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PRELIMINARY EVIDENCE FOR THE PROPOSED RELATIONSHIP BETWEEN FREQUENT NIGHTMARES AND SCHIZOTYPAL SYMPTOMATOLOGY

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The relationship between several measures of schizotypic signs and the reported frequency of nightmares was evaluated in a college student population. A significant positive relationship to nightmare frequency was found for three of the four schizotypy measures (perceptual aberration, intense ambivalence, and somatic symptoms). The observed relationships appeared to be stronger for women than for men. There was a negative relationship between physical anhedonia and nightmare frequency. The results are discussed within the context of object relations theory utilizing an ego boundary model and are consistent with previous research independently implicating boundary impairment in the etiology of both phenomena.

Nightmares, vivid and terrifying episodes that wake the dreamer, can be so severe that they have been likened to brief psychotic episodes (Detre & Jarecki, 1971; Fischer, Byrne, Edwards, & Kahn, 1970; Hartmann, 1984; Mack, 1970). Indeed, Harry Stack Sullivan (1962) once stated that "terror dreams . . . are so closely related to schizophrenic panic states that it does violence to scientific method to arbitrarily separate the two" (p. 161). The possible relationship between frequent nightmares and schizophrenia and/or schizotypal personality has received considerable attention (Hartmann, 1984; Hartmann, Russ, Oldfield, Sivan, & Cooper, 1987; Hartmann, Russ, Van der Kolk, Falke, & Oldfield, 1981; Kales, Kales, Soldatos, Caldwell, Charney, & Martin, 1980; Mack, 1970). Not only is the nightmare (Detre & Jarecki, 1971; Mack, 1970) similar to an acute psychotic episode, but frequent and severe nightmares often immediately precede the onset of a psychotic episode (Arieti, 1974). Frequent nightmare sufferers produce MMPI profiles typical of schizophrenics (Hartmann et al., 1981, 1987; Kales

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et al., 1980) and are more likely than controls to receive a schizophrenia spectrum diagnosis based on interview data (Hartmann et al., 1981, 1987; Van der Kolk, Blitz, Burr, Sherry, & Hartmann, 1984). Hartmann (1984) also reports a greater incidence of mental illness in family members of his nightmare sufferers as compared to controls. In addition, frequent nightmare sufferers exhibit an elevated degree of manifest anxiety and general fearfulness as measured by self-report indices (Haynes & Mooney, 1975; Hersen, 1971), heightened concerns with death (Feldman & Hersen, 1967; Hersen, 1971), and lower manifest ego strength (Hersen, 1971; Levin, 1990).

From a psychodynamic viewpoint, Hartmann (1984) has hypothesized that persons with frequent nightmares may be characterized by thin or permeable ego boundaries which are manifested by an inordinate interpersonal openness, a heightened accessibility to primary process thought, and a lack of higher-level defense mechanisms. Hartmann speculates that, while genetic factors may be prominent, thin boundaries emanate from inconsistent and/or malignant internalization of early parental objects. In the subsequent absence of well-formulated whole-object representations, the ego remains fragmented, both in its self-representation and in its dealings with the external world. It is unable to provide secure protection to the individual (Schafer, 1960), primarily because the level of object-constancy, which should serve as an internalized source of security, is not present. From an object-relations viewpoint, these individuals internalize disjointed fragments or "pockets" of safety (partial representations) from which porous and weakened boundaries develop. We hypothesize that these proposed deficits render the nightmare sufferer highly vulnerable to internal and external threats to the integrity of the self.

It would follow that, when faced with a perceived threat, individuals with permeable boundaries would experience high levels of anxiety, a condition often accompanied by cognitive slippage. Ego boundary disturbances have likewise been implicated in the etiology of schizophrenia and preschizophrenia (e.g., Blatt & Wild, 1976; Federn, 1952) and can be useful concepts in explaining many of the clinical phenomena associated with these disorders (overinclusiveness, thought insertion and broadcasting, depersonalization, and estrangement). A number of studies have demonstrated a significant linear relationship between severity of ego boundary disturbance and the degree of cognitive and emotional impairment in schizophrenic patients (Blatt & Ritzler, 1974; Quinlan & Harrow, 1974). If frequent nightmares reflect internal structural deficits associated with schizophrenia and/or schizotypal personality, frequent nightmare sufferers should demonstrate the same oddities of perception and cognition that have been documented in psychosis-prone individuals.

