

## **RANDOM RESPONDING AND THE QUESTIONNAIRE MEASUREMENT OF PSYCHOTICISM**

---

A. H. THOMPSON\*

*Institute of Psychiatry, University of London*

The hypothesis was advanced that questionnaire measures of Psychoticism (P) may represent an estimate of randomness in responding, rather than reflecting reactions to item content. Questionnaire measures of P, Extraversion, Neuroticism, and a Lie score were taken from each of 103 male subjects. The results showed that P did not correlate with measures of random responding which were derived from the remaining scales. Thus, the hypothesis was not supported. Further inspection of the data failed to discover a general trait of random responding.

Of the varieties of response biases which may influence questionnaire measures of personality, that of "random responding" is likely one of the least troublesome. Most research has been concerned with problems such as the response biases of social desirability (Edwards, 1957), and acquiescence (Martin, 1964). Random responding is often looked upon as a nuisance variable, and some personality scales yield verification scores which allow screening of those subjects who apparently respond without proper concentration (*e.g.*, the Edwards Personal Preference Schedule, Edwards, 1959).

Of importance is that random responding may reflect individual differences in response style which may correlate with certain questionnaire measures of personality.

A prime candidate for such an interpretation is the personality measure of Psychoticism (P) (Eysenck and Eysenck, 1968a, 1968b, 1969, 1972). The reasoning behind this supposition is twofold. First, if P is in fact a measure of "psychoticism", we might well expect a high P scorer to behave somewhat like a "psychotic", *i.e.*, with relatively little apparent purpose, and in a relatively unpredictable fashion. Second, the P scale itself contains items which are infrequently endorsed in a non-clinical sample (Eysenck and Eysenck, 1971). This produces mean scale scores which are very low

\*Present address: Mental Health Services, 400 Nordic Court, 10014-99th St., Grande Prairie, Alberta, Canada.

relative to the number of items on the scale, with scale scores rarely exceeding one-half of the total number of items. Thus on the yes/no response type of item used, high P scores would coincide with the range of scores predicted if the responses were determined by chance responding. Given this information, the hypothesis that the P scale is a measure of random responding is as tenable as the hypothesis that the scale is a measure of a response to the content of the items.

However, these hypotheses can be tested, if in addition to P, one has access to a number of other personality scores for each subject. Such a test is based on the assumption that if a number of individuals are responding randomly, their observed scores (OBS-Ss) would tend to cluster about the median of all possible scores. This would be true of all personality scales which have the same physical structure, even though they may differ in item content. This median represents the expected score (EXP-S) if responses were totally random. From this we can predict that the average deviation of the OBS-S from the EXP-S should be less for those individuals who are responding randomly, than for those who are not (an exception would occur if the mean and standard deviation of random responses were equivalent to that of the personality scale under investigation). It follows that if P is a measure of random responding, two predictions can be made: (1) P should be negatively correlated with the deviation scores on personality traits other than P. (2) P should be positively correlated with any scale whose mean is also below the EXP-S, and whose OBS-Ss rarely exceed the EXP-S.

## METHOD

### SUBJECTS

Subjects were 103 males ranging in age from 18 to 31 years. The mean age was 21.0 years, with a standard deviation of 2.3 years. Nearly all of the Ss were university students in London, and most of these were either Medical or Dental students.

### QUESTIONNAIRE MATERIAL

All Ss were administered the Personality Inventory (PI) (Eysenck and Eysenck, 1968a, b, 1971) which is a new questionnaire devised to provide a measure of P, as well as measures of Extraversion (E) and Neuroticism (N). Also administered was a second questionnaire within which was embedded a 21 item Lie (L) scale (Eysenck and Eysenck, 1964). Only the L scale from the second questionnaire was used in the present study. An EXP-S for each of these scales was derived by computing the median of the number of scores possible on the scale in question. The P scale consisted of 24 items with the E and N scales each made up of 22 items. A deviation score on each scale for each S was arrived at by taking the absolute difference between the appropriate OBS-S and EXP-S. Thus, for each S we have four personality scores (P, E, N and L), and four deviation scores (DP, DE, DN and DL).

## RESULTS AND DISCUSSION

Table 1 contains the intercorrelations of the various personality and deviation scores. Expected standard deviations were computed (Siegel, 1956) for each personality scale. These, along with observed personality scale means and standard deviations, are presented in Table 2. Of primary interest are the correlations between P and the various difference scores, and between P and L. The perfect negative correlation

TABLE 1: INTERCORRELATIONS OF ALL PERSONALITY AND DEVIATION SCORES

	P	E	N	L	DP	DE	DN
E	.... 0.27**						
N	.... -0.02	0.04					
L	.... -0.08	-0.15	-0.07				
DP	.... -1.00**	-0.27**	0.02	0.08			
DE	.... 0.16	0.19*	-0.12	0.00	-0.16		
DN	.... -0.01	0.08	0.10	-0.03	0.01	0.02	
DL	.... 0.10	0.12	0.07	-0.95**	-0.10	0.05	0.02

\* $p < 0.05$ ; \*\* $p < 0.01$ .

