

# Relationship between political, musical and sports activities in waking life and the frequency of these dream types in politics and psychology students

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*Summary.* There have been many studies that have shown that waking life is mirrored in dream content. In a previous study, a relation between time spent on sports-related tasks and sport-related dreams has been found showing that sports students dream of sports more often than psychology students. In this study the aim was to test whether this trend is also true for students of politics and if the time spent in waking life on political topics is also directly reflected in their dream lives. 128 students of politics, psychology and others, as well as employed people, were asked to tell us about their dream lives and waking life activities with regard to politics, sports and music. As expected, there was a direct link between the amount of time spent with these waking life activities and the percentages of dreams related to politics and sports. The findings were thus in line with the continuity hypothesis and it was shown that the amount of time spent on political topics in waking life directly reflects the percentage of politically themed dreams.

*Keywords:* Dreaming, Continuity hypothesis, politics, sport, music

## 1. Introduction

There have been many studies (Domhoff, 1996, 2003; Schredl, 1999; Strauch & Meier, 1996) which suggest that waking life activity is mirrored in dream content. The term "continuity hypothesis," which in its general form states that waking life topics are related to dream life, was first used by Hall and Nordby (1972). Different researchers focused on different aspects of waking life, like concerns, conceptions, emotions, experiences, fantasies, thoughts, etc. and studied whether these aspects can be found in dreams (overview: Schredl, 2012). Utilizing Schredl's statement of the continuity hypothesis (2003) the present paper focused on waking life experiences and their incorporation into dreams.

There are different methodological approaches to investigate the continuity hypothesis (Schredl, 2012). One popular approach is to ask participants to tell the content of a recent dream and then retrospectively look for this aspect in the days or weeks before the occurrence of the dream (Strauch & Meier, 1996). A different way is to experimentally manipulate waking life and look for differences in the dream experience (e.g., De Koninck & Brunette, 1991). In addition, it is possible to look at the dream journals of participants and analyse their relationship to the surveyed day time activity

(Bulkeley & Domhoff, 2010). Another method is to correlate inter-individual differences in waking-life parameters with inter-individual differences in dreaming (Schredl & Hofmann, 2003).

Using two different student groups that differ in their waking lives, Erlacher and Schredl (2004) were able to demonstrate that sport-related dreams were more frequent in sports students than in a group of psychology students. Applying the correlational approach for studying the continuity between waking and dreaming, Schredl and Erlacher (2008) followed-up that finding and found evidence that time is the major factor influencing the number of sport-related dreams (in sport students as well as in psychology students) and that sports students seemed to have a higher percentage of sport-related dreams even when controlling for time spent with sport activities, presumably reflecting the increased personal salience of sport topics for sport students. Reading time during waking was also positively related to the amount of reading dreams (Schredl & Erlacher, 2008). Interestingly, dream research very often looked for continuity between personal waking experiences or the persons' concepts and dreaming (Domhoff, 2003; Schredl, 2008; Strauch & Meier, 1996); except for the effect of catastrophes like the September 11 terror attacks (Bulkeley & Kahan, 2008; Hartmann & Basile, 2003). On the other hand, Bulkeley (2002, 2006, 2012) studied dream life with respect to political orientation in waking life but did not look at a direct continuity between political activities in waking and political dreams.

In the present study, we used a similar approach to study the continuity between waking and dreaming regard to political topics. Based on the continuity hypothesis, we expected that higher waking time political activity results in a higher percentage of political dreams. Which specific topics

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Submitted for publication: March 2014

Accepted for publication: April 2014

occurred in political dreams and whether the emotional tone of political dreams differ from that of dreams in general was also studied.

## 2. Method

### 2.1. Participants

There was a total number of 128 participants (85 women and 43 men) of which 124 submitted fully filled out questionnaires. The subjects' mean age was 23.98 years (SD = 9.15 years) where the youngest subject was 18 and the oldest 75 years old. The sample consisted of five groups: psychology students (N=58), students of politics (N=30), other students (N=29), working population (N=10) and one pensioner, whereby the last 3 groups were grouped together as 'Rest group'.