Based on the work of Rado (1956) and Meehl (1962), the Chapmans and their colleagues have developed reliable self-report scales to identify various facets of schizotypal personality organization including anhedonia (Chapman, Chapman, & Raulin, 1976), perceptual aberration (Chapman, Chapman, & Raulin, 1978), intense ambivalence (Raulin, 1984), and somatic symptoms (Raulin, Chapman, & Chapman, 1978). Reliability for these scales ranges from .79 to .90, with good discriminative validity between schizophrenics, nonpsychotic psychiatric outpatients, and normals. Con-

current validation has also been documented with the Rorschach (Edell & Chapman, 1979), MMPI (Chapman, Chapman, & Miller, 1982), and psychiatric interviews (Chapman, Edell, & Chapman, 1980).

Given the proposed structural similarities between nightmares and psychosis, one would expect schizotypal features to be especially prevalent in frequent nightmare sufferers. In the present study, undergraduates completed both a nightmare frequency checklist and the four schizotypy scales that have been mentioned. It was predicted that frequent nightmares would be associated with high scores on the schizotypy scales. These data represent preliminary findings from a comprehensive research project investigating the degree of thought disorder and ego boundary impairment in frequent nightmare sufferers.

METHOD

Subjects included 669 introductory psychology students (446 females and 223 males). Each subject completed a six-point nightmare frequency checklist worded to tap lifetime frequency (not at all, very infrequently, once a year, few times a year, once a month, once a week, more than once a week). A nightmare was defined as "a scary dream that awakens the dreamer from sleep." In addition, subjects completed screening versions (Raulin, Van Slyck, & Rourke, 1983) of four schizotypy scales (physical anhedonia, perceptual aberration, intense ambivalence, and somatic symptoms), as well as an infrequency scale to screen for random responders. The screening scales are shorter versions of the original scales designed to be maximally discriminating at the high end of the scale. They were constructed by selecting those items that showed the greatest discrimination between the top scorers (upper 5%) and the normal-range scorers (lower 75%) on the full-length measures. The length and coefficient alpha for each scale are as follows: Physical Anhedonia (15 items, .76); Perceptual Aberration (10 items, .71); Intense Ambivalence (10 items, .76); and Somatic Symptoms (10 items, .84).

Separate analyses were conducted for each schizotypy scale without regard to subjects' scores on the other scales. High and low scorers served as the independent variables and nightmare frequency as the dependent variable. High scorers scored at least 1.5 standard deviations above the sample mean (7–8% of sample), while controls scored no greater than .5 standard deviation above the sample mean (70% of sample). Respondents whose scores fell between these levels were excluded from the data analysis. This selection procedure is based on the assumption that the base rate of schizotypy in the general population is between 5% and 10%; subjects with standard scores between +0.5 and +1.5 were not included in order to reduce the number of misclassified individuals.

RESULTS

All four schizotypy scales showed a statistically significant relationship to the mean nightmare frequency, although physical anhedonics reported less frequent nightmares: physical anhedonia $t(593) = -2.05$, $p < .05$; perceptual aberration, $t(582) = 3.19$, $p < .01$; intense ambivalence, $t(580) = 3.16$, $p < .01$; somatic symptoms, $t(575) = 2.27$, $p < .05$. Most of the effects were due to the female subjects. While none of the tests of mean nightmare frequency were significant for the males, three of the four were significant

for the females. Part of the difference between men and women in the number of significant findings may be the result of lower power among the male subjects because of the smaller sample size. However, the mean difference in nightmare frequencies between high and low scorers on the three schizotypy scales that showed significant differences was 40% larger for females than males on average. Therefore, it appears that this sex difference is not merely an artifact of differential power. Consistent with Grove (1982), the perceptual aberration scale had the highest discriminative value. Both the mean ratings of nightmare frequency and the percentage of subjects in each group who report nightmare frequency of at least once per week are presented in Table 1.

DISCUSSION

The results provide confirmation for the hypothesis that high scorers on several measures of schizotypic signs report a higher frequency of nightmares than controls. These results are consistent with previous research on the personality of the nightmare sufferer and provide empirical support for the proposed conceptual link in the etiology of frequent nightmares and schizotypal traits (Hartmann et al., 1981; Kales et al., 1980). Importantly, these data go beyond descriptive yet broad categorizations of psychopathological disorders and point to specific aberrations of thought and perception theoretically germane to the concept of ego boundary impairment. It is interesting to note that physical anhedonia, a trait associated with negative symptomatology such as social withdrawal (Chapman, Edell, & Chapman, 1980) and psychophysiological nonresponsivity (Simons, 1981), is predictive of low nightmare frequency.