TABLE 2: MEANS, STANDARD DEVIATIONS AND EXPECTED STANDARD DEVIATIONS OF EACH PERSONALITY SCALE

	P	E	N	L
Observed Mean	.... 3.99	12.02	10.84	4.21
EXP-S	.... 12	11	11	10.50
Observed Standard Deviation	.... 2.43	4.11	4.33	3.21
Expected Standard Deviation	.... 2.50	2.40	2.40	2.35

between P and its own deviation score (DP) merely indicates that each OBS-S was less than the EXP-S.

A similar relationship is found between L and DL. This scale also has a low mean OBS-S. In the case of the E and N scales, where the mean OBS-S is similar to the EXP-S, this relationship disappears. Of the remaining deviation score correlations with P, none reach statistical significance. Although E and N show mean OBS-Ss that are similar to their EXP-Ss, Table 2 shows that both exhibit standard deviations that are considerably larger than their respective expected standard deviations ( $Z_E = 5.90$ ,  $p < 0.001$ ;  $Z_N = 6.43$ ,  $p < 0.001$ ) (McNemar, 1969). If this was not the case, random responding would not be expected to produce scores closer to the median than "purposeful" responding, with the result that the E and N scales could not have been used to test the hypothesis being examined here. As such was not the case, it must be concluded that this line of evidence provides no support for the hypothesis under consideration.

The fact that the P and L scales are uncorrelated provides further evidence which is in line with this conclusion. That is, if a high P score is a result of random responding, then for the same individual, a high score would be predicted for the L scale as it has a similar mean and standard deviation.

When the possibility of random responding on traits other than P is considered, the results again suggest that this factor does not contribute to the dimensions of personality studied here. Upon examination of the correlations between each personality scale score and deviation scores on the other three traits, only one significant correlation is found (E with DP). However, this correlation merely reflects the relationship between P and E, as P and DP are perfectly and negatively correlated.

The intercorrelations between the deviation scores also suggest that random responding contributes little, if any, variance to the scores under investigation. That none of these correlations reach statistical significance indicates that those individuals who appear to be responding randomly on any one scale, differ from those who are doing the same on each of the remaining three scales. That is, random responding does not appear to be a characteristic of individual differences in responding at all, and almost certainly does not contribute a significant amount of variance to the personality dimensions under study.

#### ACKNOWLEDGEMENT

The author wishes to express his thanks to John Rust, of the Institute of Psychiatry, for his helpful suggestions.

#### REFERENCES

- Edwards, A. L. 1957: *The Social Desirability Variable in Personality Assessment and Research*. Dryden Press, New York.
- Edwards, A. L. 1959: *Edwards Personal Preference Schedule*. The Psychological Corporation, New York.
- Eysenck, H. J.; Eysenck, S. B. G. 1964: *Manual of the Eysenck Personality Inventory*. Industrial and Educational Testing Service, San Diego.
- Eysenck, H. J.; Eysenck, S. B. G. 1968a: A factorial study of psychoticism as a dimension of personality. *Multivariate Behavioral Research*, (Special Issue), 15-31.
- Eysenck, S. B. G.; Eysenck, H. J. 1968b: The measurement of psychoticism: A study of factor stability and reliability. *British Journal of Social and Clinical Psychology*, 7: 286-94.
- Eysenck, S. B. G.; Eysenck, H. J. 1969: Scores on three personality variables as a function of age, sex and social class. *British Journal of Social and Clinical Psychology*, 8: 69-76.
- Eysenck, S. B. G.; Eysenck, H. J. 1971: Crime and personality: Item analysis of questionnaire responses. *British Journal of Criminology*, 11: 49-62.
- Eysenck, S. B. G.; Eysenck, H. J. 1972: The questionnaire measurement of psychoticism. *Psychological Medicine*, 2: 50-5.

- McNemar, Q. 1969: *Psychological Statistics* (4th ed.). Wiley, London.
- Martin, J. 1964: Acquiescence measurement and theory. *British Journal of Social and Clinical Psychology*, 3: 216-25.
- Siegel, S. 1956: *Nonparametric Statistics*. McGraw-Hill, New York.

A. H. THOMPSON, PH.D.,  
Psychologist,  
Alberta Health and Social Development,  
Mental Health Services,  
Fourth Floor, Nordic Court,  
10014 — 99 Street,  
Grande Prairie, Alberta T8V3N4,  
Canada.

*Reprints of this paper are available from Dr Thompson.*

Copyright of *Social Behavior & Personality: An International Journal* is the property of Society for Personality Research and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.