The groups differed significantly in age (psychology:  $22.45 \pm 4.66$  yrs., politics:  $20.53 \pm 0.94$  yrs., rest group:  $28.45 \pm 14.39$  yrs., ANOVA;  $F = 8.6$ ,  $p = 0.0003$ ) as well as gender (psychology students: 47 female, 11 male; politics students: 13 female, 17 male; rest group: 25 female, 15 male;  $\chi^2 = 13.0$ ,  $p = 0.0015$ ).

### 2.2. Measurement instruments

The first part of the questionnaire (which included demographic survey questions) elicited dream recall frequencies using a seven-point rating scale (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) showing high retest reliability ( $r = .85$ ; Schredl, 2004) as well as the overall emotional tone of dreams (ranging on a scale from -2 = very negative to +2 very positive).

Participants were asked to estimate the occurrence of sport, politics and music dreams as a percentage of all of their dreams they had had in the course of the previous 2 months. We defined political dreams as all those dreams that had social or political content or where characters from public politics appeared. Further included were all dreams that incorporated, - in a discussion, for instance - social issues like integration or global problems. The dreamer could take an active or passive role in the dream. Even when it

was just the background setting of the dream that was politically motivated (like a war scenario) it was counted.

Similarly sport themed dreams were defined as all the dreams with an indirect or direct involvement in sports as well as active sport participation or, alternatively, when informing about or discussing matters of sports. Music dreams were counted when there was an occurrence of any form of music, ranging from background music to active music creation. In addition, the emotional tone of these three dream types were evaluated (same format as the scale for measuring overall emotional tone). The second part of the survey included questions about the time spent on these 3 topics while being awake, measured in minutes per day. Daytime sport and music activities were defined as for the dreams. Political activities were more generally defined as 'occupation with social or political issues'.

Additionally we asked participants to say if they had political dreams in the following categories: 'Fraud', 'Revolution', 'War & Military', 'Natural disasters', 'Church & Religion', 'Political Scandals', 'Terrorism', 'International Politics & Conflicts', 'Political Personalities', or 'Others' and if yes, if it was recently (0 = no, 1 = yes, but not in the last two months, 2 = yes, in the last two months).

### 2.3. Procedure

The participants were recruited from March to April 2012 in front of the cafeteria of the University of Mannheim or after lectures. In addition, colleagues and acquaintance took part in the survey. There was no monetary compensation and participation was anonymous and voluntary.

### 2.4. Analysis

Statistical analysis was carried out using SAS for Windows. Regression analyses were carried out to estimate the relationship between waking activities and dream percentage and to control for confounding variables like age, gender and dream recall frequency. Since a directed hypothesis regarding the time spent with politics in waking-life and the percentage of politics dreams was stated, we used one-tailed tests. We also computed paired t-tests to test the difference between the emotional tones of different dream topics and the overall emotional tone of the dreams in general.

Table 1. Means and standard deviations of dream and waking life variables

Variable	Politics students (N = 30)	Psychology students (N = 58)	Rest group (N = 40)
Dream Recall Frequency	3.77 ± 1.65	4.29 ± 1.34	3.85 ± 1.59
Dream emotions	0.17 ± 0.93 (N = 29)	0.02 ± 0.88 (N = 57)	0.13 ± 0.81 (N = 38)
<b>Overall percentages of topic-related dreams in %</b>			
Politics dreams	11.72 ± 13.71 (N = 29)	6.71 ± 14.37 (N = 57)	8.05 ± 11.04 (N = 38)
Sports dreams	10.59 ± 12.29 (N = 29)	5.14 ± 7.29 (N = 56)	10.87 ± 12.48 (N = 38)
Music dreams	13.38 ± 12.35 (N = 29)	11.02 ± 14.02 (N = 56)	12.68 ± 17.08 (N = 38)
<b>Waking life activity in minutes per day</b>			
Politic activity	189.83 ± 135.6	21.91 ± 17.14	42.50 ± 36.94
Sport activity	57.17 ± 51.74	33.97 ± 27.35	51.93 ± 53.82
Music activity	91.33 ± 64.21	61.38 ± 56.33	114.63 ± 104.86

