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Further Observation on Study Difficulty in University Students Including 'Syllabus-Boundness'

By C. J. LUCAS, S. CROWN, P. STRINGER and S. SUPRAMANIAM

Summary. The UCLS questionnaire, in a form modified to include a measure of syllabus-boundness, and a questionnaire to measure psychiatric symptomatology (the MHQ) were administered to two groups of students, one seeking help for emotional problems, the other a control group. Groups were compared on tests, test findings were inter-correlated, and scores were related to academic success. The UCLSQ is confirmed as a reliable research instrument. Principal component analysis again indicates a separation of psychoneurotic and motivational components of study difficulty. Syllabus-boundness ('Sylbism') emerges as a relatively independent trait, with a significant negative relationship to work satisfaction in both groups. MHQ scores again show a positive correlation between phobic anxiety and academic attainment for patients.

Introduction

In an earlier paper (Crown *et al*, 1973) we gave a theoretical analysis of study difficulties and described the development of the University College London Study Questionnaire (UCLSQ) as a clinical and research instrument used in conjunction with a neuroticism questionnaire—the Middlesex Hospital Questionnaire (MHQ). The general conceptual frameworks relevant to clinical work and research in this field have been discussed by Lucas and Crown (1974).

The present paper reports a replication of the UCLSQ and MHQ results on patient and control samples. More particularly, a new UCLSQ scale of syllabus-boundness ('Sylbism') is described, and aspects of its construct and discriminatory validity are indicated.

Related research has been undertaken to explore further the personality profile of these student samples in terms of self-esteem and conscience (Crown *et al*, 1976) and a range of pre-morbid characteristics (Stringer *et al*, 1976a). Clinical and statistical findings from a cluster analysis of the data are reported by Supramaniam *et al* (1976). Sex differences in work-related symptoms are discussed in detail by Stringer *et al* (1976b).

Method

Tests

The University College London Study Questionnaire (UCLSQ)

Seven subscales of work-related symptoms have been previously described (Crown *et al*, 1973); (1) anxiety ANX, (2) obsessionality OBS, (3) depression DEP, (4) disorganization DIS, (5) low motivation LM, (6) somatization SOM, (7) work satisfaction WS. The full test has been reproduced in the previous paper.

The Sylbism Scale SYL

We have added an eighth subscale of 'sylbism' SYL. We selected nine items to give a measure of the tendency to work in a 'syllabus-bound' rather than a 'syllabus-free' manner. We included this scale following exploratory work by Parlett (1970), Josephs and Smithers (1975) and Smithers *et al* (1975), who emphasize its importance. Apart from its intrinsic interest, its relationship to neurotic traits such as obsessionality, and to work satisfaction need exploring. The nine items were adapted from Parlett's scale. They are reproduced in the Appendix.

The Middlesex Hospital Questionnaire (MHQ)

This test operationally defines major psychia-

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tric symptom groups (Crown, 1974). It was included to see whether our previous findings were replicated, in particular the positive relationship between phobic anxiety and academic attainment.

Administration and samples

The tests were collated into a single booklet of 18 pages. The order of tests in the booklet was (1) UCLSQ, (2) Self-esteem and conscience scales, (3) MHQ and (4) Dynamic Personality Inventory.

The tests were given to two groups of students. The patient group comprised 72 undergraduate students who made appointments for emotional problems at the College Health Centre during the session 1973–4. Overseas and postgraduate students were not included. The control group consisted of 73 students who were using the Health Centre for other than psychological reasons (e.g. for vaccination or a minor ailment) and who had no declared emotional problems for which they sought help. No attempt was made at formal matching in terms of sex, year, faculty and department. This would not have been feasible within the parameters of the present research.

Academic assessment

In view of the difficulty in comparing marks for students at different stages and in different subjects, academic assessment was based on the departmental tutor's overall rating on a five-point scale: A = excellent, B = above average, C = average, D = below average, and E = poor.

