

The Rust Inventory of Schizoid Cognitions (RISC): A psychometric measure of psychoticism in the normal population

John Rust

The Rust Inventory of Schizoid Cognitions (RISC) is a new, psychometrically constructed, cognitively based, short questionnaire of psychoticism. It differs from previous scales in having been developed and standardized with special attention to normal distribution in the general population, using cognitive theory to generate the relevant test specification. The scale has good reliability and validity, and can clearly discriminate acute schizophrenics from normals. Although containing no obviously extreme items, its cumulative effect may be used to assess the prevalence of bizarre and eccentric thought patterns in psychiatric patients, and as an estimate of psychotic risk in the general population.

The concept of psychoticism as a measure of predisposition to schizoid thought and behaviour is not new, yet has been discredited in recent years by unsuccessful attempts at its quantification. The Eysenck scales (the PEN, PI, PQ, EPQ, and EPQ-R; Eysenck & Eysenck, 1976, 1985) have suffered from an asymmetrical distribution, poor discrimination between psychotics and normal controls, a conceptual confusion with psychopathy and toughmindedness, poor face and content validity, a heavy socio-biological bias, and a conceptual strait-jacket imposed by the pre-existing E and N scales (Claridge & Broks, 1984).

The Rust Inventory of Schizoid Cognitions (RISC) has, in pilot versions, been thoroughly item analysed on the normal rather than the patient population to identify a large pool of items appropriate for ordinary people. The idea of psychoticism has been conceptualized within a cognitive framework of schizophrenia (Lanin-Kettering & Harrow, 1985) and borderline schizophrenia (Spitzer *et al.*, 1979), rather than a behavioural or socio-biological approach. There are some parallels to Beck's cognitive theory of anxiety and depression (Beck & Emery, 1979; Beck *et al.*, 1985). It takes as its source the idiosyncratic ideas of those who are seen to be schizoid or eccentric: DSM-III category A of schizophrenia and DSM-III categories 1, 2, 4, 7 of schizotypal personality disorder (APA, 1980; Escobar *et al.*, 1986). These schizotypal ideas form the extremes of the cognitive schemata of suspicion, magical ideation, ritual, subjectivity, thought isolation, and self-delusion which are common in the normal population.

The test specification of the RISC contains two major dimensions, with types of idiosyncratic thought defining one, and cognitive strategies for coping with the manifestation of these thoughts defining the other. Four hundred and fifty items within this specification were generated by a 'think tank' of psychiatrists and psychologists, and reduced to a 300-item pilot version. All items were statements with a four-point forced-choice response set (strongly agree, agree, disagree, strongly disagree). This was administered to 183 normal subjects. The extreme schizotypal items, with high face validity but more than 80 or less than 20 per cent agreement, were used to generate interim projection scales, and those items which correlated with these, yet which fell within the 20-80 per cent range, were retained. Further factor analyses of these normal items indicated that they could be adequately and parsimoniously explained at this stage within a lower order 10-factor oblique solution. To maintain the structural blueprint, an intermediate 120-item inventory was constructed on the basis of this factor structure. It had 10 subscales (12 items each), which were balanced for response bias and acquiescence, were normally distributed and had a population mean near the mid-point of the scale. The 10 subscales were defined as: alpha 1 (suspiciousness), alpha 2 (superciliousness), alpha 3 (self-disclosure), beta 1 (perceptual aberration), beta 2 (subjectivity), beta 3 (thought/world boundary), gamma 1 (coherence of identity), gamma 2 (tendency to avoid threatening ideas), gamma 3 (audaciousness) and delta (belief and observation of ritual).

These 10 subscales were replicated on a sample of 315 Hong Kong students from English medium colleges (ages 17 to 22 years, male = 161, female = 154; Chiu, unpublished London Master's dissertation, 1984). The internal consistency and reliability of the subscales were shown to be high

(average 0.74). Factor analysis of the subscale scores for this sample showed a three-factor solution to best fit the data, with factor 1 having a schizoid basis (beta 1, beta 2, beta 3 and gamma), factor 2 a paranoid basis (alpha 1 and alpha 3), and factor 3 (gamma 1, gamma 2 and gamma 3) representing 'self-actualization'.

In the third stage of the RISC's construction, the 120 items were further reduced to produce a single scale including both paranoid and schizoid items (a 45 degree rotation on Chiu's factors 1 and 2). This was administered to 70 men and 70 women from a student, academic and support population in London University. The mean age of the sample was 33.43 years (most of the students were part time). The data were factor analysed (principal axis) and a projection scale constructed from equal numbers of positive and negative items taken from the first two factors rotated to eliminate acquiescence effects. Item correlations and adjusted item correlations with this projection scale provided a pool of items which were further selected to balance across the test specification. Items which were non-parallel across the London and Hong Kong samples, and a further sample of 104 men and 504 women in Venezuela with a mean age of 24.96 years (Moncada, unpublished Master's dissertation, 1985), were excluded, as were items with poor discriminability. The resultant scale was 26 items long (13 positive and 13 negative). The split-half reliability was 0.77, and Cronbach's alpha was 0.67. The analysis of variance test of non-additivity was non-significant ($F = 0.74$, d.f. = 1, 15174). The correlation with age across the three groups was -0.18 ($P < 0.001$), younger persons showing higher scores. There were no significant sex or social class differences.

A validation sample was obtained of 61 acute presenters at psychiatric clinics and hospitals meeting the DSM-III schizophrenia category A criteria (The Royal Bethlem and Maudsley Hospitals, St Mary's Hospital, Dulwich Hospital and St George's Hospital, all in London); however, 19 subjects were subsequently eliminated on the basis of DSM-III schizophrenia categories B to F, and 11 additional patients were unable to complete the questionnaire properly. There were 13 men and 18 women in the schizophrenic group, with a mean age of 36.41 years. The London group and the schizophrenic group were not significantly different in age or sex. Analysis of variance comparing RISC scores in the schizophrenic patient group (mean = 44.83, SD = 9.87) with the London group (mean = 32.67, SD = 7.67) was significant at the 0.001 level, as were further separate and combined analyses comparing the schizophrenic group with the Hong Kong group (mean = 35.65, SD = 5.41), the Venezuelan group (mean = 31.27, SD = 5.48) and a non-schizophrenic patient group (mean = 31.26, SD = 5.48). For the schizophrenic group, the split-half reliability was 0.85 with Cronbach's alpha of 0.76. A transformation of the RISC to stannine norms is available.

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Requests for reprints should be addressed to John Rust, PhD, Senior Lecturer in Psychometrics, University of London Institute of Education, 20 Bedford Way, London WC1H 0AA, UK.