. These teachers had an average of 8 years' experience in the classroom and specialised in subject areas such as Mathematics, Literature, History, and Spanish.

Research design

The research design was in six blocks as shown in Figure 2.

Figure 2: Six-block research design

Test Period 1	TLC 1	TLC 2	NLC 2
Block	1	3	5
	n =63	n = 58	n = 62
Test Period 2	NLC 1	TLC 3	NLC 3
Block	2	4	6
	n = 63	n = 58	n = 62
Time Difference Test / Retest		17 days	11 days

It can be seen from Figure 2 that the administration of the questionnaires was divided into two time periods to facilitate the test retest of the two instruments. The group of teachers who participated in period one was the same group who participated in period two. Teachers in blocks 1 & 2 received both the Teachers' Locus of Control and the Nowicki Locus of Control questionnaires in random order. Teachers in blocks 3 & 4 received the test and retest of the Teachers' Locus of Control 17 days apart, and teachers in blocks 5 & 6 received the test and retest of the Nowicki Locus of Control questionnaires 11 days apart. The purpose of this design was to efficiently facilitate the analyses, shown in Figure 3, with the maximum number of subjects available within the resources of the study. The correlation analyses were done once with the dichotomous scores and repeated with the continuous scores. The validity of construct scoring was tested by comparing results using dichotomous scores with results using the rating scores.

Figure 3: Structure of Reliability and Validity testing

Reliability tests

Stability

TLC Test retest by correlation of block 3 with block 4 (n=58)

NLC Test retest by correlation of block 5 with block 6 (n= 63).

Internal consistency

TLC by Cronbach Alpha on combined blocks 1 & 3 (different groups of teachers) (n=121)

NLC by Cronbach Alpha on combined blocks 2 & 5 (different groups of teachers) (n=125)

Validity tests

Construct Validity

NLC by Factor Analysis on combined blocks 2 & 5 (n=125)

TLC by Factor Analysis on combined blocks 1 & 3 (n=121)

Concurrent validity

NTC, TLC by correlation of Block 1 with Block 2 (n=63)

Results and analysis

Table 1: Correlation results of reliability and validity tests

	Scoring Method				
	Dichotomous		Rating		
	Corr	Sig	Corr	Sig	
Reliability tests					
Stability					
TLC	0.813	0.000	0.862	0.000	*
NLC	0.672	0.000	0.726	0.000	*
Internal consistency					
TLC	0.707	0.000	0.882	0.000	*
NLC	0.505	0.000	0.633	0.000	*
Validity tests					
Concurrent validity	-0.153	0.234	-0.062	0.630	

* Advantaged scoring method

It can be seen from Table 1 that in every instance the rating scores resulted in more reliable measures of the LOC construct. However, the low correlation between the tests indicates that the two tests are measuring different constructs. This was verified by a factor analysis of the rating scores for both instruments that showed their factor structures were not comparable, as shown in Figures 4a and 4b.

Figure 4a: Comparative factor structures of the two instruments (NLC)

		Factors for NLC	
Factor	**Questions**	**Factor name**	**I/E**
1	n21,n10,n24	Luck	E
2	n23,n14, n36	Ext. mental disposition	E
3	n 01,n19, n20	Avoidance	E
4	n2,n3, n8	Circumstantial Control	E
5	n26, n33, n17	Destiny	E
6	n 40, n28	Smart	I
7	n 38, n28, n30	Planning Ahead	I
8	n18, n13, n15	Hard work	I
9	n31,n34, n32	Manipulate	1
10	n 6, n27	Self-effort	I
11	Rejected		
12	n 4,n16	Disempowerment	I
13	n30,n34,	Manipulation	I
14 -16	Rejected		

Figure 4b: Comparative factor structures of the two instruments (TLC)

		Factors for TLC	
Factor	**Questions**	**Factor Name**	**I/E**
1	q16b, q29a, q14a q11b, q23b,q33a,q21b,q09a q28b, q20a,	Success	I
2	q 14b, q16a, q11a, q28a, q29b, q09b, q33b,q23a, q26b	Students ability	E
3, 7	q17a,q18b, q15a, q19a,q10b, q13a, q32a, q27a,	Students' attitude	E
4	q13b, q19b, q15b	Failure	I
5 & 6	q18a, q31b, q32b,q 30b,	Laxity of the teacher	I
8- 15	Rejected		

Discussion

The two Locus of Control (LOC) instruments, the Adult Nowicki-Strickland Internal External Locus of control scale (NLC) and the Rose and Medway Teachers' Locus of Control scale (TLC), were scored dichotomously and by rating scales and tested for reliability and validity on a sample of 183 Jamaican Secondary School teachers. Results showed that the rating scores gave more reliable measures of the LOC construct both in consistency (C-Alpha) and stability (test-retest correlations). A correlation indicating the concurrent validity of the scales was not significant and a comparison of their factor structures showed that the instruments were probably measuring different constructs.

