

An overview of academic studies on dreams and creativity

Michael Schredl

Central Institute of Mental Health, Mannheim, Germany

Overview

- **Dream recall and creativity**
- **Dream content of creative persons**
- **Effect of dreams on creativity**

Dream recall and creativity

Study	Size	Creative Interests	Painting
Belicki (1986)	100	$r = .29 *$	
Wood, Sebba & Domino (1989-90)	126	$-.03 < r < .26 **$	
Schredl (1995)	44	$r = .50 ***$	$r = .55 ***$
Schredl (2004)	444	$r = .14 *$	$r = .10 **$

Schechter, Schmeidler & Staal (1965)	105	art students > science and engineering students
Menges (1992)	92	graphic design students > engineering students

Dream recall and creativity

- Higher dream recall frequency in creative persons (small effect)
- Possible explanations
 - visual memory ? (however, no significant effects in Schredl et al., 2003)
 - interest in dreams ! ($r = .39$; Schredl et al., 2003)

Study	Size	Dream bizarreness	Dream length	Control of dream length
Schechter, Schmeidler & Staal (1965)	105	$r = .38 *$	---	---
Domino (1970)	76	$.39 * < r < .41 **$	----	---
Wood, Sebba & Domino (1989-90)	126	$-.04 < r < .20 **$	$-.02 < r < .31 **$	n. s.
Livingston & Levin (1991)	106	$r = .28 **$	$r = .29 **$	n. s.
Wood, Sebba & Domino (1989-90)	25	$r = .44 *$	$r = .47 *$	n. s.
Schredl (1994)	32		$r = -.42 *$	
Menges (2002)	92	$.00 < r < .33 *$	$-.10 < r < .41 *$	n. s.

Adelson (1960)	20	Creative persons longer and more bizarre dreams		
Schechter, Schmeidler & Staal (1965)	105	Art students more bizarre dreams, more colors, more religious themes		
Sylvia, Clark & Monroe (1978)	20	Creative persons longer and more bizarre dreams		
Tonay (1996)	155	No relationship between dream content and creativity		
Menges (2002)	92	graphic design students = engineering students regarding dream length and dream bizarreness		

Dream bizarreness and creativity

Summary:

- Creative persons have more bizarre dreams which is often explained by their dreams being longer.
- Hunt et al. (1993) stressed the fact that bizarre dreams may need more words to describe, so the difference is genuine.
- Large-scaled studies in this area are lacking.

Effect of dreams on creativity

Three different types:

- Dream elements transformed into art
- Dreams that solve a problem
- Dreams as impulse for waking-life activities

Some years ago I was a heavy cigarette smoker—up to two packs a day. Then one night I had an exceptionally vivid and realistic dream in which I had inoperable cancer of the lung. I remember as though it were yesterday looking at the ominous shadow in my chest X-ray and realizing that the entire right lung was infiltrated. The subsequent physical examination in which a colleague detected wide-spread metastases in my axillary and inguinal lymph nodes was equally vivid. Finally, I experienced the incredible anguish of knowing my life was soon to end, that I would never see my children grow up.

I will never forget the surprise joy, and exquisite relief of waking up. I felt I was reborn. Needless to say, the experience was sufficient to induce an immediate cessation of my cigarette habit.

William C. Dement (in “Some must watch while some must sleep”)

Research in “normal” persons

Table: Persons with dreams more often than twice a year

Variable	Kuiken & Sikora (1993) (N = 168)	Schredl (2000) (N = 85)
Dreams that change the way of life	29 %	24 %
Dreams that help to solve a personal problem	32 %	44 %
Dreams that give an artistic idea	20 %	28 %
Dreams that trigger an action in waking life	---	47 %

Research in “normal” persons

- Correlation between dream recall frequency and creative dreaming ($r = .435$, $p < .0001$, $N = 85$; Schredl, 2000)
- A group of film makers showed higher mean values on a question called “Do your dreams affect your creative activities?” (Pagel, Kwiatkowski & Broyles, 1999)

Questions

- How often do creative dreams occur in “normal” samples?
- Is the occurrence of creative dreams related to personality and creativity?
- What kind of creative dreams occur?

Methods

Questionnaire and web-based study

- **Dream recall frequency**

“How often do you recall your dreams recently (several months)?”

0 = never, 1 = less than once a month, 2 = about once a month, 3 = twice or three times a month, 4 = about once a week, 5 = several times a week and 6 = almost every morning

- **Frequency of creative dreams**

“How often do your dreams give you creative ideas?”