Results

The analysis was carried out with the help of the facilities of the University College London Computer Service.

1 *Reliability coefficients*

Patient and control groups have been compared on the subscales of the UCLSQ including SYL, by the split half method (Table I). Measures are acceptable for all subscales on both groups. The more heterogeneous control group used in the present study have, not surprisingly, provided higher reliabilities than the group used in our earlier study.

2 *UCLSQ (including Sylbism)*

Comparison between patients and controls

Mean scores show significant differences between patients and controls on all subscales except SYL (Table II). The findings of our previous study are replicated, the only difference being that in the present study WS is significantly higher in the control group, whereas previously there was no difference.

Correlation between UCLSQ subscales

Several interesting features emerge (Table III). The 'neurotic' subscales i.e. ANX, OBS, DEP and SOM tend to inter-correlate significantly for both patient and control groups. Regarding WS, the only significant relationship common to both groups is with SYL. For controls there is a negative relationship between WS and DIS, LM, SOM and SYL. SYL similarly correlates in general positively with neurotic symptoms, the relationship being stronger in the control group. Of particular interest is the high negative correlation between WS and SYL for both groups ($r = -\cdot 42$, $P < \cdot 001$). The 'motivational' subscales, LM and DIS, correlate highly and positively together in both groups. Particularly for the controls, they correlate positively with the 'neurotic' sub-scales.

Principal component analysis

This was carried out in order further to explore the relationships described above. For the patients the three components to emerge after Varimax rotation were:

1. A component indicating poor motivation and disorganization (high LM and DIS);
2. A component high on ANX, SOM and OBS;
3. A bi-polar component characterized by high SYL and negatively related to WS (Table IVa).

Somewhat similar components emerged for the controls though the ordering was different (Table IVb). The components were:

1. A component high on DEP, ANX, OBS, SOM;
2. A component high on DIS and LM;
3. A bi-polar component high on SYL and negatively related to WS, similar to component 3 for the patient group.

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TABLE I

Reliability coefficients (split half method) for 72 patients and 73 controls for UCLSQ subscales and for Sylbism (SYL) scales

	ANX	OBS	DEP	DIS	LM	SOM	WS	SYL
Patients	·652	·490	·662	·747	·708	·652	·581	·500
Controls	·750	·581	·634	·736	·822	·668	·691	·691

TABLE II

Mean scores of patient and control groups on the UCLSQ

Patients (N = 72)
Controls (N = 73)

	ANX	OBS	DEP	DIS	LOM	SOM	WS	SYL
Patients X	3·92	4·11	3·43	3·56	4·53	2·61	3·75	2·81
Controls X	1·45	3·05	1·85	2·04	2·62	0·78	4·45	2·77
t value	7·42	3·19	5·27	4·85	4·96	6·50	1·96	0·12
SE diff.	1·99	1·99	1·81	1·88	2·32	1·70	2·16	1·99
Sig. level	·001	·01	·001	·001	·001	·001	·05	NS

TABLE III

Pearson inter-correlations between UCLSQ subscales, for 72 patients (above the diagonal) and 73 controls (below)

	ANX	OBS	DEP	DIS	LM	SOM	WS	SYL
ANX		·53	·47	·48	·20	·58	—·14	·21
OBS	·44		·30	·36	·16	·53	—·02	·23
DEP	·71	·46		·51	·38	·23	—·07	·20
DIS	·46	·24	·53		·68	·30	·01	·09
LM	·46	·25	·51	·71		·16	—·19	—·05
SOM	·49	·27	·53	·20	·48		—·09	·01
WS	—·20	·02	·21	—·26	—·38	—·27		—·42
SYL	·40	·28	·44	·13	·28	·34	—·42	