Table 2. Regression analysis for the percentages of political, sport, and music dreams

Variable	Political dreams			Sport dreams			Music dreams		
	SRC	t	p	SRC	t	p	SRC	t	p
Group 1	-0.147	-1.1	0.2690	0.390	0.5	0.6520	0.091	0.9	0.3930
Group 2	0.022	0.2	0.8287	0.193	2.2	0.0301	0.097	0.9	0.3715
Time	0.404	3.2	0.0009 <sup>1</sup>	0.350	4.1	<0.0001	0.053	0.6	0.5818
Gender (1 = female, 0 = male)	-0.037	-0.4	0.6554	-0.265	-3.0	0.0029	0.102	1.1	0.2961
Age	-0.055	-0.6	0.5630	-0.217	-2.5	0.0130	-0.104	-1.0	0.2990
Dream recall	-0.007	-0.1	0.9304	0.041	0.5	0.6419	0.056	0.6	0.5433

Dummy coding of the three groups: Variable Group 1: 1 = Politics, 0 = Psychology/Others; Variable Group 2: 1 = Others, 0 = Psychology/Politics  
 SRC = Standardized regression coefficient, <sup>1</sup> one-tailed

3. Results

The participants had an overall dream recall of 4.03 ± 1.51 which corresponds to an average of once per week. The average dream emotions were almost neutral with a mean value of 0.09 ± 0.86 (N = 124). Table 1 shows the means and standard deviations of their dreams and waking life activities for the three groups.

As expected, the amount of time involved in political activities during waking was correlated to the percentage of political dreams (see Table 2). When evaluating the sport dreams, strong effects for time were also found. In addition men as well as older people tended to dream of sports more often, when controlling for all other variables like dream recall and time spent in waking life. The rest group also dreamt more often about sports when controlled for all other variables. No variable was found to be related to the percentage of music dreams.

Table 3 shows, that of people who reported to have political dreams, the dream topic reported most often was Natural Disasters, closely followed by War & Military. The topic reported least often was Political Scandals and Fraud.

When looking at the emotions of the three dream topics,

Table 3. Dreams about specific political topics in total numbers

Topic	Total	Within last 2 months	Yes, but not within last 2 months
Fraud	16	12	4
Revolution	18	14	4
War & Military	30	23	7
Natural Disasters	32	18	14
Church & Religion	19	16	3
Political Scandals	14	10	4
Terrorism	23	20	3
International Politics & Conflicts	23	16	7
Political Personalities	20	17	3
Other topics	5	0	5

it could be shown that participants rated their sport dreams as well as their music dreams significantly more positive than the average emotional tone of all their dreams whereas political dreams were rated more negative (see Table 4).

4. Discussion

The main finding of the study showed that the time spent involved in political topics during waking life is directly related to the percentage of political dreams. The findings thereby confirm the continuity hypothesis (Schredl, 2003). In addition, we also confirmed the finding of Schredl and Erlacher (2008) that the percentage of sport dreams is related to waking life sport activities.

In the present study the definitions of political dreams and of waking life political activity were very broad. For future research, it would be helpful to use more specific definitions for waking life activities, e.g., political activism, watching news and documentaries, and elicit for each area separately the time the participants usually spent with it. This would allow us to study whether these areas have different effects on dreaming. Even though the list of topics was presented after the question regarding the frequency of political dreams, it would be interesting to use lists including positive and negative political topics.

