

Self-rated effects of reading, TV viewing and daily activities on dreaming in adolescents and adults: The UK library study

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Summary. The continuity hypothesis of dreaming states that our daily activities like reading books and watching films, movies and shows should be represented in our dreams. The majority of participants in the UK library study (N = 1375) stated that their dreams are affected by their reading and TV consumption, and by their daily activities. The more time they spend with an activity, the more likely they reported an effect of this activity on dreaming. Future studies should use daily logs and dream diaries to validate the present findings. In addition, measures of emotional intensity of the waking life experience and attitude towards dreaming should be included as these factors might have an effect on the continuity between waking and dreaming.

Keywords: Dreaming, Continuity hypothesis, Reading, TV consumption

1. Introduction

Using media plays a very important part in our lives. In Germany, 94% of the adult population state to watch TV regularly and 46% read books consistently and 92% of the adolescents indicated to watch TV regularly and 53% look into books several times per week (Medienpädagogischer Forschungsverbund Südwest, 2012). According to the continuity hypothesis, our daily activity and concerns are represented in our dreams (Schredl, 2003). The more time we spent with these activities, the more we dream of them (Schredl, 2012); the frequency of doing sports during the day, for example, is correlated with the frequency of sport dreams (Schredl & Erlacher, 2008). In addition, the type of activity also plays an important role: Schredl and Hofmann (2003) found that cognitive activities like reading or writing have a lower appearance in dreams compared to activities like walking or talking. Even though the overall frequency of reading dreams was low, the frequency of reading dreams is higher the more the people read (Schredl & Hofmann, 2003; Schredl & Erlacher, 2008). The relation between watching TV and the appearance of nightmares, as an indicator of possible negative effects of TV watching on the inner life of children, was also studied (Schredl, Blomeyer, & Görlinger, 2000). However, no correlation between the frequency of watching TV and overall nightmare frequency could be found (Schredl, Anders, Hellriegel, & Rehm, 2008),

even though nightmares with TV content were reported (Van den Bulck, 2004). Van den Bulck (2004) also reported very small relationships between TV consumption and the frequency of TV related nightmares and TV related pleasant dreams, indicating that TV viewing had an effect on dreaming. Corroborating these findings, nightmare frequency was elevated if the children report that TV consumption had an effect on their dreaming, even if dream recall frequency was statistically controlled (Stephan, Schredl, Henley-Einion, & Blagrove, 2012). Overall, previous research indicate that reading and TV consumption have an effect on dreaming.

The present study investigated self-rated effects of reading, TV viewing and daily activities on dreaming in adolescents and adults. It was hypothesized that persons with higher amounts of reading or TV watching are more likely to report that these activities affect their dreams. On an exploratory level, the differences between adults and adolescents were studied.

2. Method

2.1. Participants

The present sample included 1375 participants (408 male, 927 female, 40 missing data) with a mean age of 26.5 ± 18.0 years (N = 1351). 575 participants were adults (mean age: 42.7 ± 17.3 years, range: 18-90 years; 427 women and 133 men, 15 missing data) and 776 adolescents (mean age: 14.4 ± 2.1 years, range: 8-17 years; 485 girls and 269 boys, 22 missing data).

2.2. Material

The participants completed the "Dream Lab – the big library experiment" questionnaire which was developed by the Library Association (United Kingdom) and Mark Blagrove. In

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Table 1. Amount of books read, hours spent for reading and watching TV, and dream recall frequency

Variable	Total sample (N =)	Adolescents (N =)	Adults (N =)
Amount of books read (per month)	3.71 ± 4.21 (1270)	3.15 ± 3.96 (714)	4.43 ± 4.42 (556)
Hours spent on reading (per week)	5.83 ± 6.06 (1253)	4.51 ± 5.66 (715)	7.58 ± 6.13 (538)
Hours spent on watching TV (per week)	14.49 ± 10.19 (1295)	15.37 ± 10.81 (738)	13.33 ± 9.18 (557)
Dream recall frequency	2.56 ± 1.14 (1356)	2.72 ± 1.08 (787)	2.34 ± 1.17 (569)

Note. Figures in parentheses designate the number of participants

addition to demographic questions, the participants filled in questions about their reading frequency and TV activity, general dream recall frequency and three questions about the influence of reading, watching TV and their daily activities in dreams. For measuring reading and TV activity, the following items were presented: "How many books do you usually read for leisure in a month?"; "On average. How much time in a week do you spend on reading books for leisure?"; and "How many hours each week do you watch television, videos or films?"

