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# Interpreting the correlation between neuroticism and lie scale scores

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## Abstract

Three samples of 50 undergraduates each completed the Eysenck Personality Questionnaire (EPQ-R), one sample under normal test conditions and two samples under different instructions to fake good. The data confirm the view that the correlation between neuroticism and lie scale scores provides an index of the motivation to fake good within different samples. © 1998 Elsevier Science Ltd. All rights reserved.

*Keywords:* Eysenck Personality Questionnaire; Lie scale; Neuroticism

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## 1. Introduction

Lie scales were originally introduced into personality measures in order to detect the “faking good” of scores on other scales (O’Donovan, 1969). The theory is that lie scales are constructed from items listing issues and behaviours which are either socially desirable but infrequently practised or frequently practised but socially undesirable. According to Eysenck and Eysenck (1976) the lie scale included in the Eysenck Personality Questionnaire permits lying to be diagnosed when a set of rarely performed acts are endorsed by the respondent as being habitually done and when frequently performed non-desirable acts are denied by the respondent.

It has become increasingly recognised, however, that lie scales are open to multiple interpretations. As well as measuring the tendency to “fake good” there is evidence that lie scales should be interpreted as measuring a personality dimension in their own right (McCrae and Costa, 1983; Furnham, 1986). According to some commentators this dimension is best characterised as social acquiescence or conformity (Finlayson, 1972; Powell, 1977; Massey,

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1980; O'Hagan, 1981; Birenbaum and Montag, 1989; Granleese and Barrett, 1990). According to other commentators this dimension is best characterised as lack of self insight (Dicken, 1959; Crookes and Buckley, 1976; Kirton, 1977; Francis et al., 1983; Brown and Kodadek, 1987).

If lie scale scores are open to more than one interpretation it becomes a matter of importance to be able to interpret precisely when elevated lie scores are properly indicative of faking good and when they are indicative of some other interpretation. For example, there may be some situations in which there is considerable motivation for respondents to "fake good" and in which elevated lie scores properly detect this tendency, while in other situations there is no motivation for respondents to fake good and elevated lie scores may reflect some other characteristic. One way of distinguishing between these two situations may involve the relationship between lie scale scores and neuroticism scores. There is considerable empirical evidence to indicate that individuals with a high motivation to fake good inflate their lie scale scores and suppress their neuroticism scores, leading to a negative correlation between lie scale and neuroticism scores. This relationship has been found to hold true among children, (Eysenck et al., 1965; Waters, 1968; Eysenck et al., 1971) as well as among adults (Braun and Gomez, 1966; Gomez and Braun, 1967; Michaelis and Eysenck, 1971; Rump and Court, 1971; Farley and Goh, 1976; Levin and Montag, 1987; Cowles et al., 1992). The suggestion, then, is that when the motivation to fake good is high there should be a negative correlation between lie scores and neuroticism scores, but that when motivation to fake good is low there should be no correlation between the two variables.

The situation may be made more complex by recent studies which have suggested that the Eysenckian lie scales contain more than one component. For example, a series of papers by Francis distinguishes between two components. Component A is concerned more with the image of the well behaved socially conforming individual, while component B is less concerned with the image of the well behaved socially conforming individual and more concerned with those desirable but unlikely behaviours and those undesirable but likely behaviours which more truly reflect the essence of the theory on which lie scales were originally devised (Pearson and Francis, 1989; Francis, 1991; Francis et al., 1991). At the same time Francis and his associates recognise that both components measure aspects of faking good or test falsification. On this account, the theory that there should be a different relationship between lie scale scores and neuroticism scores in situations with high motivation and low motivation to fake good should hold true for the two components of the lie scale as well as for the whole scale.

The aim of the present study is to test these theories among a sample of undergraduate students, following the precedent of studies like Eysenck et al. (1974) which have invited comparable groups of subjects to complete the same personality measure under different test instructions.

## **2. Method**

Three groups of undergraduates, each comprised of 25 males and 25 females, completed the Eysenck Personality Questionnaire (EPQ-R; Eysenck and Eysenck, 1991) under three different test conditions. In the control group the questionnaire was administered according to the

standard guidelines and instructions. In experimental group one the following instructions were given:

The following questionnaire is anonymous, please complete your gender details only. One of the attributes of personality being measured is that of honesty. Try to answer the questionnaire in a deliberately dishonest manner in order to create a false impression of a virtuous and desirable personality.

In experimental group two the following instructions were given:

The following questionnaire is anonymous, please complete your gender details only. One of the attributes of personality being measured is that of social desirability. This refers to an individual's desire to distort self-report questionnaires in a perceived favourable direction. Try to answer the questionnaire so as to make your personality appear in a favourable light.

The Eysenck Personality Questionnaire contains scales to assess the three major dimensions of personality, namely extraversion, neuroticism and psychoticism, as well as a 21 item lie scale. In addition, following Francis (1991), the lie scale items were scored to compute the 10 item component A and the 11 item component B.

### 3. Results

Table 1 presents the mean scale scores for the three test situations separately, together with the one-way analysis of variance significance tests. All six indices show significant differences between the three groups.

Table 2 presents the correlations between neuroticism and the three scores derived from the Eysenck lie scale, namely the full score, component A and component B, for the three test situations separately. Partial correlations are also presented to take into account the possible

Table 1  
Means and standard deviations for the three groups

Scale	Control group		Group one		Group two		<i>F</i>	<i>P</i> <
	Mean	sd	Mean	sd	Mean	sd		
Full lie scale	5.92	3.45	12.32	5.83	11.72	5.38	25.04	0.001
Component A	2.38	1.59	6.28	3.48	5.86	3.04	28.79	0.001
Component B	3.54	2.19	6.04	2.82	5.86	2.67	14.70	0.001
Neuroticism	11.98	5.77	11.02	6.52	8.64	5.77	4.06	0.05
Extraversion	15.44	4.27	13.74	5.84	16.46	4.49	3.91	0.05
Psychoticism	8.22	4.03	12.90	8.19	6.60	4.75	15.16	0.001

Table 2  
Correlations between neuroticism and lie scales in the three different groups

Sample	Pearson correlation			Partial correlation		
	Full lie scale	Component A	Component B	Full lie scale	Component A	Component B
Control group	–0.17	–0.07	–0.22	–0.13	–0.00	–0.21
Experimental group one	–0.36**	–0.30*	–0.37**	–0.33**	–0.28*	–0.34**
Experimental group two	–0.45**	–0.49**	–0.35*	–0.46**	–0.49**	–0.37**

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

effect of sex differences. These statistics demonstrate that under the standard test instructions, where no pressures were assumed to lead to faking good, no significant correlations were found between neuroticism scores and any of the three indices computed from the lie scale items. On the other hand, under both experimental conditions, where instructions were given to fake good, significant negative correlations emerged between neuroticism scores and all three indices computed from the lie scale items.

#### 4. Conclusion

This study has examined the relationship between neuroticism scores and the lie scale scores under different test conditions. Two main conclusions emerge from the findings. First, the study lends support to the view that the correlation between neuroticism scores and lie scores provides insight into the extent to which a group of respondents has faked good. A significant negative correlation between neuroticism scores and lie scale scores suggests that the lie scale is functioning as an index of faking good. Second, the study lends support to the view that both component A and component B of the lie scale, as identified by Francis (1991) function in a similar way as indices of faking good. Further research is now needed to test the stability of these findings.

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