

Health dreams, health-related worries, and being ill: A questionnaire study

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Summary. Connecting dreams with somatic illness has a long tradition; e. g., physicians like Hippocrates or Galen used dreams for diagnosing and curing illnesses. The present study investigated the relationship between illness, health-related worries, and health-related dreams in a sample of 178 persons. The findings indicate that having a minor illness and especially health-related worries increased the percentage of health-related dreams. Diary studies are needed to support this preliminary finding. As the emotional tone of dreams is also affected by health, it would be very interesting to see if working with dreams or Imagery Rehearsal Therapy (in case of nightmares) is beneficial for patients suffering severe medical illnesses.

Keywords: Health dreams, health-related worries, being ill

1. Introduction

Connecting dreams with somatic illness has a long tradition (Van de Castle, 1994). Starting with Aristotle's idea that during sleep the dreamer is much more sensitive to organic stimuli compared to when awake, famous physicians like Hippocrates and Galen used dreams for diagnosing and curing illnesses (Meier, 1966). Content analytic studies (De-Cicco, Lyons, Pannier, Wright, & Clark, 2010; King & De-Cicco, 2007; Lal & Whorwell, 2002; Smith, 1984; Warnes & Finkelstein, 1971) indicate that dreams of persons with illnesses include more references to medical themes, injury, etc. Furthermore, self-rated poor health is associated with more negatively-toned dreams (Bódizs, Simor, Csóka, Berdi, & Kopp, 2008) and elevated nightmare frequency (Asplund, 2003; Levin, Lantz, Fireman, & Spendlove, 2009; Sandman et al., 2015), clearly indicating that distress during wakefulness due to illness is reflected in the dreams of the night. Moreover, asthma patients reported more nightmares (Klink & Quan, 1987). The dreams before waking up with a migraine attack include more often anger, misfortunes, and apprehension compared to awakening without migraine (Heather-Greener, Comstock, & Joyce, 1996). The most extreme form are so-called killer dreams (Parmar & Luque-Coqui, 1998) – nightmares preceding a cardiac arrest. It should be kept in mind that dreams might not be the cause of cardiac events or migraine attacks but only reflect the possible cause, e.g., severe stress. Schredl, Schäfer, Weber, and Heuser (1998) reported that insomnia patients who indicated current health problems dreamed more often about it. Death topics in men's dreams and separation topics in women's dreams might also be related to illness severity (Smith, 1984, 1987). To summarize, health and dreams are

related with two plausible pathways explaining this relationship: First, the dream – as suggested by Aristotle (Meier, 1966) – is affected by the bodily symptoms of the illness, and/or secondly, the waking-thoughts of the persons are affected by the illness (distress, worries, etc.) and these are – based on the continuity hypothesis (Schredl, 2003) – incorporated into the dreams.

The present study was designed to test the effect of experiencing an illness and the effect of health-related worries on the frequency of health-related dreams in the same sample. Based on the pathways just outlined, we hypothesized that both variables show independently positive relationships.

2. Method

2.1. Dream questionnaire

For eliciting dream frequency, a 7-point scale (coded as 0 = never, 1 = less than once a month, 2 = about once a month, 3 = about 2 to 3 times a month, 4 = about once a week, 5 = several times a week, 6 = almost every morning) was presented. The retest reliability of the scale is high ($r = .85$, 8 weeks interval; Schredl, 2004). The overall emotional tone of dreams was measured on a five-point scale (-2 = Very negative, -1 = Somewhat negative, 0 = Neutral, +1 = Somewhat positive, +2 = Very positive). The retest reliability over a two week period was $r = .617$ (Schredl, Berres, Klingauf, Schellhaas, & Göritz, 2014).

The participants were asked whether they had health-related worries during the previous four weeks; the five-point scale offered the following options: 0 = None at all, 1 = less than usual, 2 = moderately, 3 = more than usual, and 4 = much more than usual. They were also asked whether they had been ill during the past four weeks and, if so, record the type of illness. A visual analogue scale ranging from 0% to 100% was used to elicit the percentage of health-related dreams in regard to the total amount of remembered dreams. Health-related dreams were defined as dreams including illnesses but also the general topic of health. The participants were also asked to report the most recent health-related dream as completely as possible.

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2.2. Participants and Procedure

The sample consisted of 178 persons (112 women, 66 men). About half of the participants were psychology students, the other participants were recruited within the social networks of the authors. The mean age of the control sample was 34.04 ± 16.45 yrs. (range: 16 to 82 yrs.).

Statistical procedures were carried out with the SAS 9.4 software package for Windows. Ordinal regressions (cumulative logit analyses) were used for analyzing the effect of different predictors on dream variables.

3. Results

Means and standard deviations of the studied variables are depicted in Table 1. About 40% of the participants reported that they have been ill during the previous four weeks. The illnesses reported most often were: common cold (53), shoulder/back/knee pain (8), stomach ache (3), and headache (3), and others (bladder infection, bronchitis, toothache, carpal tunnel syndrome). Health-related worries are distributed as follows: None (33.71%), less than usual (12.92%), moderately (33.15%), more than usual (17.98%), and much more than usual (2.25%). Being ill during the past 4 weeks was positively associated with health-related worries ($r = .249$, $p = .0008$).

