Dream Recall, Attitude Towards Dreams and Mental Health

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Previous research findings regarding the relationship between mental health and dream recall are inconclusive. The present study revealed a small but distinct relationship between some trait aspects of mental health and dream recall frequency as well as attitudes towards dreams. The patterns, however, were gender specific: for men, a positive correlation between mental health and dream variables were found, whereas a negative correlation for "self-forgetting vs. self-centered" was found in women. The observed relations may be useful in assessing mental health, i. e. by including dream-related items in research instruments. In addition, the findings suggest that simple techniques such as dream-telling or self-guided dreamwork may have a positive effect on coping with internal and external demands and mental health. (Sleep and Hypnosis 2001;3(4):135-143)

Key words: *dream recall, attitude towards dreams, mental health, gender differences*

INTRODUCTION

Freud's (1) theory of dream recall explains low dream recall frequency as a consequence of repression. According to his theory, dreams containing unacceptable drives or wishes which were not sufficiently altered by the dream-censor are repressed to prevent conscious knowledge of these contents. If one views repression as an inadequate coping strategy, low dream recall would reflect poor adjustment. The findings regarding the relationship between repression as trait and dream recall, however, are inhomogeneous and have not supported the assumption of a strong correlation between these two variables (overview: (2)). Case material of patients undergoing psychotherapy (e.g., (3)) and controlled studies (4) have shown that working with dreams can be of benefit for the person and recalled dreams can thus enhance mental health.

The salience hypothesis of dream recall proposed by Cohen and MacNeilage (5) predicts an opposite relationship between dream recall and emotional stress to that of Freud. They demonstrated that the more intense the negative mood in the evening is, the more often dreams are recalled the following morning, i.e., stress and problems which affect pre-sleep mood are followed by negatively-toned dreams (cf. (6)) which tend to be recalled more easily (e.g., (7, 8)). Regarding the personality trait of neuroticism, McElroy (9) and Bone (10) have found a positive correlation with dream recall frequency; a finding which was not replicated in subsequent studies (11-13). In view of these very inconclusive studies, the question as to whether mental health is related to high or low dream recall remains unsolved.

Many studies indicate that a positive attitude towards dreams and thinking about dreams are strongly correlated with dream recall frequency (14-17). Interestingly, several studies (13,17,18) have found closer relationships between waking-life measures such as absorp-

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tion and attitudes towards dreams than between these measures and dream recall itself. In addition, gender specific patterns have emerged in some studies. Bone (10), for example, reported a positive correlation between neuroticism and dream recall frequency for males but not for females. The findings of Schredl (19) indicate that sleep duration and frequency of nocturnal awakenings were related to dream recall in males, whereas low emotional balance was associated with elevated dream recall in women. Armitage (20) has shown that stress tends to increase dream recall in women but reduce dream recall in men. These few selected examples as reported in the literature suggest that it is important to differentiate between dream recall frequency and the various measures of interest in or attitudes towards dreams and to take the influence of gender into consideration.

The present study was planned to investigate the relationship between mental health and dream recall frequency as well as attitudes towards dreams. Mental health was measured in its trait aspect, conceptualized as the capability for coping with internal and external demands (21).

METHODS

Participants

Overall, eighty-nine persons (42 women, 47 men) participated in the study. Their mean age was 36.3±10.4 years; the sexes did not differ in this aspect (34.7#11.1 years. (women) vs. 37.6#9.7 years. (men); t=1.3, p=.1413). The participants were recruited by the second author from her personal environment for a study on lucid dreaming. Seven participants were members of the Austrian Society for Parapsychology or of a German e-mail list on lucid dreaming.

Research instruments

Dream questionnaire

The dream questionnaire is comprised of 22 items measuring various aspects regarding attitude towards dreams (see appendix). 16 items were taken from the questionnaire constructed by Schredl, Nürnberg and Weiler (17), whereas three items (5,6,10) were slightly reworded. In addition, three items (3,21,22) were formulated for this study. The items were coded as follows: 1= not at all to 4= perfectly. Dream recall frequency was measured by a six-point scale (1= no recall during the last months, 2= less than once a month, 3= once or twice a month, 4= several times a month, 5= once or twice a week, 6= several times a week). The questions regarding lucid dreaming will be reported elsewhere (Doll and Holzinger, in preparation).

