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ALEXITHYMIA AND IMPOVERISHED DREAM RECALL IN ASTHMATIC PATIENTS: EVIDENCE FROM SELF-REPORT MEASURES

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Abstract—Early clinical impressions that alexithymia is associated with diminished dream recall have been supported by more recent research. The present study was designed to examine this association using self-report measures and a carefully screened clinical population. Thirty-three male and 43 female asthmatics from an outpatient clinic were administered the Toronto Alexithymia Scale, the Eysenck Personality Questionnaire, and a questionnaire concerning retrospective recall of dreams and nightmares. Multiple regression analyses revealed that, among men, dream recall was negatively related to alexithymia, especially to the TAS *analytical mode of thinking* subscale, independent of age and neuroticism. Among women, dream and nightmare recall were positively correlated with neuroticism. These results are consistent with early clinical observations of *pensée opératoire*, with some research findings, and with the notion that dream recall may be differentially associated with components of alexithymia in men and women patients. Copyright © 1997 Elsevier Science Inc.

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INTRODUCTION

Early investigations [e.g., 1, 2] linked the alexithymia construct with diminished dream recall and an impoverished imaginal life more generally. This association corresponded well with later clinical observations of psychosomatic clients [e.g., 3-5] and some validation work [6, 7]. This early work also anticipated what is now widely recognized to be a close affinity between the processes underlying the production of both emotion and imagery [e.g., 8].

Some laboratory studies also supported these early impressions. First, a study employing REM sleep awakenings found a higher incidence of contentless dream recall among asthmatic patients [9], a population known to have a high incidence of alexithymia [10]. Second, a sample of six eczematous patients with alexithymia showed reduced REM sleep time and uninvolved dreams [11, 12]. Third, our own

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laboratory study of asthmatic patients drawn from the same population studied in the present report [13] showed that a group of six alexithymic women (Toronto Alexithymia Scale [TAS] score ≥ 74) reported fewer dreams after controlled awakenings from REM sleep than did an age-matched group of nonalexithymic women (TAS score ≤ 62).

Some nonlaboratory work also indicates a relationship between alexithymia and reduced dream recall. First, a survey study of the general Finnish population [14] found alexithymia to be associated with colorless dreams and dreams in which the dreamer was not an active participant. Second, factor analyses of several measures of alexithymia [15] showed that at least one dream recall item loads substantially on an imagery factor of the Shalling–Sifneos Personality Scale. Third, clinical reports of alexithymic patients in therapy [e.g., 16] indicated that dream content reflects changes in a patient's alexithymic symptomatology.

In light of such evidence, the goal of the present study was to further assess relationships between dream recall and alexithymia using a larger sample of asthmatic patients and easily administered (self-report) measures of dream and nightmare recall. We expected that alexithymia severity and dream and nightmare recall will be linearly related, even when age and neuroticism are controlled. Alexithymia was assessed with the TAS [6] for a sample drawn from a population of asthmatic patients, who are known to have a high incidence of alexithymia [10]. In view of the fact that alexithymic men were consistently unwilling to serve as subjects in a parallel sleep laboratory study of alexithymia, we were particularly interested in obtaining more self-report data concerning the dream recall of this group, and of assessing possible gender differences on these measures. Because both neuroticism and age are also known to be related to alexithymia and dream variables [12, 17], we administered the Eysenck Personality Questionnaire (EPQ) [18] and controlled for the covariation of these variables in the analyses.

METHODS

Subjects

Patients included 33 men aged 15–71 years ($M=47.0 \pm 16.4$) and 43 women aged 21–83 years ($M=46.2 \pm 17.2$) who had been referred for assessment and treatment to the Asthma Outpatient Clinic of a major Montreal urban community hospital (Hôpital du Sacré-Coeur). Most had been followed in the asthma clinic for various periods of time, whereas only a few were being seen for the first time. All patients were asthmatics as confirmed by significant improvement ($>15\%$ and >200 ml) in either FEV_1 (forced expiratory volume in 1 second) after inhaled β_2 -agonist or a positive histamine or methacholine challenge [19]. Four patients also had obstructive chronic bronchitis. Patients voluntarily consented to complete the questionnaires. The study was approved by the hospital ethics committee.