These results support criticisms in the literature of the validity of the LOC construct. However, theoretical considerations and empirical results reported in the literature point to the importance of encouraging an Internal LOC among teachers - particularly novice and retiring teachers. Taken together with the results of this study, this would indicate a need for further research to refine the validity of the LOC construct. This would, in turn, facilitate the creation of valid LOC instruments for improving the classroom performance of Jamaican teachers

References

Duttweiler, P. C. (1984). The Internal Control Index: A newly developed measure of locus of control. *Educational and Psychological measurement, 44*, 209-221.

Fournier, G., & Jeanrie, C. (1999). Validation of a Five-Level Locus of Control Scale. *Journal of Career Assessment, 7*(1), 63-89.

Guskey, T. R. (1982). Differences in teachers' perceptions of personal control of positive versus negative student learning outcomes. *Contemporary Educational Psychology, 7*, 71-80.

Hans, T. A. (2000). A meta-analysis of the effects of adventure programming on locus of control. *Journal of Contemporary Psychotherapy, 30*(1), 33-60.

Kelley, T. M., & Stack, S. A. (2000). Thought recognition, locus of control, and adolescent well-being. *Adolescence, 35*(139), 531-550.

Klein, J., & Wasserstein-Warnet, M. (2000). Predictive validity of the locus of control test in selection of school administrators. *Journal of Educational Administration, 38*(1), 7-24.

Kremer, L. (1981). Personal characteristics of teachers, situational variables and deliberations in the process of planning instruction. *Research in Education, 26,* 20-29.

Kremer, L. (1982). Locus of control, attitudes toward Education, and teaching behaviours. *Scandinavian Journal of Educational Research, 26*(1), 1-11.

Kremer, L., & Lifmann, M. (1982). Locus of control and its reflection in teachers professional attributions. *College Student Journal, 16* (3), 209-215.

Lefcourt, H. M. (1982). *Locus of control: Current tends in theory and research. Hillsdale*, New Jersey: Lawrence Erlbaum Associates, Inc.

Leone, C., & Burns, J. (2000). The measurement of locus of control: Assessing more than meets the eye? *Journal of Psychology, 134*(1), 63-76.

Mamlin, N., Harris, K. R., & Case, L. P. (2001). A methodological analysis of research on locus of control and learning disabilities: Rethinking a common assumption. *Journal of Special Education, 34*(4), 214-225.

Northington, C. R. (1999). The locus of control of teachers as it relates to individual and contextual factors. (Doctoral dissertation, New York University, 1999). *Dissertation Abstracts International, 59*(9B), 5169.

Parkway, F. G., Olejnik, S., & Proller, N. (1988). A study of the relationships among teacher efficiency, locus of control, and stress. *Journal of Research and Development in Education, 21*(40), 13-21.

Pasquier, D., & Lucot, J. C. (1999). Une nouvelle echelle de localisation du controle—interne externe, N.E.L.C.-I.E. / A new internal-external locus of control scale. *Pratiques Psychologiques 2*, 77-84.

Phares, J. E. (1976). *Locus of control in personality*. New Jersey: Silver Burdette.

Rose, J. S., & Medway, F. J. (1981) Teacher locus of control, teacher behaviour, and student behaviour as determinants of student achievement. *Journal of Educational Research, 74*, 375-381.

Rotter, J. B. (1954). *Social learning and clinical Psychology*. New York: Prentice Hall, Inc.

Schlenk, G. W. (1999). Preservice teacher reflectivity as related to self-esteem, locus of control, and epistemological development. (Doctoral dissertation, Southern Illinois University Carbondale, 1999). *Dissertation Abstracts International, 59*(8A), 2935.

Sherman, T. M., & Giles, M. B. (1981). The development and structure of personal control in teachers. *Journal of Educational Research, 74* (3), 139-142.

Stanton, H. E. (1982). Increasing teachers internality through the RSI technique. *Australian Psychologist, 17*, 277-283.

Wolf, T. M., Sklov, M. C., Hunter, M. D., & Berenson, G. S. (1982). Factor analytic study of the Children's Nowicki- Strickland Locus of Control Scale. *Educational and Psychological Measurement, 42*, 333-337.

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