About one third of the sample stated that they had experienced health-related dreaming during the past 4 weeks. Most of the participants' estimates ranged equal or below 10% ($N = 36$) with only 4 participants reporting 50% or more of their remembered dreams as including health-related topics. Due to the skewed distribution, the sample was divided into two groups: persons with health-related dreams and persons without health-related dreams. Six participants recorded a health-related dream: one dream about being terminally ill, one dream about having a stroke or myocardial infarction, two dreams about falling down and not able to walk anymore, one dream about headaches and one dream about toothaches. Whereas the first four participants reported that they had a cold during the past 4 weeks, the other two participants (headache dream, toothache dream) weren't ill at all.

Dream recall frequency was positively related to health-related worries (see Table 2). In addition, older persons tended to recall fewer dreams than younger persons. The emotional tone of dreams was also related to health-related worries; more worries were related to more negatively-toned dreams. As predicted, being ill during the past four

Table 1. Dream variables and health-related variables

Variable	Total sample (N = 178)
Dream recall frequency	3.49 ± 1.75
Emotional tone of dreams	0.21 ± 0.74
Illness last 4 weeks (Yes/No)	40.45%
Health-related worries	1.42 ± 1.19
Health-related dreams (Yes/No) ¹	34.09%

¹N = 176

weeks and health-related worries were associated with an increased occurrence of health-related dreams. Comparing the standardized coefficients of the logistic regression analysis and the Chi-square shows that the effect of health-related worries has been more pronounced than the occurrence of an illness.

4. Discussion

The present findings support the continuity hypothesis of dreaming by showing that health-related worries and being ill affect dream content. From a methodological viewpoint, it has to be emphasized that retrospectively measuring the percentage of health-related dreams might be susceptible to recall bias. Even though it had been demonstrated that this retrospective method yielded results comparable to analyzing diary dreams regarding sports dreams (Erlacher & Schredl, 2004; Schredl & Erlacher, 2008), we suggest to expand this pilot work by conducting diary studies, including daily measures of health-related worries, health status, and dream content. The percentage of persons who reported having a common cold within the last 4 weeks was quite high (about 30%); this might be explained by the fact that the study was carried out in the winter months.

Regarding the two postulated sources of health-related dreams, the present findings support the notion that waking-life thoughts exhibited stronger effects on the percentage of health-related dreams than being ill itself. This is in line with previous research on erotic dreams; whereas the frequency of sexual behavior (intercourse, masturbation) was not related to the frequency of erotic dreams, the amount of sexual fantasies during the day was (Schredl, Desch, Römig, & Spachmann, 2009). The first publication coin-

Table 2. Logistic regression analyses for dream variables

Variables	Dream recall frequency			Emotional tone of dreams			Health-related dreams (Yes/No)		
	β	χ^2	p	β	χ^2	p	β	χ^2	p
Age	-.3504	20.2	<.0001	.1713	3.7	.0543	.0194	0.0	.8551
Gender	.0330	0.2	.6551	-.1257	2.2	.1401	-.0436	0.2	.6545
Health-related worries	.1557	4.1	.0438	-.2283	6.3	.0120	.3883	13.5	.0001 ¹
Illness last 4 weeks (Yes/No)	.1028	1.8	.1802	-.0810	0.8	.3672	.1605	2.7	.0493 ¹
Dream recall frequency				.0647	0.5	.4782	.2744	6.0	.0142

β = Standardized estimates, ¹one-tailed

ing the term “continuity hypothesis” (Hall & Nordby, 1972) emphasized the distinction between overt behavior (“acting out”) and covert behavior (thoughts, feelings, and fantasies). The present findings indicate that for some topics “covert behavior” has very marked effects on dream content, i.e., future studies should elicit both aspects of waking-life and their relations to dream content (Schredl, 2012) helping to clarify what factors are modulating the continuity between waking and dreaming.

The examples provided by the participants showed exaggerations in two cases and none of the dreams were actually related to the illnesses experienced during the preceding 4 weeks. First, one has to keep in mind that the illnesses reported by the participants were minor ones, i.e., it would be very interesting to conduct dream diary studies in more severe illness like cancer (DeCicco et al., 2010); again including measures about health-related worries and actual illness-related symptoms on a daily basis. Another interesting approach would be to study patients with periodically occurring illnesses, e.g., migraine, in order to test whether illness-related variables like pain have a direct effect on dreams (those recollected during an attack) compared to those dream in pain-free intervals. If there were not marked differences, such a result would again stress the importance of the cognitions on dream content.

Health-related worries were also related to more negatively-toned dreams and higher dream recall. The latter might be explained by the salience hypothesis of dream recall (Cohen & MacNeilage, 1974) stating that more salient (here: higher intensity of negative emotions) are more easily recalled. It should be kept in mind that this effect was controlled for in the relationship between health-related worries and health-related dreams by including dream recall frequency as a possible confounder. The correlation between health-related worries and negative dream emotions parallels the findings that patients with anxiety disorders reported more negatively-toned dreams compared to healthy controls (Skancke, Holsen, & Schredl, 2014).

To summarize, illness and dreams are related: experiencing an illness increases the percentage of health-related dreams and experiencing health-related worries even had a stronger effect. As the emotional tone of dreams is also affected by health (Bódizs et al., 2008) and even nightmare frequency is increased (Asplund, 2003; Levin et al., 2009; Sandman et al., 2015), it would thus be very interesting to see if working with dreams (Lyons, 2012) or Imagery Rehearsal Therapy (Krakow & Zadra, 2006) is beneficial for patients suffering severe medical illnesses.

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