Procedures

Patients were asked to participate in the study when they arrived at the asthma clinic. If they agreed, they were first administered the TAS by a psychiatrist blind to their asthma status. The TAS is a 26-item self-report test on which respondents use a scale ranging from 1 (strongly disagree) to 5 (strongly agree) to rate their reactions to items. It had been translated into Quebecois French by a team of four bilingual psychiatrists and psychologists and its cross-language consistency found to be sufficient for a sample of 15 normal bilingual subjects. From the TAS, global alexithymia scores (TAS score) were calculated. Patients were also administered the EPQ [18], from which Neuroticism scores were used, and a questionnaire concerning sleep habits, from which answers to the following two questions about dream and nightmare recall were obtained:

1. How often do you recall your dreams?

2. A nightmare is a frightening or anxious dream that can wake you up. How often do you recall such a dream?

These items were both rated by patients on a 5-point scale: 1=less than 1 time/year, 2=1–12 times/year, 3=1–4 times/month, 4=1–3 times/week, 5=4–7 times/week.

Patients were then seen by their chest physician who assessed the severity of their asthma based on symptoms, need for medication, and level of airway obstruction as proposed by Malo [20]. Results for severity measures in these patients are reported elsewhere (T.A. Nielsen, H. Waines, A. Cartier, J. L. Malo, J. Montplaisir, personal communication).

Statistical Analyses

The hypothesis was tested using stepwise multiple regression. TAS score, neuroticism score, age, and gender were entered as independent variables and self-reported dream and nightmare recall as dependent variables. Relationships between dream recall and alexithymia were further explored by calculating identical regression analyses for men and women separately and for the three major subscales of the TAS [17]: (a) *Inability to identify and report feelings*; (b) *Diminished daydreaming and fantasy*; and (c) *An externally oriented analytical mode of thinking*.

RESULTS

Dream Recall was found to be predicted significantly by TAS Score and Neuroticism, in order of importance ($R_{76}=0.35$, $R^2=0.123$, $F_{2,73}=5.12$, $p<0.01$), and marginally by Gender ($p<0.06$) (Table I). Regression analyses conducted separately by Gender revealed that, for men, Dream Recall was predicted only by TAS Score ($R_{33}=-0.45$, $R^2=0.20$, $F_{1,31}=7.74$, $p<0.01$; Fig. 1A), while for women these two variables were not related (Fig. 1B). Using the Fisher r -to- z transformation, a two-tailed test of the difference between the Dream Recall \times TAS correlations for men and women revealed a trend ($Z_{\text{dif}}=-1.58$, $p<0.12$).

Nightmare recall was predicted significantly by both Neuroticism and Gender ($R_{76}=0.37$, $R^2=0.138$, $F_{2,73}=5.83$, $p<0.01$) (Table I), and only marginally by TAS Score ($p<0.09$). Nightmare Recall for women was predicted by Neuroticism alone ($R_{42}=0.40$, $R^2=0.161$, $F_{1,41}=7.86$, $p<0.01$) but for men by no variables. However, the difference between men and women for these correlations was again only marginally significant ($Z_{\text{dif}}=0.150$, $p<0.14$).

For men, the *Externally oriented analytical mode of thinking* subscale of the TAS significantly predicted both Dream Recall ($R_{33}=-0.35$, $F_{1,31}=4.33$, $p<0.05$) and Nightmare Recall ($R_{33}=-0.46$, $F_{1,31}=8.23$, $p<0.01$). For women, these correlations were low ($r=0.122$ and -0.009 , NS) and significantly different from those of the men ($Z_{\text{dif}}=-0.202$ and -0.201 , $p<0.05$ for both). No other substantive correlations were obtained.