0 = never, 1 = less than once a year, 2 = about once a year, 3 = about 2 to 4 times a year, 4 = about once a month, 5 = about 2 to 3 times a month, 6 = about once a week, 7 = several times a week

Methods

Questionnaire study

- **Big Five Personality Questionnaire (Ostendorf & Angleiter, 1994)**
- **Absorption Scale (Tellegen & Atkinson, 1974)**
- **Boundary Questionnaire (Hartmann, 1991)**
- **Visual Imagination Scale (Quekelberghe et al., 1992)**
- **Creativity Questionnaire (Schredl, 1995)**

Methods

Web-based study

- Please report an example illustrating the creative effects of dreams you had.

Procedure

Questionnaire study

- The data are part of a larger study on dream recall (Schredl et al., 2003).

Web-based study

- The participants completed the online questionnaire between Jan 4, 2004 and Aug 5, 2004 (www.klartraum.de) as part of a study on lucid dreaming.

Participants

Questionnaire study

- N = 444 (376 women, 68 men)
mean age: 23.5 ± 5.7 years

Web-based study

- N = 636 (377 women, 259 men)
mean age: 25.5 ± 9.8 years

Results (Creative dreams)

Categories	Frequency	Relative frequency
never	308	28.6 %
less than once a year	169	15.7 %
about once a year	113	10.5 %
about 2 to 4 times a year	197	18.3 %
about once a month	96	8.9 %
about 2 to 3 times a month	101	9.4 %
about once a week	49	4.5 %
several times a week	43	4.0 %

Dream recall:

3.11 ± 2.32 Mornings per week

Creative dreams:

1.05 ± 2.47 Dreams per month

= 7.8%

Results (correlations)

Personality dimensions	Correlation with Creative dreaming		Correlation with Dream recall	
	r =	p =	r =	p =
Neuroticism	.024	.6188	.039	.4112
Extraversion	.061	.1998	.009	.8429
Openness to experience ¹	.268	<.0001	.133	.0027
Agreeableness	.041	.3882	-.083	.0821
Conscientiousness	.027	.5734	.015	.7563
Thin boundaries ¹	.381	<.0001	.141	.0016
Absorption ¹	.370	<.0001	.126	.0040
Imagination ¹	.319	<.0001	.165	.0003
Attitude towards creativity ¹	.300	<.0001	.035	.2314
Self-rating of creativity ¹	.291	<.0001	.033	.2428
Painting ¹	.227	<.0001	.105	.0137
Playing music ¹	.121	.0057	-.022	.6763
Needlework/handicraft ¹	.161	.0004	.036	.2239

¹ one-tailed test

Results (Regression analysis)

Significant factors listed by importance

- Dream recall frequency
- Thin boundaries
- Imagination
- Attitude towards creativity

Contents of creative dreams

Themes	Frequency
Creativity	
Painting	30
Literature/Writing	25
Music	5
Other (Web design, recipes, gifts)	24
Problem solving	
Work-related, writing a thesis, preparing lectures	49
Computer	11
Mathematics	11
Motor Skills	4
Dream as impulse	
Approaching someone, relationships, travelling etc	73
New emotional insights within the dream	40

Examples (Creativity)

- Within the dream I saw a mermaid which transformed into a butterfly. This image served as a basis for a pastel painting.
- I often dream that I can fly. This gave me the idea of writing a book on a man who can really fly. He flies to look for his beloved one and causes fear and terror among the people.
- Shortly before the birthday of my mother I once have dreamt of something that would make a wonderful gift. Within the dream I saw exactly her reaction to the present. I then actually bought this present and, indeed, she was just as happy about it as it was depicted within the dream.

Examples (Problem solving)

- My personal computer was broken and I dreamt about how I could fix it in the best way. I woke up in the morning and it was clear to me how I could get things going.
- Within a dream an error in a computational formula of my master thesis came to my mind which I was able to resolve in the dream by creating a new formula.

Examples (Impulse)

- I dreamt of a girl from my school, whom I had a crush on. This dream motivated me to approach her.
- I have dreamt that I was on a theater stage. I was alone on the stage, no audience was there. I sang and heard applause without seeing the listeners. On basis of this dream, I decided to take voice lessons..

Summary

- **Creative dreams are quite common in “normal” samples (Arts, problem solving, impulses for waking life).**
- **Frequency of creative dreams is related to dream recall frequency, personality measures and creativity.**

Future

- **Diary studies will allow to study the process of the effect of creative dreams on waking life in a more detailed way.**
- **Techniques for increasing the frequency of creative dreams might be beneficial for people in creative lines of work.**