## COMMENTS ON "THE ORTHOGONALITY OF EXTRAVERSION AND NEUROTICISM SCALES"

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There has been a good deal of discussion about the orthogonality or otherwise of extraversion and neuroticism (Eysenck & Eysenck, 1985). Balkisson reanalyses data from the Eysenck Personality Inventory published in 1974 and concludes that the two personality variables are not independent but correlate —.165 for Form A and —.159 for Form B. Even if these data could be taken seriously, they would suggest a negligible departure from orthogonality, amounting to between 2 and 3% of the variance; this may be statistically significant because the number of subjects involved is large but has little bearing on the psychological interpretation of the independence of the two scales.

Are the results to be taken seriously? Both correlations are derived from a mixture of male and female subjects. Now it is well known (Eysenck & Eysenck, 1985) that females tend to have higher N scores, males higher E scores, so that a correlation should never be calculated on a mixed population. Even if there happens to be a zero correlation between E and N within a male or a female population, the known differences in E and N between males and females would easily produce a negative correlation in a mixed population. This study then uses a totally inappropriate methodology to arrive at a conclusion which cannot be interpreted in any meaningful way.

However that may be, the main point must remain the fact that very small correlations, rendered significant by the use of large numbers of subjects, cannot affect the central interpretation of hundreds of studies, to the affect that in the main extraversion and neuroticism are independent. The particular scales used for their measurement may show slight variations from independence; the inclusion of items empathizing somatic signs of neuroticism would tend to make the correlation slightly positive. There is then some degree of subjectivity in the construction of such questionnaires, which, however, is never sufficient to make the deviation from independence psychologically significant.

## REFERENCES

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