DISCUSSION

The results suggest that alexithymia is associated with retrospective estimates of reduced dream recall for male asthmatic patients. For men, the recall of dreams is negatively related to alexithymia as measured by the TAS, independent of age and neuroticism; that is, the more severe their emotional deficit, the lower their self-reported recall. Dream recall for men appears to be related to the *Externally oriented analytical mode of thinking* subscale of the TAS, but not to the more central *Inability to identify and report feelings* subscale. Taylor *et al.* [21] consider the former subscale to encompass the *pensée opératoire* component of alexithymia—which

Table I.—Stepwise multiple regression solutions for combined patient sample and for women and men separately

N	df	Predictor variable(s) ^a	Dream recall						Nightmare recall					
			R ^b	R _{sq}	F	p	B ^c	β ^d	Predictor variable(s) ^a	R ^b	R _{sq}	F	p	B ^c
Combined	76	TAS, Neur	0.351	0.123	5.12	0.008	—	—	0.371	0.138	5.83	0.005	—	—
	1	TAS	-0.241	0.058	7.10	0.009	-0.03	-2.69	0.280	0.078	5.58	0.021	0.05	1.27
	1	Neuroticism	0.262	0.065	5.40	0.023	0.06	1.12	-0.254	0.059	5.02	0.028	-0.52	-0.11
Women	43	(Gender)	-0.224	0.050	3.81	0.055	-0.52	-0.09	-0.201	0.040	3.02	0.086	-0.02	-1.97
	41	(Neuroticism)	0.261	0.068	3.01	0.090	—	—	0.401	0.161	7.86	0.008	0.10	1.63
Men	33	TAS	-0.447	0.200	7.74	0.009	-0.05	-2.78	—	—	—	—	—	—

^a Predictor variables for general regression equations ($df = 73, 41, 31$) and individual predictor variables ($df = 1$). "TAS, Neur" and "Neur, Gender" refer to the combinations of variables which contribute to the regression solutions. Variables in parentheses represent trends and were not included in equations.

^b Multiple correlation coefficients (for regression equations) or partial correlation coefficients after each step (for individual predictor variables).

^c Raw regression coefficients.

^d Standardized regression coefficients.

early French psychoanalysts [22] described as a literal utilitarian personality—but not necessarily to reflect an individual's more specific ability to identify, discriminate and express feelings. Thus, the present results fairly clearly link diminished dream recall and a *pensée opératoire* thought style in male asthmatic patients, a finding at least partially consistent with early studies of alexithymia [1, 2].

No similar relationship between dream recall and the “analytic thinking” component of alexithymia was found for women in the present study. Rather, nightmare recall—and to a lesser extent dream recall—was positively correlated with neuroticism. It should be noted that among both normal volunteers and psychiatric outpatients, neuroticism has been found to be correlated with the TAS [17, 24, 25]. For example, Bagby *et al.* [23] reported a correlation of 0.27 ($p < 0.05$) between these two variables; Wise and Mann [24] reported a 0.38 correlation ($p < 0.001$). We found a correlation of 0.40 ($p < 0.01$) for women, which is somewhat higher than these values, but nevertheless generally consistent with them. Our finding of a positive correlation between neuroticism and the TAS's *Inability to identify and report feelings* subscale ($r = 0.51$, $p < 0.05$) is also similar to that noted by Bagby *et al.* [24] for the related factor on the new 20-item TAS ($r = 0.42$, $p < 0.01$). For asthmatic women, then, processes regulating dysphoric affects and stress-related vulnerabilities (neuroticism) may prove to be more important correlates of dream and nightmare recall than is the ability to identify and express such affects *per se*.