Mental Health questionnaire

Mental health was measured by the Trier Persönlichkeitsfragebogen (TPF, (21)) which is comprised of 120 four-point scales. Mental health is conceptualized as the ability to cope with external and internal demands, i.e., the focus is on the trait aspect of mental health. First, two so-called super-factors (1. control of behavior, 2. mental health) were extracted. The construct mental health was differentiated into three areas: mental-somatic well-being (3. meaningfulness of life vs. depression, 4. self-forgetting vs. self-centered, 5. free of complaints vs. nervousness), self-actualization (6. assertiveness, 7. autonomy) and acceptance of oneself and of others (8. self-confidence, 9. ability to love). The raw values of the participants were transformed into T-values (mean: 50; standard deviation: 10) by comparison to the norms. The internal consistency of the scales ranged form r=.77 (ability to love) to r=.91 (mental health). The retest reliability coefficients for eleven months were also satisfying (r=.69 to r=.78, N=164), supporting the purpose of measuring a trait aspect. Validation analyses were done by correlational studies including commonly-used personality inventories such as MMPI, 16 PF, EPI, STAI and FPI, by confirmatory factor analyses and by comparing clinical samples to healthy controls (21).

Procedure

First, after providing written consent, partic-

ipants were given the dream questionnaire. Subsequently, the Decision-Q-Sort (EQS; (22)) and the Three-dimensional Cube Test (3DW, (23)) were applied (cf. Doll and Holzinger, in preparation). Lastly, the participants completed the Trier Persönlichkeitsfragebogen (TPF; (21)). Participation was voluntary and unpaid.

Data analyses were carried out by using the SAS (release 6.12) software package. One-tailed tests were applied for testing gender differences since the findings reported in the literature were homogeneous. Otherwise, two-tailed test were computed. According to the measurement level of the single items (ordinal), Spearman rank correlation coefficients and Mann-Whitney-U-tests were computed. In order to take effects of a covariate into account, analyses of covariance using ranks were performed.

RESULTS

Attitude towards dreams

For all 22 items of the dream questionnaire, a factor analysis (principal components) without rotation was carried out. Utilizing the factor extraction criteria of eigenvalue>1, eight factors emerged. The first factor, however, comprised 47.4 % of the explained variance (equivalent to 30.1 % of the total variance). Similar to Schredl, Nürnberg and Weiler (17), a sum score was derived by summing up all items with factor loadings>0.5 on the first factor. This score included 14 items (1-3, 5-8, 10, 13, 14, 17, 18, 20); two of these items were inverse (7, 8). The internal consistency of this scale amounted to r=.904. The correlation coefficient to dream recall frequency was highly significant (r=.620, p<.0001).

Gender differences

Despite the elevated dream recall frequency of women (4.64±1.39) in comparison to dream recall of men (4.21±1.52), the difference was only marginally significant (Mann-Whitney-U-test: z=1.4, p=.0838). Similarly, the difference of the sum score "attitude towards dreams" failed to reach significance (43.1±7.9 (women) vs. 40.8±7.7 (men), t=1.4, p=.0812). Regarding the single items of the dream questionnaire, four significant differences were found: women reported recalling dreams more regularly (2.93±0.56 (women) vs. 2.64±0.74 (men), z=2.1, p=.0197), talk about their dreams more often (3.00±0.91 (women) vs. 2.55±0.88 (men), z=2.4, p=.0085), search for meanings in dreams more often (3.45±0.80 (women) vs. 3.04±0.91 (men), z=2.4, p=.0089) and think about their dreams more often for the purpose of enhancing self-knowledge (3.05±0.96 (women) vs. 2.66±0.71 (men), z=1.9, p=.0293). The gender differences for the variables 'talking about dreams' and 'finding meaning' remained significant, if the covariate dream recall frequency was taken into account by carrying out analyses of covariance using ranks.