Dream recall frequency was measured with the scale: "How often do you wake up and are able to remember a dream?" The response categories were: 4-7 times per week; 1-3 times per week; 1-4 times per month; 1-11 times per year, and less than 1 time per year or never. For measuring the effect of reading, watching TV and daily activities on dreams, the following three items were presented: "Do you find that your dreams are sometimes related to what you have been reading?"; "Do you think that your dreams are sometimes related to what you have been watching on TV, video or film?"; and "Do you find that your dreams are sometimes related to what has been happening to you during the day?" The participants could answer these three questions with "Yes", "No" or "Don't know". For the analysis of the relation between activities and dreaming, the answers "No" and "Don't know" were combined.

2.3. Procedure

The questionnaire was distributed in libraries all over the United Kingdom and could be sent back free and anonymously to the Library Association in London. To examine differences between adults and adolescents, the sample was divided by the age of 18 (<18 = adolescents; ≥18 = adults). Sign tests were used for comparing the frequencies of self-rated effects on dreaming. Logistic regressions were computed for testing factors that affect the self-rated effects on dreaming.

3. Results

3.1. Time spent on reading books and watching TV and dream recall frequency

As shown in Table 1, the adults in the sample read more books in a month and spent more time reading books than the adolescents. In contrast, the adolescents watched more TV in a week and had a higher dream recall frequency than the adults.

3.2. Self-rated effect of reading, watching TV, and daily activities on dreams

Table 2 depicts the differences between the self-rated effects of the three activities on dreams. Almost all of the adults indicated that the daily activities influenced their dreams. For the total sample, daily activities were rated more often to have an effect on dreaming than watching TV and reading (see Table 3). In addition, the effect of TV watching on dreaming was rated higher compared to reading.

In the adult sample, the same rank order of the effects (daily activities, watching TV, and reading) on dreams were found compared to the total sample, whereas the self-rated effects of watching TV and daily activities on dreams were not significantly different in the adolescent sample (see Table 3).

3.3. Factors affecting the self-rated effects on dreaming

The logistic regression showed significant effects of age, the amount of books read per month, time spent on reading books per week, dream recall frequency and the age group of reading on dreaming (see Table 4). The more books were read and the more time was spent on reading, the more likely the person indicated that reading influenced dreaming. The higher the dream recall frequency was the higher was the effect of reading on dreaming. The adults said they were more affected by reading in their dreams than the ado-

Table 2. Self-rated effects on dreaming

Activity	Total sample (N =)	Adolescents (N =)	Adults (N =)
Reading	50,9% (1224)	46,9% (715)	56,6% (509)
Watching TV	71,0% (1226)	77,0% (717)	62,5% (509)
Daily activities	80,8% (1230)	76,5% (715)	86,8% (515)

Note. Figures in parentheses designate the number of participants

Table 3. Differences between the percentages of persons reporting self-rated effects of the three activities on dreaming (Sign test)

Comparing two activities	Total	Adolescents	Adults
Reading vs. Watching TV	$d = -0.415, p < .0001$	$d = -0.632, p < .0001$	$d = -0.120, p = .0118$
Reading vs. Daily activity	$d = -0.646, p < .0001$	$d = -0.621, p < .0001$	$d = -0.695, p < .0001$
Watching TV vs. Daily activity	$d = -0.230, p < .0001$	$d = 0.012, p < .8850$	$d = -0.574, p < .0001$

lescents. Within the Age groups, the influence of reading on dreaming decreased the older the people were. Female participants were more affected than male participants.

The findings depicted in Table 5 show that gender and age group had no significant effect on the self-rated effect of watching TV on dreams. But Age, amount of watching TV and dream recall frequency had a significant effect: the more participants watched TV, the more likely they said that dreams were influenced by watching TV. Age was negatively associated with the effect of TV on dreaming, whereas dream recall frequency was positively related to this effect.