Significance levels for r values

r	p
·20	·1
·23	·05
·27	·02
·30	·01
·38	·001

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TABLE IV

UCLSQ principal components analysis
Varimax rotator factor matrix

(a) Patients

	Factor		
	1	2	3
ANX	·245	·764	·160
OBS	·140	·677	·111
DEP	·455	·350	·174
DIS	·789	·349	·032
LM	·842	·038	·020
SOM	·107	·717	−·045
WS	−·084	−·020	−·457
SYL	−·032	·133	·888
Eigen value	2·66	1·05	0·82
Percent of variance	58·7	23·1	18·2

(b) Controls

	Factor		
	1	2	3
ANX	·742	·284	·148
OBS	·557	·116	−·044
DEP	·796	·339	·156
DIS	·221	·953	·061
LM	·350	·640	·322
SOM	·528	·146	·304
WS	−·013	−·201	−·824
SYL	·458	−·013	·471
Eigen value	3·34	·78	·77
Per cent of variance	68·3	16·0	15·7

For patients and controls components 1 and 2 accounted for 81·8 and 84·3 per cent of the variance respectively.

Relationships of UCLSQ scores to academic attainment

Overall the difference in academic attainment between patients and controls was not significant, although patients tended to have slightly lower ratings. A similar picture emerged when high (A and B) and low (D and E) performers only were compared.

When high and low performance was related to UCLSQ subscales, significant differences were found in two subscales, DIS and SYL, in the patient group.* High attainers tended to be less syllabus-bound and more organized than lower attainers. There were no significant differences between subscale means in the control group.

Performance was also related to UCLSQ factor scores.* Only factor 3 (SYL-WS) had a significant relationship for the patient group, a high score (i.e. syllabus bound/poor work satisfaction) being associated with poor performance. However, this factor accounts for only 6 per cent of the variation in performance. None of the factors related significantly to academic attainment in the control group.

DISCUSSION

UCLSQ

The UCLSQ is confirmed as a reliable research instrument for exploring work-related symptoms in a university population. The principal component analysis of UCLSQ subscales gives somewhat different results from those of our earlier research (Crown *et al*, 1973). The link between LM and DIS is again seen but is now the first component in the patient group and the second component in the control group. Although change in the order of principal components with small sampling fluctuations is not an uncommon observation, the similarity in the grouping of variables is noteworthy. This finding again stresses the importance of motivational in addition to psychoneurotic difficulties. Its greater prominence in this study perhaps reflects the decline in applicants to some faculties and departments, leading to the admission of students with poorer motivation. The importance of conceiving a complex aspect

* Figures available on request.

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of effective functioning such as 'motivation' in interactional terms has been suggested in a previous paper (Lucas and Crown, 1974). Motivation is not purely an individual personality attribute, but relates to the goodness or badness of fit between the student and his whole environment. This may include his family and their aspirations, the College and its aspirations, the student's own ambition, his attitude to the educational and examination system and other factors.

Sylbism

The inclusion of the new subscale of Syllabus-boundness in the UCLSQ has provided some interesting findings. Although SYL itself was not different between patients and controls, it had some correlation with neurotic symptoms. Particularly interesting was the highly significant negative relationship with work satisfaction for both groups. This is shown clearly in the principal components analysis, where a bi-polar SYL-WS factor emerges as third component for both patients and controls.

Sylbism is one of the concepts of interest both theoretically and educationally to emerge from the growing interest in exploring complex aspects of cognitive functioning that relate closely to emotional and personality functioning. Thus, it may relate to concepts such as 'creativity' and to the differentiation between children who function more effectively in a 'divergent' thinking situation compared to the 'convergent' thinker who performs more effectively when required to choose the correct answer from a limited number of possibilities (Hudson, 1967).

Josephs *et al* (1975) investigated sylbism in sixth-formers, and Smithers *et al* (1975) in students at a technological university covering four fields: pharmacy, physical sciences, languages and social sciences. The personality profile (Cattell 16 PF test) of the syllabus-bound sixth former indicated a shy, controlled and conservative personality. Elsewhere we report confirmatory personality test results (Stringer *et al*, 1976a) which show sylbistic students to be low on persistence, ego strength, exhibitionism and social activity, and high on authoritarianism.

