A NOTE ON QUESTIONNAIRE RIGIDITY AND EXTREME RESPONSE SET

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INTRODUCTION

THIS brief report draws attention to some recent results showing that questionnaire measures of rigidity and extreme response set, which are regarded as closely related variables, are likely to possess a much higher degree of generality than usually accepted and that they play an important part in the measurement of normal and abnormal personality.

Reviewers of the literature have frequently expressed "that the status of rigidity as a trait variable is, to say the least, uncertain" (McClelland, 11), or "that the various existing tests of 'rigidity' do in fact measure quite different things and that 'rigidity' as a trait or unidimensional variable is a figment" (Jenkins and Lykken, 10). These statements merely reflect the present research situation but should not be taken to indicate a final verdict on rigidity, as the following recent findings suggest.

In his unpublished thesis, Nigniewitzky (12, 13) demonstrated the existence of a general factor of questionnaire rigidity composed of scales of rigidity, dogmatism, intolerance of ambiguity and fascism. This factor was practically independent of two other dimensions, extraversion and neuroticism.

The Nigniewitzky rigidity scale (NR), which contributed most to the above factor, was subsequently used as criterion in various experiments. The main findings have been that rigidity correlates negatively with motor performance at certain practice stages (2); that, under certain exposure conditions, a negative correlation is obtained between rigidity and a visual immediate recall task (3); that visual learning correlates negatively with rigidity provided sufficient practice is given (7); that, depending on the experimental situation, expressive movement may be enhanced or constricted in the rigid personality (5) and that, specifically under conditions of high ambiguity, verbally expressed confidence in performance correlates significantly with rigidity (4).

These results suggest that adequate measurement of rigidity depends greatly on the knowledge of the exact conditions under which significant interaction between rigidity and performance occurs. In previous research this point has been largely ignored. Instead of using systematic empirical analysis experimental conditions have been determined by theoretical conceptions concerning the mechanism of rigid attitudes.

Much of the future work on rigidity may depend on the development of suitable criteria to be used in the validation of performance variables. The present paper reports briefly on some aspects of the validity of one questionnaire and one adjective check list, employed as criteria in the experiments already quoted. Results are used to guide a more detailed experiment on questionnaire rigidity, which is reported separately (6). Of the two criteria

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analysed the NR scale has already been referred to. The second criterion is formed by a measure of extreme response set. This is obtained by means of an adjective check list described in the method section. Of the five response types (+2, +1, 0, −1, −2), the two extreme categories +2 and −2 are analysed, the remaining categories yielding no information important to the present problem. There are indications that extremeness of response is a fairly general characteristic, which is closely related to "intolerance of ambiguity" (14). This in turn is known to form part of the rigidity syndrome. For this reason and for the fact that extremeness of response is implied in most of the rigidity items, extreme response set was expected to represent one form of rigid behaviour. The experiments quoted have in fact confirmed this expectation in that the validity of positive extreme response set has generally paralleled that of rigidity.

Method

1. *Questionnaire scores.* The following scores are used:

E=extraversion (24 items)
N=neuroticism (24 items)
NR=Nigniewitzky rigidity (28 items)
PFCL +2=positive extreme response
PFCL −2=negative extreme response } (101 items)

E and N, representing Eysenck's (9) dimensions of extraversion and neuroticism, are used as reference variables. NR is the scale with highest loadings on Nigniewitzky's factor of rigidity (12, 13). The English version of the original French scale, which contained 30 items, has been published elsewhere (4). The extreme response scores +2 and −2 are derived from an item check list modelled on Soueif's (14) Personal Friend Check List (PFCL). The items used are appended. By endorsing 101 items subjects state their opinion as to how much a person must have certain characteristics in order to qualify as a personal friend. Any one of the following five degrees may be used in responding to the individual items: +2, +1, 0, −1, and −2.

In scoring E, N and NR, two points are awarded for a response in the keyed direction and one for responding to a question mark. PFCL +2 and −2 represent the number of respective endorsements to the 101 item check list.

2. *Subjects.* These were collected from the experiments already quoted, with a considerable number added to increase the reliability of results. Computations are based on 146 normals, 108 neurotics and 56 schizophrenics. Separately for sex, subjects distribute as shown in Table I. "Controls I" contains subjects of various occupations not unlike the abnormal groups. "Controls II" is formed by apprentices of a motor car firm. Because of this difference, correlations were first computed separately for these two groups. As, in the process of analysis, no essential differences were noted between Controls I and II they were subsequently combined into one group.