As seen in table 6, age, gender, dream recall frequency, and age group had a significant effect regarding the self-rated effect of daily activities on dreams. Similar to the previous two analyses, age was negatively associated with the effect of TV on dreaming, whereas dream recall frequency was positively related. Within the Age groups, the influence of daily activity on dreaming decreased the older the people were. Female participants indicated more often that their dreams are affected by daily activities than male participants.

4. Discussion

The findings of the present study show that the majority of participants indicated that their dreams were affected by their reading, TV consumption, and daily activities. For reading and TV consumption, there was a clear relationship between the amount of this activity during the day and the self-rated effect of this activity on dreams. This study confirms previous findings (Schredl & Hofmann, 2003; Van den Bulck, 2004; Schredl & Erlacher, 2008), and thus supports the continuity hypothesis of dreaming (Schredl, 2003).

For evaluating the present findings, remember that self-rated effects of reading, TV consumption and daily activity

on dreams were measured. One effect of using this measurement method is that dream recall frequency is strongly related to the self-rated effects because it is very plausible that remembering more dreams increases the likelihood that they are influenced by day-time activities. For all three daytime measures, the self-rated effects showed a significant decline with age. The difference between adult and adolescents was tested separately, a finding that cannot be explained by decreasing dream recall frequency as this variable was statistically controlled in the logistic regression analyses. One might speculate that a negative attitude towards dreams (Herman & Shows, 1984) can be the reason for this age effect. As no longitudinal studies have been done, this is most likely a cohort effect (Schredl, Schröder, & Löw, 1996). The significant differences between adolescents and adults (regarding the self-rated effect of reading and daily activities) cannot be easily explained by the variables included in this study. The amount of reading, for example, was statistically controlled in the analyses. One hypothesis is that the emotional intensity of the waking-life activity might mediate the probability of incorporation of waking-life activity into dreaming. The finding of Schredl (2006) supports this hypothesis as more intense waking-life experiences were more likely to be incorporated into subsequent dreams. In order to test these hypotheses, it would be necessary to include measurement instruments eliciting the emotional intensity of reading, TV consumption, and daily activities, and also scales measuring attitudes towards dreams.

To summarize, the present findings clearly support the continuity hypothesis of dreaming. However, as self-rated effects of daytime activities were measured, the results should be confirmed by a longitudinal study eliciting frequency and emotional intensity of reading, TV consumption, and daily activities and dream reports (cf. Schredl & Hofmann, 2003).

Table 4. Logistic regression for the self-rated effect of reading on dreaming

Variables	SE ¹	Wald χ^2	p -value
Age	-.2166	13.1	.0003
Gender	.0475	1.7	.1941
Amount of Books read per month	.0991	4.8	.0280
Hours spent for reading per week	.2506	24.5	< .0001
Dream recall frequency	.1705	20.2	< .0001
Age group (1 = adults, 0 = adolescents)	.2016	12.2	.0005

Note. ¹ SE = Standardized Estimates, Sample size: N=1032, R²=0.1215

Table 5. Logistic regression for the self-rated effect of watching TV on dreaming

Variables	SE ¹	Wald χ^2	p -value
Age	-.3030	26.7	< .0001
Gender	.0466	1.5	.2283
Watching TV	.1162	7.9	.0050
Dream recall frequency	.1791	21.2	< .0001
Age group (1 = adults, 0 = adolescents)	.0759	1.5	.2174

Note. ¹ SE = Standardized Estimates, Sample size: N=1108, R²=0.1176

Table 6. Logistic regression for the self-rated effect of daily activities on dreaming

Variables	SE ¹	Wald χ^2	p -value
Age	-.2271	9.4	.0022
Gender	.1453	12.9	.0003
Dream recall frequency	.1906	19.7	< .0001
Age group (1 = adults, 0 = adolescents)	.4036	23.6	< .0001

Note. ¹ SE = Standardized Estimates, Sample size: N=1169, R²=0.0960

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