The lack of a relationship between dream recall and alexithymia for women in the present study is at odds with findings from another of our studies which used a REM sleep awakening procedure to assess dreaming [13]. In the latter study, a small but significant impoverishment of dream recall was found for a group of six asthmatic women who scored alexithymic relative to group of age-matched, nonalexithymic control subjects. One reason for this discrepancy may be that the different procedures (self-report vs. REM sleep awakening) provide different estimates of recall. Self-report estimates of both dream and nightmare recall frequency have been found to *underestimate*, by as much as 50%, dream and nightmare occurrence as measured by either daily home logs or home telephone awakenings [25, 26]. The retrospective measures used in the present study may thus have underestimated the

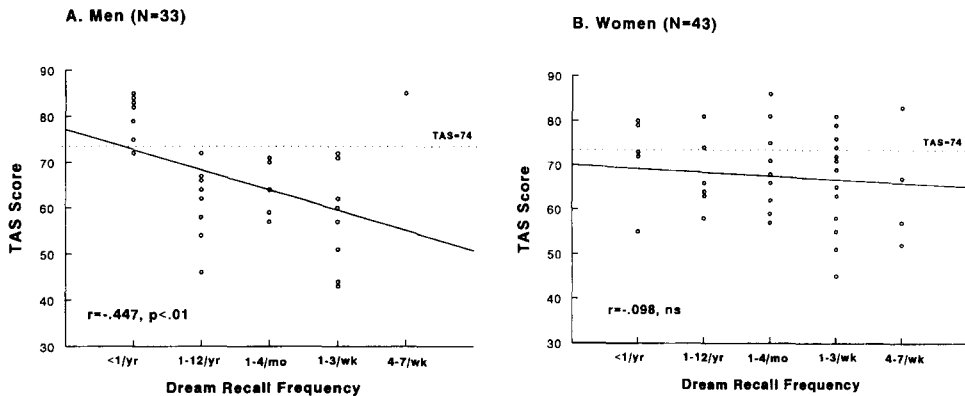


Fig. 1. Correlations between self-reported dream recall frequency estimates and Toronto Alexithymia Scale (TAS) scores for subgroups of men (A) and women (B) asthmatic outpatients.

real recall frequencies of both men and women patients and somewhat obscured relationships with their alexithymia scores.

Another possible explanation for the gender differences found in the present study is that processes underlying dream recall are differentially implicated in the symptomatology of asthma for men and women. A previous analysis of alexithymia and asthma severity for the same patient sample (Nielsen *et al.*, personal communication) suggested just such a differential relationship. Alexithymia was found to be associated with less severe symptoms for women, as if it were part of an adaptive response to asthma, whereas for men a contrary trend was seen. To test whether this differential pattern also held for the present measures of the variables of Dream and Nightmare Recall, we re-examined correlations between three indicators of asthma severity (*Duration of asthma, Degree of obstruction, Need for medication*) and Dream and Nightmare Recall scores. The results indeed suggest a differential relationship: for men, there are positive correlations between an average of the asthma severity scores and both Dream Recall ($r=0.26, p<0.03$) and Nightmare Recall ($r=0.29, p<0.02$); for women, the average correlations are negative ($r=-0.20$ and $-0.19, p<0.08$) and significantly different from those of the men ($Z_{\text{diff}}=1.94$ and $2.03, p<0.05$ for both). This pattern of results is consistent with the possibility that the processes mitigating oniric recall are differentially associated with asthma symptoms. In the case of men, a low frequency of recall appears to be associated with better adaptation to asthma, whereas for women adaptation seems to be associated with a high frequency of recall. This pattern closely parallels a gender difference in dream recall frequency observed by Schredl and Kraft [27]: for men, low recall was selectively associated with good sleep; for women, high recall was selectively associated with emotional disruption.

Further research on gender differences in dreaming and alexithymia is clearly desirable to clarify the relationships found in these analyses. It would be useful to assess both dream recall and alexithymia (and its subscales) in conjunction with a more comprehensive personality instrument, such as the Five-Factor Model (NEO-FFI [24, 28]) for larger groups of male and female patients. Such an assessment could verify, for example, whether the differential relationships between dream and nightmare recall and asthma severity for men and women are expressions of more basic differences in personality styles (e.g., *pensée opératoire* vs. neurotic) for the two genders. Further assessments with sleep laboratory procedures are also clearly desirable.

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