Table I

Distribution of Subjects

	Male	Female	Total
Control I	35	34	69
Control II	77	—	77
Neurotic	58	50	108
Schizophrenic	26	30	56

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Effects due to sex and age have been carefully analysed and were found not to distort the general picture of results. They are not discussed in detail in the present report.

Results

1. *Intercorrelations.* The questionnaire scores were intercorrelated separately for the four sub-groups described in Table I. Results are shown in Table II.

Table II

Table of Intercorrelations

		N	NR	PFCL +2	PFCL −2	Age
E	C I	−36†	−27*	−02	04	—
	C II	−12	12	09	15	−15
	Neurotic ..	−48†	−20*	10	−12	03
	Schizophrenic	−02	10	−02	−05	−13
N	C I		29*	−10	−11	—
	C II		−14	16	−05	0
	Neurotic ..		31†	02	03	−09
	Schizophrenic		−12	−03	−04	−29*
NR	C I			43†	16	—
	C II			20	19	10
	Neurotic ..			42†	11	08
	Schizophrenic			30*	08	23
PFCL +2	C I				47†	—
	C II				67†	−05
	Neurotic ..				47†	05
	Schizophrenic				39†	09
PFCL −2	C I					—
	C II					09
	Neurotic ..					−10
	Schizophrenic					20

N: C I=69; C II=77; neurotics=108; schizophrenics=56.
Significance: *=5 per cent.; †=1 per cent. Age: not tested for C I.

The following conclusions may be drawn. E correlates consistently negatively with N, though in the average to a low degree. This agrees with many previous results. All other scores, NR, PFCL +2 and −2, correlate inconsistently and lowly with E and N. The suggestion may be derived that rigidity and extreme response set are largely independent of E and N.

PFCL +2 and −2 intercorrelate consistently to a moderate degree, indicating that extremeness of response is general to positive and negative attitudes. NR, however, is significantly related to PFCL +2 only. To respond in *positive* extremes is, therefore, a specific attribute of the rigid personality.

2. *Between group differentiation.* Means and standard deviations of all questionnaire scores used are given in Table III. The significance of all group

Table III

Means and Standard Deviations of Test Scores

		E	N	NR	PFCL +2	PFCL −2
146 controls ..	$\bar{X}$	23·28	21·56	18·27	9·21	11·67
	SD	9·91	11·61	9·49	7·59	7·51
108 neurotics ..	$\bar{X}$	19·83	33·30	29·51	15·16	19·38
	SD	10·94	11·89	9·31	9·89	9·76
56 schizophrenics ..	$\bar{X}$	20·98	27·66	31·36	20·38	15·04
	SD	9·75	10·22	11·94	15·04	8·89

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differences is assessed by t-tests as shown in Table IV. Figure 1 is added to facilitate inspection and demonstrate consistency of results between sexes.

TABLE IV

Significance of Group Differences as Assessed by t-ratios

	E	N	NR	PFCL +2	PFCL −2
Controls *vs.* neurotics ..	2·62*	7·89†	9·41†	5·43†	7·11†
Controls *vs.* schizophrenics	1·48	3·45†	8·14†	6·97†	2·71*
Neurotics *vs.* schizophrenics	0·66	3·02*	1·09	2·67*	2·78*

D.f.: C vs. N=252; C vs. S=200; N vs. S=162.
Significance: *=1 per cent; †=0·1 per cent.

