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Obsessional Cognition: Performance on Two Numerical Tasks

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Summary. It is argued that obsessional indecision reflects a formal cognitive characteristic, and should therefore be detectable in slower performance of insignificant, neutral tasks. The obsessional will not be handicapped in structured tasks requiring concentration and a deductive approach, but he will be slower in less structured tasks requiring a predominantly inductive approach. Results from two neutral (numerical) tasks support the predictions.

A classical observation about persons with obsessional personality (anankastic) disorder is that they are plagued by indecision and doubt. This was described in detail by Janet (1903) and has been well-documented by psychoanalytic writers (e.g. Stekel, 1949). Recently it has been discussed in personal construct terms as reflecting self-uncertainty (Makhlouf-Norris and Norris, 1972).

The present writer (Reed, 1968) has argued that anankastic decision difficulties reflect a basic cognitive characteristic—an impairment in the spontaneous organization and structuring of experience. This is countered maladaptively by conscious *over*-structuring, involving close attention to the details of input, over-specificity, search for further information and the deferral of decision as to completion. This style of cognitive functioning should be identifiable in the performance of many 'neutral' and mundane tasks, as well as in situations of personal significance and those accompanied by strong affect. Evidence in support of this has been presented in findings related to performance on an object-sorting task (Reed, 1969). Similar behaviour has been precisely measured in the performance of a simple laboratory task (the detection of faint auditory signals in white noise) by Milner, Beech and Walker (1971).

At the same time, the cognitive approach described should not handicap the anankast in tasks which require consideration of material which is already highly structured. With such material, the anankastic approach should, in fact, prove to be advantageous if the task is of a deductive type and if its performance is improved by concentration and attention to detail. Difficulties will be most pronounced where the task is more 'open-ended' and requires an intuitive approach and/or inductive reasoning. The writer would argue that the less structured the task the more indecision the anankast will experience, and therefore the slower will be his performance.

Numerical material is generally 'neutral'; it is formal and, for most people, affect-free. Simple arithmetic problems offer a convenient way of measuring the speed of (correct) performance. It is predicted that in the speedy solution of standard mental arithmetic problems the anankast will have some advantage, because such tasks (a) are highly pre-structured, and (b) demand a predominantly deductive approach. Further, it may be argued that such superiority will not be primarily due to the 'abstract' nature of the task, as might be argued by psychoanalytic theorists. This may be tested by the presentation of another logical reasoning task which is equally 'abstract' but which (a) is more 'open-ended', and (b) demands a predominantly inductive approach. An obvious example is the 'number series' task, which figures in many batteries of intelligence tests. Here, the data to be manipulated are

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again numerical. The subject is presented with a series of digits, which he is required to continue or complete (e.g.: 7, 14, 20, 25, 29,..). As Ballard (1922) pointed out, this task demands all the processes of inductive logic. The present prediction would therefore be that the anankast will be slower on a task of this kind.

Subjects

These were 30 patients with a primary psychiatric diagnosis of obsessional personality (anankastic) disorder, and 30 controls suffering from other types of personality disorder. Each pair was matched for age, sex, number of years of full-time education, occupation and social class of origin. Each group consisted of 16 men and 14 women.

Tests

These were (a) the WAIS Arithmetic sub-test, which consists of 14 orally presented problems; (b) 10 numerical items from a 'series' test constructed and standardized by the writer for other purposes. (Details of this test will be provided on request to the author.) Both tests had strict time limits; they were administered individually.

Results

(a) On the problem arithmetic test, the obsessional group scores were superior to those of the controls (t-test for related measures 2·20, $P < 0{\cdot}05$). (b) On the series test, the control group scores were superior to those of the obsessionals (t-test for related measures 2·94, $P < 0{\cdot}01$). But when subjects were allowed to continue in their own time this difference disappeared.

Comment

These results are clearly in accord with the predictions. On the highly structured arithmetic task, where concentration and a deductive approach were demanded, the anankasts' performance was superior to that of their matched controls. The number series test was equally 'abstract' (involving numerical material and arithmetic processes), but it was more 'open-ended' and required a predominantly inductive approach. Here, the anankasts' performance was inferior to that of their controls at a high level of statistical significance. Their performance on the problems test indicates that their inferiority on the series test cannot be attributed to a weaker grasp of arithmetic processes.

The discrepancy between the results on these different tasks supports the argument that on relatively unstructured or 'open-ended' tasks the anankast is hampered by his over-classificatory approach, which involves him in the over-production of competing hypotheses. And whereas a more pragmatic, intuitive strategy facilitates 'closure' on this type of task, the anankast's approach retards resolution. His uncertainty reflects the serial consideration of a chain of decisions.

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