

Thought organization and primary process in the parents of schizophrenics

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The nature of the relationship between thought organization and primary process was explored by correlating clinical indicators of thought disorder on the Rorschach and formal primary process mechanisms in the dreams of 14 parents of schizophrenics recorded during a two-week period. The relationship between variability of primary process intensity and the Thought Disorder Index produced a negative correlation at the 0.05 level of significance. Variability of primary process intensity was not found to be significantly related to the length or frequency of the dreams.

This inverse relationship between formal thought disorder and variability over time of primary process in the dreams of biological relatives of schizophrenics suggested that dream constriction could be a regressive marker in the heritability of schizophrenia.

In a recent review of cognitive advances in schizophrenia research, Chapman (1979) noted the importance of formal thought disorder as a cognitive marker of schizophrenia and possibly as an indicator of a genetic predisposition toward the disorder in the parents of schizophrenics. The present study was concerned with the further investigation of thought organization as measured by the Rorschach technique and related to primary process manifestations in the dreams of parents of schizophrenics.

Method

A single group, non-experimental design was chosen to investigate the extent to which variations in primary process mechanisms in manifest dreams correlated with variations in Rorschach indicators of thought disorder within each subject.

The instrument used to measure Rorschach responses was the Thought Disorder Index of Johnston & Holzman (1979), which defines and quantifies, according to severity, 20 categories of formal thought disorder that have evolved from the original observations of Rapaport *et al.* (1968). A seven-point ordinal scale of primary process intensity which ranks dreams according to bizarreness, and nine categories of formal primary process mechanisms, both developed by Auld *et al.* (1968), were used to measure the manifest dreams. These nine categories were condensation, unlikely combinations of events, fluid transformations, visual representations, symbolism, contradiction, magic occurrences, inhibited movement, and taboo sexual and aggressive acts.

A deliberate sampling was used to find subjects. Members of a local support group of parents of schizophrenics participated in the study, and their qualification as a biological parent of a schizophrenic individual was determined through archival investigation of each family history. Those parents medicated with any psychotropic drugs were screened from the study. Nine females and five males participated in the study. Their mean age was 58.4 years and mean education was 14.4 years. The parents' offspring consisted of 10 male and four female adult schizophrenic children with a mean age of 27.6 years. The psychodiagnosis of the adult schizophrenic children was confirmed by investigating their mental health records and determining the validity of a schizophrenic diagnosis according to DSM-III criteria (American Psychiatric Association, 1980). All of the adult children, regardless of schizophrenic subtype, had experienced multiple and chronic durations of psychotic illness that met the APA descriptive symptomatology. Reliable subtyping, however, was not attempted.

Fourteen parents recorded their dreams at home for a two-week period. Following completion of the dream protocols, the parents participated in an audiotaped Rorschach interview. The Rorschach protocols were blindly scored using the Thought Disorder Index. The 14 dream protocols, consisting of 129 separate dreams, were blindly scored for both intensity and categories of primary process. The five hypotheses tested correlations between (1) mean intensity of primary process and the Thought Disorder Index, (2) mean categories of condensation in both the Rorschach and dream protocols, (3)

mean categories of displacement in both the Rorschach and dream protocols, (4) the variability of primary process categories in the dreams and the Thought Disorder Index, and (5) the variability of primary process intensity in the dreams and the Thought Disorder Index. Variability was measured by using the variance of both intensity of primary process and numbers of primary process categories in the dream protocol of each subject over the two-week period. Spearman's rho was used to test for significance at the 0.05 level.

Based upon general theoretical formulations in the psychoanalytic literature (Rapaport, 1951; Gill, 1967), the categories in Table 1 were extrapolated as empirical referents for condensation and displacement when correlating the dream and Rorschach protocols of each subject.