Dream recall, attitudes towards dreams, and mental health

In Table 1, the correlation coefficients for dream recall frequency and the nine scales of

Table 1. Relationship between dream recall frequency and the 9 factors of the Trier Persönlichkeitsfragebogen (TPF, [21])

Variable	Total sample (N = 89)	Men (N = 47)	Women (N = 42)
1. Control of behavior	-.092	-.016	-.168
2. Mental health	.184 (*)	.290 *	.039
3. Meaningfulness of life vs. depression	.013	.150	-.244
4. Self-forgetting vs. self-centered	-.197 (*)	-.119	-.270 (*)
5. Free of complaints vs. nervousness	.150	.335 *	-.084
6. Assertiveness	.257 *	.258 (*)	.236
7. Autonomy	.140	.124	.134
8. Self-confidence	.242 *	.325 *	.030
9. Ability to love	.082	.188	.030

(*) p < .10, * p < .05 (two-tailed)

Table 2. Relationship between attitude towards dreams (Sum score) and the 9 factors of the Trier Persönlichkeitsfragebogen (TPF, [21])

Variable	Total sample (N = 89)	Men (N = 47)	Women (N = 42)
1. Control of behavior	-.083	-.110	-.045
2. Mental health	.033	-.008	.050
3. Meaningfulness of life vs. depression	-.054	-.093	-.067
4. Self-forgetting vs. self-centered	-.217 *	-.120	-.332 *
5. Free of complaints vs. nervousness	.122	.044	.039
6. Assertiveness	.103	-.048	.237
7. Autonomy	.021	-.172	.184
8. Self-confidence	.182	.163	.138
9. Ability to love	.228 *	.295 *	.096

* p < .05 (two-tailed)

Table 3. Relationship between selected items of the dream questionnaire and the two factors of the Trier Persönlichkeitsfragebogen (TPF, [21])

TPF-Variable	Dream questionnaire	Total sample (N = 89)	Men (N = 47)	Women (N = 42)
4. Self-forgetting vs. self-centered	10. Talking about dreams	-.224 *	-.142	-.270 (*)
	18. Finding meaning	-.253 *	-.116	-.448 **
	22. Thinking about dreams	-.212 *	-.135	-.335 *
9. Ability to love	10 Talking about dreams	.265 *	.455 **	.071
	18. Finding meaning	.230 *	.334 *	.109
	22. Thinking about dreams	.189 (*)	.259 (*)	.107

* p < .05 (two-tailed)

the Trier Persönichkeitsfragebogen (TPF) are listed. In the total sample, two correlations (assertiveness and self-confidence) were significant and two were marginally significant (self-forgetting vs. self-centered and mental health). Elevated dream recall was connected with increased mental health, lower self-forgetting, increased assertiveness and self-confidence. The positive correlations were found to be valid for males only. (additionally, the correlation for the "free of complaints vs. nervousness" variable was related positively to dream recall), whereas the negative correlation (self-forgetting vs. self-centered) was related to dream recall in females.

Regarding the attitude towards dreams, again two significant correlations were found in the total sample (see Table 2). The ability to love was related with a positive attitude towards dreams in men, whereas low self-forgetting was correlated with attitude towards dreams in women. This pattern was also present for the single "talking about dreams", "Findings meaning in dreams" and "Thinking about dreams" items (see Table 3). For females, talking about dreams, finding meaning in dreams, and thinking about dreams was associated with elevated scores of the variable "self-centered" (opposite of self-forgetting), whereas these dream variables correlated positively with the trait factor "ability to love" in males.

DISCUSSION

Overall, the present findings indicate that several aspects of mental health are related to dream recall and positive attitude towards dreams, but gender specific patterns emerged. The factor analysis revealed a general factor "positive attitude towards dreams" which accounted for about 50% of the explained variance. The selected fourteen items represent a

reliable measure (cf. (17)). In the future, validation of the scale by investigating another sample and studies of the scale's retest reliability are indicated.

The observed gender differences in dream recall are quite comparable to those reported in the literature (24-26), although – due to smaller sample size – the statistical test was only marginally significant. The same seems to be true for the sum score measuring attitude towards dreams (cf. (17,27)). The more pronounced differences regarding the engagement in dreams (items 18 and 22) confirm earlier findings that "engagement in dreams" showed a larger gender difference (effect size: d=0.71) than dream recall frequency (d=0.49; (19)). Interestingly, it was not systematically investigated which factors may explain these gender differences. Since heightened dream recall was also found for adolescent females (e.g., (28)), it can be hypothesized that early gender specific socialization plays an important role in developing a positive attitude towards dreams and modulate dream recall frequency.