We also found the gender, age and group factors to be important for explaining inter-individual differences in the percentage of sport dreams. A possible explanation could be that sports are more important for men since competition, for example, appeals more to males (Deaner et al., 2012). At the same time it was found that the younger a person is, the more often s/he dreams of sports which might be because young people tend to be more active as sport participants and active participation might have a stronger effect on dreams. Why the rest group with higher average age dreamt more often of sports, compared to the other groups, remains unclear.

Also notable was that none of the observed variables had an influence on the amount of music dreams. In our study, musical activity was defined very broadly, i.e., including listening to music, playing an instrument, etc. This might point to the fact that musical activity is not always at the centre of awareness since many people listen to music in the background rather than actively engage in it. It might be plausible that this background music is not reflected in dreams. The phenomenon that music dreams are not linked to the

Table 4. Self-rated dream emotions of politics, sports, and music dreams compared to the general emotional tone of dreams

Variable	Dream emotions of dream type	General dream emotions	t	p
Political dreams (N=64 <sup>1</sup> )	-0.24 ± 0.87	0.09 ± 0.83	-2.6	0.0115
Sports dreams (N=78 <sup>1</sup> )	0.58 ± 0.88	0.12 ± 0.87	4.2	<0.0001
Music dreams (N=81 <sup>1</sup> )	0.94 ± 0.70	0.07 ± 0.86	8.2	<0.0001

<sup>1</sup> Number of participants who reported overall emotional tone for this dream type

amount of daily music training has also been found for musicians (Uga, Lemut, Zampi, Zilli, & Salzarulo, 2006).

Another topic that was reported in previous studies (Hartmann, 2000; Schredl, 2000; Schredl & Erlacher, 2008; Schredl & Hofmann, 2003), i.e., the relatively low percentage of cognitive activities like reading, writing, or typing, compared to other activities like sports, driving a car, talking with friends, taking a walk, was not so prominent for the activities investigated in the present study as they show no systematic mismatch between the amount of waking time and the percentage of dreams. This might be explained in that none of the three topics are closely related to cognitive activities. Whereas the previous studies (Hartmann, 2000; Schredl, 2000; Schredl & Erlacher, 2008; Schredl & Hofmann, 2003) clearly indicate that there are other factors affecting the continuity between waking and dreaming, the present investigation focused on the correlation between time spent in waking life and occurrence of these topics in dreams.

Several limitations need to be discussed. The retrospective estimates of percentages of politics, sports, and music dreams might not represent the actual amount of these dreams but reflect beliefs and expectations (Beaulieu-Prevost & Zadra, 2007). For sports topics, however, the diary study (Erlacher & Schredl, 2004) and the study (Schredl & Erlacher, 2008) also eliciting percentages retrospectively showed highly concordant figures, indicating that the retrospective measures have sufficient validity. Even though, it was a heterogeneous sample, time spent with political activities correlated with the frequency of politics dreams if statistically controlled for group membership (dummy coding). A sample including a wider range of individuals would be desirable to replicate the present findings.

The results showed that, on average, participants evaluated the dream emotions of their political dreams as being more negative than their dreams in general in contrast to the more positive judgments of sport- and music-related dreams. The list of topics that was given to the participants included negative topics like disasters, war, terrorism most often and thus might have biased the results – even though the list was presented after eliciting the frequency of politics dreams using a more general definition. One might speculate that negatively toned political topics were especially incorporated into dreams. Hartmann and Brezler (2008), for example, showed that the terror attacks of 9/11 had a negative impact on dream life. In order to test this hypothesis, future studies could elicit the emotional quality associated with political activities like watching news and correlate the waking-life emotional tone to the emotional tone of political dreams.

In summary it can be said that the results of this study show that the time spent in waking life with a topic is reflected in the number of dreams related to that topic. Since in the present study it was mainly students who were included it would be desirable to study representative samples as political and social engagement varies immensely. It would also be interesting to carry out longitudinal studies to investigate how the waking time political and social activities affect dream content as a function of age. Political topics like war could be a metaphorical representation of personal conflicts and, thus, it would be interesting to study whether these waking-life issues are related to the political topics that arise in dreams.

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