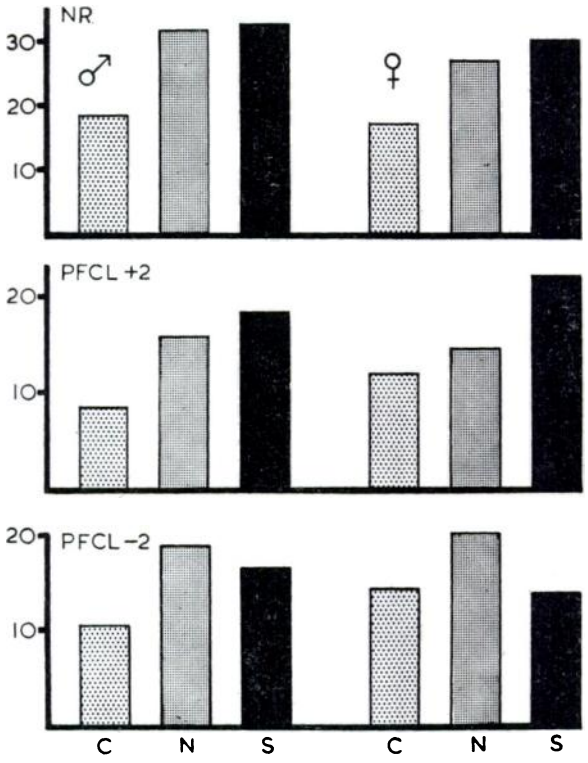


FIG. 1.—Abnormals, neurotics (N) and schizophrenics (S), score significantly higher on rigidity (NR) and extreme positive response set (PFCL+2) than normals (C). On extreme negative response set (PFCL−2) neurotics score higher than schizophrenics.

A number of suggestions may be derived from these data. First it is seen that both abnormal groups score considerably higher on NR, PFCL +2 and −2 than the normals. Rigid behaviour and general response extremeness are therefore typical of the abnormal personality. It is interesting to note that the degree of differentiation between normals and neurotics is as high for NR and PFCL extremes as for N, a scale specifically designed to measure neurotic symptomatology.

Although both abnormal groups respond more in extremes than normals, a specific effect is obtained in that schizophrenics score significantly higher than neurotics on positive extremes while neurotics score significantly higher on

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negative extremes. Pending a detailed item analysis this result may be taken to be due to a quite general attitudinal difference between neurotics and schizophrenics, as similar effects have been found in studies using different techniques. Eysenck (8), in an experiment where positively and negatively toned adjectives had to be attributed to photographs of persons, found that neurotics used far more negative adjectives than psychotics. Positive extremeness was furthermore found to be particularly characteristic of the schizophrenic when tested by means of Berg's Perceptual Reaction Test (Barnes, 1).

Conclusions and Summary

Questionnaires of extraversion, neuroticism, rigidity and extreme response set were given to 146 normals, 108 neurotics and 56 schizophrenics. It was found that rigidity and extreme positive response set, which intercorrelated significantly, were relatively independent of extraversion and neuroticism. Correlations with various performance scores were quoted to suggest that rigidity of the kind described may play an important part in the measurement of the normal personality.

Particular emphasis was placed on the relevance of rigidity to abnormality. Rigidity and extreme response set differentiated significantly between normals and both abnormal groups. Differentiation was in general as effective as with a neuroticism questionnaire. A specific effect was described showing that schizophrenics score significantly higher on positive extremes than neurotics, while the latter score significantly higher on negative extremes.

Appendix

The original PFCL item check list contained the 101 items listed below. A great proportion of these were taken from Soueif (14). A first item analysis, which is not described in detail, showed a number of items to be of little value, predominantly because extreme response frequency was too low. Thus items like "higher economical level", "interested in culture", "politically minded" did not provoke sufficient extreme responses to be useful in the discrimination between individuals or groups. As a result of this analysis, a new scale of 100 items is constructed for further use. This is reported in a separate paper on further validation of rigidity (6).

The 101 original items are now as follows:

Agreeing, always sarcastic, arrogant, attractive as a personality, authoritative/domineering, believing, broadminded, considerate, co-operative, courageous, cowardly, critical of your own attitudes, cultured, dependable, energetic, envious, experienced, faithful, frank, gay, generous, gentle, gloomy, good-looking, good-natured, good reputation, good sense of humour, haughty, helpful, higher economical level than yours, higher intelligence than yours, high moral standards, hypocritical, independent in opinion, industrious, ignorant, interested in culture, interested in religion, interested in social affairs, introverted, keeping his dignity, kind, lacking humour, lacking interest in religious problems, lacking interest in social problems, lacking self-respect, lazy, less intelligent than yourself, lying, miserly, morally degenerate, naive, narrow-minded, neat, obedient, obsessional, obstinate, of bad reputation, of your own political opinion, of your own religion, opportunist, ostentatious, passive, patient, pessimistic, polite, politically minded, poor, progressive, reactionary, rich, rough, same age as you, same economical level as yours, same intelligence as yours, same social level as yours, selfish, sensitive, serious, sincere, social level higher than yours, social level lower than yours, submissive, sulky, talkative, tactful, tactless, tolerant, trustworthy, ugly, unbelieving, understanding, uneducated, unrefined, unselfish, vain, well-balanced, with no respect for others, without sympathy for your own interests, witty, younger than you.

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