Regarding the relationship between dream recall and mental health, the findings indicate that several aspects of mental health were associated with heightened dream recall. This was, however, only valid for men, whereas for females a marginally significant correlation (self-forgetting vs. self-centered) in the opposite direction was found. These results are congruent with those of Armitage (20) who reported that dream recall frequency was increased by stress in females, but decreased in males. Yet, the exact pathway as to how stress affects dream recall frequency was not studied systematically. On the one hand, the above-mentioned salience hypothesis of dream recall (5) predicts that stress and the accompanying negative emotions cause more intense, negatively-toned dreams which are more likely to be recalled. On the other hand, it seems equal plausible that stress reduces sleep quality and increases the number of nocturnal awakenings; a factor which is strongly associated with dream recall (29). The latter line of thinking may also explain the gender specific effect of stress on dream recall, since it was shown that sleep quality is lower in women than in man (30) which can be interpreted in a more pronounced vulnerability of sleep to stress in women. In order to investigate these relations in a more detailed way, it will be necessary to conduct longitudinal studies measuring stress, dream recall, sleep behavior and the emotional intensity of dreams.

Despite the strong correlation between dream recall and attitude towards dreams, the relationships between these two variables and mental health were slightly different, especially for males. The "ability to love" scale was associated with the sum score and the three selected items of the dream questionnaire. This scale measures aspects such as giving love, interest in the well-being of other persons, readiness to help and consideration (21). It may be possible that engagement in dreams promotes these skills. In order to test this assumption empirically, a pre-post-test, control-group study including extensive working with dreams will be necessary.

The correlation between the "self-centered" trait aspect (brooding about oneself and the past, worrying about the future, being anxious) and the engagement in dreams to advance self-knowledge (Items 18, 22) together with talking about dreams may reflect an attempt to cope with actual or chronic problems which reduce mental health. This seems plausible since it was shown that dreams can help to solve personal problems (e.g., (31)) and that self-guided dreamwork can be of benefit for the dreamer (32).

To summarize, a small but distinct relationship between mental health and several aspects of dreaming were detected. This might be useful in assessing mental health, i.e., by including specific items regarding dream recall, attitude towards dreams, negatively-toned dreams, engagement in dreams and so on. The inconsistent results of previous research may be explained by the gender specific patterns in the relationship between mental health and dream recall frequency found in the present study. For males, dream recall and positive attitude towards dreams were associated with mental health, whereas the opposite was found regard-

ing one aspect of mental health ("self-forgetting vs. self-centered") for women. To extend the findings of the present study, it will be interesting to measure mental health in its state aspect and relate it within a longitudinal design directly to dream recall. In addition, intervention studies can test a possible positive effect of dream-telling or self-guided dreamwork on coping strategies and mental health. A baseline study in the elderly was carried out by Funkhouser et al. (33) who provided weekly opportunities for subjects to tell dreams over a 26-week period. It will be interesting to apply such approaches in mental health counseling since dream-telling or self-guided dreamwork are easily applicable techniques.

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Appendix: Dream questionnaire

The following questions relate to your honest subjective attitude towards dreaming and your nocturnal dreams. Please indicate to which extend the following statements are valid for yourself. Four categories can be selected:

This statement is | **perfectly** / **fairly** / **barely** / **not at all** | **valid for me.**

In responding to the statements, there are no correct or wrong answers. It is of interest how you personally view each statement. Please indicate spontaneously the response which is truest for you.

1. I recall my dreams regularly.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

2. I like dreaming.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

3. Some dreams affect my decisions in waking life.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

4. Dreams are a waste product of the brain.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

5. Some dreams I will remember after several years.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

6. Some dreams give me creative ideas for my daily life.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

7. I am indifferent to my dreams.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

8. I disapprove thinking about and working with dreams.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

9. I can still recall some of my childhood dreams.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

10. I like talking with others about my dreams.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

11. It is unnecessary to pay attention to dreams.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

12. A person who dreams a lot has problems.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

13. Sometimes, I recall fragments of a dream during the day.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

14. Major life events and important changes in my life affect my dreams.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

15. It did not enter my mind to tell other persons about my dreams.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

16. A person who is strongly engaged in her/his dreams, do not face reality.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

17. My dream recall is detailed and vivid.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

18. If my dreams are very moving, I try to find meaning in them.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

19. I do not take my dreams seriously.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

20. I have written at least one dream down.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

21. Some dreams have a distressing effect on my waking life.
❏ perfectly ❏ fairly ❏ barely ❏ not at all

22. I often think about my dreams in order to enhance knowledge about myself.
❏ perfectly ❏ fairly ❏ barely ❏ not at all