Table 1. Empirical referents for condensation and displacement

Auld, Goldenberg, & Weiss (1968) selected categories for dream protocols	Johnston & Holzman (1979) selected categories for Rorschach protocols
<i>Condensation</i>	
I. Condensation	8. Incongruous combinations
II. Unlikely combinations of events	13. Fabulized combinations
III. Fluid transformations	16. Confabulations
VIII. Inhibited movement	18. Contaminations
<i>Displacement</i>	
IV. Visual representation	1. Inappropriate distance
V. Symbolism	3. Peculiar word usage
VI. Contradiction	5. Clangs
VII. Magic occurrences	6. Perseveration
	7. Relationship verbalizations
	9. Symbolism
	12. Looseness
	20. Neologisms

Results

No significant relationships were found in the three hypotheses that correlated mean scores of primary process within the dreams and the Thought Disorder Index. The relationship between variability of primary process categories and the incidence of thought disorder produced a negative correlation of -0.468 ($P < 0.10$). The relationship between variability of primary process intensity and the incidence of thought disorder produced a negative correlation of -0.584 ($P < 0.05$). Variability of primary process was not found to correlate with the length or frequency of the dreams.

Interjudge reliability of the intensity of primary process was checked through random selection of 10 dream protocols that were independently scored by an examiner trained in the intensity scale. The mean intensity scores of the 10 protocols were correlated with the researcher's scores, yielding an interjudge agreement of 0.57 ($P = 0.014$) using Kendall's rank correlation coefficient. Auld *et al.* (1968) noted a significant and positive correlation between the length of the dream and the intensity of primary process. The correlation between the mean length of the dream and the intensity of primary process in this study was 0.634 ($P < 0.05$). This validates the finding of Auld *et al.* (1968) that those who report longer dreams also report more primary process intensity in their dreams.

Discussion

This study attempted to demonstrate a correlational relationship between thought disorder and conscious phenomena on a deeper level of thought; namely, formal primary process in the manifest dreams of the subjects. The original hypotheses proposed a linear and positive

relationship between the average amount of primary process that would appear in the dreams of a sample of parents of schizophrenics and a measurement of their thought disorder as it appeared on one projective test. These hypotheses were predicated on the beliefs that primary process provided the genotypic mechanisms of clinically observable thought disorder and that the intrusion of primary process into consciousness would be accessible, measurable, and relational at two different levels of psychological functioning. The finding of virtually no relationship in the first three hypotheses confirmed that this formulation was too simple an equation to account for the complexity of thought. The study did not support the conclusion that relations between formal structures of thought at two different levels of consciousness could be established by correlating the average occurrence of such formal structures.

The fourth hypothesis, however, approached significance; and the fifth hypothesis was significant at the 0.05 level. They suggest two conclusions. First, two levels of conscious thought can be accessed, measured, and correlated. Second, in this sample of parents of schizophrenics there was a significant negative correlation between the variability over time of primary process in the dreams of the subjects and the incidence of thought disorder as manifested in their Rorschach responses.

The concept of variability, or variance, describes the distribution of units of measurement along a one-dimensional line. The finding of a significant negative correlation between the variability of primary process – measured by the variance of intensity of primary process over a two-week period for each subject – and a thought disorder measure using a projective technique can be understood as a constriction of variability within dreams as thought disorder increases when awake. Without knowing the aetiology of thought disorder, it is clear that it occurs to a significantly greater degree in parents of schizophrenics than in other similar parent samples (Johnston & Holzman, 1979). If it is further assumed that an indicator of thought disorder is a cognitive marker of schizophrenia, then within a group of at-risk subjects, such as parents, a constriction of variability of primary process in manifest dreams could be a regressive marker that is clinically validated by the presence of an increase of formal thought disorder.

The results of this study are only suggestive of further research given the methodological limitations of a deliberate sampling and a non-experimental, correlational design. Further nomothetic research should focus on a replication of the present study employing a larger sample and a more rigorous design. It would also be parsimonious to review data from other studies of the dreamlife of schizophrenics and score the material for the variability of formal structures over time rather than the averages of the primary process form or content. Idiographic research could focus on a longitudinal case study of variability of formal mechanisms within the dreams of a schizophrenic individual in psychotherapy.

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