Table 1. Ratings of Nightmare Frequency

	Males		Females	
	Control	Experimental	Control	Experimental
Physical anhedonia				
Mean ratings	2.24	1.93	2.67	2.67
Frequent nightmares[a]	3.8	3.7	5.8	13.3
Sample size	156	27	396	15
Perceptual aberration				
Mean ratings	2.13	2.47	2.64	3.19**
Frequent nightmares[a]	2.8	5.3	5.7	16.2*
Sample size	179	19	348	37
Intense ambivalence				
Mean ratings	2.09	2.56	2.65	3.18**
Frequent nightmares[a]	2.3	12.5*	5.0	20.5***
Sample size	172	16	359	34
Somatic symptoms				
Mean ratings	2.18	1.88	2.63	3.09**
Frequent nightmares[a]	2.7	0.00	4.5	11.8
Sample size	182	8	352	34

[a]Percentage of subjects reporting a nightmare frequency of once per week or more.
*$p < .05$; ** $p < .02$; *** $p < .005$.

Intense ambivalence, which is defined by Bleuler (1911/1950) as "the tendency to endow the most diverse psychisms with both a positive and negative indicator at one and the same time" (p. 53) ("Love and hate tend to go together."); perceptual aberration ("Parts of my body occasionally seem dead or unreal."); and somatic symptoms ("I have often had a puzzling numbness in some part of my body.") can all be explained by a temporary loss or abandonment of the ego's ability to keep perceptions and thoughts distinct, particularly in times of stress. These experiences are related to episodes of depersonalization or derealization as well as illusions and feelings of estrangement and deja vu and have been extensively discussed in the clinical literature (i.e., Federn, 1952) with regards to ego boundary impairment. The finding that frequent nightmare sufferers are significantly more likely to share these experiences suggests that even in a nonpsychiatric population, these individuals may lack the capacity to maintain a consistent, firm boundary around the mental representation of the self and to differentiate separate internal representations of different external objects. An alternative hypothesis is that subjects who self-report nightmares may have increased rates of substance abuse. While the present study did not assess this directly, Levin (1990) found no difference in substance abuse between nightmare sufferers and controls. In fact, nightmare sufferers reported refraining from such use because of previous bad experiences, perhaps another indication that artificial loosening of control may precipitate a psychotic episode. Of course, the boundary model currently proposed as the central mediating factor between nightmares and schizotypal symptomatology does not preclude the possibility that other mechanisms, such as information processing deficits and/or abnormal arousal patterns, may also account for the observed findings. While future research should be directed in these areas, such alternative hypotheses would not necessarily negate the viability of our proposed interpretation. Rather, these processes may merely represent cognitive and psychophysiological concomitants of an underlying state of psychic disorganization.

An interesting note in the present study was the disproportionate degree to which the women contributed to the overall significance of the findings. This finding is consistent with data showing that women are significantly more likely to report having nightmares (Belicki & Belicki, 1982). Given that the base rates of schizotypal personality disorder are equal in men and women, the disproportionate effect of the female subjects on the overall data may be attributable to the fact that female nightmare responders are more disturbed by their attacks than their male counterparts and that these effects become more readily generalized to their waking experiences (i.e., elevated scores). Indeed, in an earlier study, Levin (1990) found that women, compared to men, reported paying significantly greater attention to and experiencing significantly greater distress from both their nightmares and nonnightmare dreams. Previous research has demonstrated that the degree of perceived distress may be a mediating factor in the degree of pathology associated with nightmare frequency (Belicki & Parry, 1987). While gender difference in the degree of subjective distress to nightmares was not assessed in this study, it would appear to be a worthwhile variable to investigate in further research.

It must be noted that a majority of the schizotypal subjects do not report

frequent nightmares. Clearly, the experience of nightmares is multiply determined, and additional research focusing on in-depth comparisons between psychosis-prone individuals with and without frequent nightmares might help to discern more specifically those factors associated with nightmare production. In addition, future research will need to examine the degree to which increased nightmare frequency is specific to schizotypal personality organization, rather than a concomitant by-product of a generalized increase in psychopathology. While the data clearly suggest a link between nightmare occurrence and schizotypal symptomatology, the results would be greatly bolstered by the use of behavioral measures (e.g., clinical interviews) to assess independently the nature and intensity of schizotypal phenomena in high and low nightmare sufferers.

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