

## EVIDENCE OF PSYCHOLOGICAL DISORDER IN THE RORSCHACH PROTOCOLS OF PATIENTS WITH SLEEP DISORDERS

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### INTRODUCTION

Disturbances of sleep and complaints related to sleep are known to be associated with psychiatric conditions (e.g., Muratoria et al., 1984; Satwood, 1976), particularly with depression. There is also a high incidence of psychological disturbance among individuals who present with sleep disorders. Studies—focusing principally on insomnia—have found signs of psychopathology in a large proportion of patients with sleep disorders (e.g., Bertelson & Monroe, 1979; Charon, Dramaix & Mendlewicz, 1989; Coursey, Buchsbaum & Frankel, 1975; Clements, Wing & Dunn, 1986; Freedman & Sattler, 1982; Heyden, Schmeck-Kessler & Schreiber, 1984; Kales et al., 1976, 1982, 1983, 1984; Levin, Bertelson & Lacks, 1984; Monroe & Marks, 1977a; Monroe & Marks, 1977b; Pailhous et al., 1988; Piccione et al., 1981; Roehrs, Lineback, Zorick & Roth, 1982; Schubert, 1976). The studies concur in finding evidence of depression in many patients with sleep disorders such as insomnia, sleepwalking and night terrors, and nightmares. There is also evidence for the presence of high levels of anxiety and high levels of rumination in many patients with these sleep disorders. There have been reports of elevations on the schizophrenia and/or paranoia scales of the MMPI (Freedman & Sattler, 1982; Hauri & Olmstead, 1989; Levin, Bertelson & Lacks, 1984). There may be distinctive personality subgroups in insomnia (Edinger, Stout & Hoelscher, 1988).

In a study involving 37 sleep disturbance patients seen at the sleep clinic of the Free University Hospital of Amsterdam, Cohen (1990) found that eleven patients scored positive on the Schizophrenia Index of the Rorschach (*SCZI*, Comprehensive System [Exner, 1986]), mostly from insomnia patients. The *SCZI* is based on a number of Rorschach variables tapping (1) inaccurate perception and (2) disordered thinking, two disturbances which no other diagnostic group, other than schizophrenia, has been defined or conceptualized as having (Exner, 1986). The obtained percentage of *SCZI*-positives was high for a nonschizophrenic sample.

In a subsequent study, reported upon here, we attempted to determine if the finding would be replicated. The central hypothesis was that a sizeable subgroup of insomnia patients shows schizophrenic-like cognitive features. The presence of schizophrenic-like cognitive features was defined operationally in terms of a positive Rorschach Comprehensive System Schizophrenia Index.

## METHOD

In the period between September, 1990 and January 1992, psychological data were collected from as many as possible of the patients admitted to the Free University Hospital for nocturnal polysomnographic registration. Patients were requested to participate in this study and the refusal rate was negligible.

*Subjects.* We focused on two types of sleep disorder patients: those presenting with complaints directly involving sleep (or lack of it) and those with no such complaints. The first or "sleep-complaint" group consisted of patients presenting with various sleep problems including difficulty in falling asleep, difficulty in maintaining sleep, excessive sleepiness in the daytime and/or irregular sleep. The second or "snoring" group was made up of individuals presenting with loud or excessive snoring but experiencing no difficulties in sleeping, usually referred because of the disturbance their snoring posed for the environment. Classification of patients in one of these two groups was based on information obtained from a brief inventory of complaints completed prior to admission and from the anamnestic interview conducted prior to psychological testing. The initial classification was made by two of the authors and was checked independently by the chief laboratory assistant. Forty-nine patients were classified and had valid Rorschach protocols.

*Measure.* We used a revised schizophrenia index (Exner, 1990) which had been found in the United States to yield fewer false positives than the earlier SCZI (Exner, 1991).

*Data-analysis.* The proportions of positive SCZI's were compared for the index sample ( $n=27$ ) and the following comparison samples: snorers ( $n=22$ ), diagnosed adolescent transsexuals ( $n=25$ ), first-year female university students ( $n=25$ ), diagnosed panic disorder patients ( $n=18$ ) and cardiology patients referred for psychological consultation ( $n=15$ ) and US normative samples (Exner, 1991). The principal comparison to be made was between the sleep-complaint and snoring samples.

## RESULTS

As can be seen from the table, the frequency of positive SCZI's in the sleep complaint sample is 6 (22%). Of the comparison samples only that of the adolescent transsexuals shows a comparable proportion of positive SCZI's. The other samples show at most one case per sample and do not exceed 7%. The one-degree-of-freedom contingency-table comparison between the sleep-complaint and snoring samples for positive and negative SCZI outcomes was significant (Fisher's Exact Test  $p = .012$ ).

When we compare our findings with US findings with the revised SCZI (Exner, 1991) we note that the samples of snorers, students, panic patients and psycho-cardiology patients resemble the US non-schizophrenic samples: the percentage of positive SCZI's in these groups is less than 10%. The transsexual and sleep complaint samples, with 20%, occupy an intermediate position.

We note that there were 8 patients in the Dutch samples with revised SCZI scores of 5 or 6 (high SCZI scores). One of these patients came from a sample with a relatively low percentage of positive SCZI's. The others came from the transsexual and sleep-complaint groups. The fact that seven of the eleven patients with positive SCZI's in these

two groups have elevated scores, lends extra significance to the findings since elevated scores are reportedly extremely rare in non-schizophrenic samples.

Mean percentage of positive SCZI's  
in different USA samples (Source: Exner, 1991)

Sample	SchizAff.	Disorder	Out-patients	Adolescents	Nonpatients
n	1238	1421	926	764	1364
% Positive		83.4	9.0	4.4	7.6
0.4					

Number and percentage of positive SCZI's  
in different Dutch samples

Sample	Sleep	Transsex	Cardio	Panic	Snorers	Students
n	27	25	15	18	22	25
n Positive		6	5	1	1	01
% Positive		22	20	7	6	0
4						

## DISCUSSION

The results of this replication are consistent with findings from the first study. A subgroup of patients presenting with sleep disturbances appear to show in their Rorschach protocols a combination of features--inaccurate perception and disordered thinking--which is found in schizophrenia.

Perhaps schizophrenia patients and a subgroup of patients presenting with sleep complaints share a common underlying cognitive disorder (Cohen, 1990). Meehl (1962, 1989) has suggested that a dominant schizogene is the source of a neural integrative defect (schizotaxia) which under ordinary social learning regimes gives rise to schizotypy, a personality showing ambivalence, aversive drift, dereism, autism and cognitive slippage. Given unfavorable polygenic potentiators (e.g., introversion, hypohedonia and anxiety) and adverse life experiences, around 10% develop schizophrenia. Our results suggest that a subgroup of patients presenting with sleep complaints shows cognitive slippage. The slippage in these patients might be the consequence of the hypothesized schizotaxia and enough favorable potentiators may block the development of schizophrenia.

Alternatively, the unusual cognitive features noted in the subgroup of patients presenting with sleep complaints may originate from other sources or be secondary to disturbances of sleep.

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