Josephs *et al* (1975) also used a scale of 'dogmatism', defined as a resistance to change of systems of belief, and suggested that the dogmatics might also tend to authoritarianism. The results show that syllabus-bound sixth-formers were significantly more dogmatic than the syllabus-free.

It is interesting that in our study the syllabus-bound student is neither more nor less academically successful than the syllabus-free. The results of Josephs *et al* (1975) and Smithers *et al* (1975) suggest variation in the correlations according to the examination. A statistically highly significant superiority of the syllabus-bound was seen at O-level; a less clear superiority was seen at first year university; no relation was found between syllabus-boundness and A-level or university finals. These different results, and our own, may be determined by the different forms of examination, the more structured O-level or first year university favouring the syllabistic schoolchild or university student.

The SYL scale appears reliable and valid, and should usefully continue as an integral part of the UCLSQ for further clinical use and research exploration. Possible change towards greater syllabus-freeness after psychotherapy would be a particularly interesting study in view of the positive relation between SYL and the neurotic sub-scales of the UCLSQ and the fact that syllabus-bound students tend to be non-work-satisfied.

Academic performance

The overall lack of difference between academic assessment in patients and controls is not surprising, since previous work suggests that it is largely the more serious types of overt psychiatric illness that impair performance, rather than the heterogeneous psychosocial and psychosomatic disturbances which constitute the bulk of the patient population in the present study (Payne, 1969). Those patients who did best, however, were significantly more organized but at the same time less syllabus-bound than the low performance patients. Similar trends were evident in the high and low performance controls. The relationships of these traits to performance is again expressed by the correlation of factor 3 (syllabus-boundness and poor work satisfaction) with poor performance for

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the patients. These findings overall validate the importance for successful academic work of the student's ability to organize himself and at the same time to range freely in his subject—attributes so often stressed by tutors. However, what perhaps is surprising is the small variation in performance accounted for by these traits. Although we have to acknowledge the relative crudity of our criteria of attainment, what may be more important, taking into account the whole history of student selection and academic success, is that all factors, intellectual, emotional, motivational and social, individually contribute only a small fraction to the understanding of the complex pattern of what it is that promotes or handicaps ability to learn.

The replication of our findings of a correlation between phobic anxiety on the MHQ and academic attainment confirms that the link between this symptom and enhanced academic performance is one deserving exploration. It is worthy of note that the data indicate no significant relationship between PHO and SYL, as one might plausibly have supposed on psychopathological grounds. Broadly, the findings confirm the previous suggestion (Crown *et al*, 1973) that PHO patients represent isolates whose lives are socially restricted, but who find in academic work an area in which to express themselves.

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APPENDIX: SYLBISM SCALE

I prefer to concentrate on set work rather than following up my own ideas.
I cover assigned work equally well whether it interests me or not.
I prefer to restrict myself to recommended reading.
I consider the best way of learning is by completing the set work and doing the required reading.
I find a systematic presentation of a topic more useful than discussion.
I find it difficult to tackle something unless I know just what is expected.
I don't let myself get diverted onto something that is not strictly relevant to the course.
It isn't often I try to think of doing something differently from the way described in lecture or book.
I like to feel everything important is contained in my notes.

C. J. Lucas, M.B., M.R.C.P., M.R.C.Psych., *Director and Psychiatric Adviser, University College London, Health Centre, 3 Gower Place, London, W.C.1*
Sidney Crown, Ph.D., F.R.C.P., F.R.C.Psych., *Consultant Psychiatrist, The London Hospital, London, E.1*
Peter Stringer, M.A., *Department of Psychology, The University of Surrey, Guildford, Surrey*
Saradha Supramaniam, Ph.D., *Department of Psychology, University College London*

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