

"Baby, you can drive my car" – Means of transportation in a long dream series

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Summary. Using transportation means like cars, public transportation is an important part of modern life style. Thus, it is not unexpected that transportation also plays a significant role in dreams. In a long series (N = 11,463 dreams) of one dreamer (single-case study) about 16% of the dreams included some form of transportation. The dreamer who is driving cars very rarely, dreamed more often about being a co-driver than a driver – in contrast to persons who drive a car regularly, supporting the continuity hypothesis of dreaming. On the other hand, several dreams were "creative", i.e., don't reflect any actual waking-life experiences of the dreamer, for example, traveling in a spaceship or submarine. Car trouble dreams were frequent (40% of the car driving dreams) even though the dreamer never experienced car trouble in waking life, e.g., malfunctioning brakes. This supports the idea of Patricia Garfield that this dream type is metaphorically linked to feelings of not being in control in waking life. Very interesting topics for future research would be studying the relationship of "creative" dreams, i.e., dreams that did not reflect directly the actual waking-life experience of the dreamer, and his or her waking life and the possible metaphoric link between car trouble dreams and waking-life stress.

Keywords: Dream series, transportation in dreams, car trouble dreams, continuity hypothesis, creative dreams

1. Introduction

Analyzing the kilometers for passenger transportation on land, the car is the most prominent means of transportation (2016: 79.5% European Union, 90.6% United States of America) whereas busses, trains, motorcycles, trams, and subways played an minor role (2016 in the EU: 11.4% busses, 7.4% railway, 2.1% motorcycles, 1.7% tram/subway) (European Commission, 2018). If cars are so important in everyday life, they should - according to the continuity hypothesis of dreaming (Schredl, 2003) - occur quite often in dreams. Indeed, in 14.9% of the dreams (N = 1000), the word car can be found (Hall & Van de Castle, 1966). However, very few studies focused on analyzing whether the dreamer was driving the car or is a co-driver (see Table 1). In about 7% to 9% of the dreams, the dreamer was driving a car. The percentage of driving dreams is higher in professional truck drivers, ranging from 16.8% to 22.3% (Schredl, Funkhouser, & Arn, 2005-2006). Interestingly, persons who reported that they did not drive a car during the two-week study period dreamed less often about driving a car compared to persons who had driven a car during the study period (Schredl & Hofmann, 2003). The percentage of dreams of being a co-driver or using public transportation was not affected by waking-life car driving experience and ranged from about 4% to 10%. So far, the findings support the notion that waking-life transportation experience is reflected in dreams.

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In her book "The universal dream key: The twelve most common dream themes around the world", Garfield (2001) listed as one theme as universal: "Car and other vehicular trouble." Indeed, between 26.8% and 40.5% of the participants of different countries (Canada, China, Germany, Jordan) reported that "losing control of a vehicle" occurred at least once during their lifetime in their dreams (Schredl, 2019). The topic was also found in 2.54% of 1612 diary dreams (Mathes & Schredl, 2014) and in 1.59% of 2893 most recent dreams (Mathes, Schredl, & Göritz, 2014). In about 70% of 100 car dreams of her own, Garfield (2001) experiences some trouble, e.g., near collision, lost brakes etc. Although accidents involving cars are quite frequent - about 2.6 Million per year in Germany in 2018) (Statistisches Bundesamt, 2019), Garfield (2001) hypothesized that car trouble dreams do not reflect car trouble in waking life but can be seen as a metaphorical expression of having reduced control in waking. Interestingly, low job satisfaction was related to more negatively toned driving dreams in professional truck drivers (Schredl et al., 2005-2006) but it was not assessed whether these negatively toned driving dreams were car/truck trouble dreams. Studies looking at the effect of actual car trouble like accidents on dreams are still lacking and also studies eliciting some measure of subjective control in waking life and relate this measure to the occurrence of car trouble dreams have not been carried out.

The present study was undertaken to investigate how often different means of transportation occurred in long dream series. It was hypothesized that if the usage of a specific type of transportation in waking is decreasing over the years the percentage of dreams with this specific type of transportation should also decrease. Moreover, the frequency of car trouble dreams were studied and compared to dreams including trouble with other means of transportation, e.g., riding a bike or using public transportation.



Table 1. Means of transportation in two dream samples

	Schredl & Hofmann (2003)			Unpublished data (N = 1612) ²
	Total sample (N = 442 dreams)	Subsample of persons not driving during study period (N = 147 dreams¹)	Subsample of persons driving during study period (N = 230 dreams¹)	
Car (Driver)	9.05%	3.40%	11.74%	6.95%
Car (Co-driver)	3.62%	4.08%	3.91%	5.15%
Public transportation (Bus, tram, train, subway)	6.56%	6.80%	7.39%	9.74%

¹Reduced sample size due to missing values (item measuring driving activity in waking), ²For sample characteristics see Mathes and Schredl (2014)

Method

2.1. Participant and dream diary

The male participant kept an unstructured dream diary from the age of 22, beginning in September, 1984. The database includes all dreams till December 2014. For the present analysis, all 11,463 dreams were included. The mean dream length of all dreams was 135.11 ± 85.40 words. The dreamer never possessed a car but was driving sometimes with the car of his mother or partner, over the years the frequency decreased to about once or twice a year. As young man, the participant used his bicycle as means of transportation daily but the usage of the bicycle became more rare due to health problems (since the year 2000). Since childhood and adolescence the participant was often passenger in a car (parents, partner, and friends). In the year 2014, the participant almost exclusively used public transportation (bus, tram, train). However, public transportation was also an often used means of transportation in adolescence

Table 2. Means of transportation in dreams (N = 11,463 dreams)

Туре	Dreams	Percent
Public transportation (Bus, tram, train, subway)	552	4.82%
Car (Co-driver)	508	4.43%
Bicycle	339	2.96%
Car (Driver)	211	1.84%
Ship	155	1.35%
Motorcycle	59	0.51%
Airplane	44	0.38%
Funicular/Cable railway	31	0.27%
Truck	29	0.25%
Taxi	8	0.07%
Helicopter	8	0.07%
Carriage	6	0.07%
Submarine	4	0.03%
Construction vehicle	4	0.03%
Horseback riding	4	0.03%
Spaceship	2	0.02%

(schoolbus) and adulthood (train). For about 3 years (before starting the dream diary), the participant was driving a moped and later a motorcycle. Traveling per plane started in 1996, the frequency is once or twice per year. Traveling via ship or funicular is extreme rare (once or twice a year). The dreamer never drove trucks or used helicopters, carriages, construction vehicles, submarines or spaceships as means of transportation.

2.2. Procedure

The dream reports were originally hand-written but were then typed and entered into a database (Alchera 3.72, created by Harry Bosma, www.mythwell.com) by the dreamer himself. This database allows assigning key words to the dreams; this task was also carried out by the dreamer. Each dream was coded by the dreamer while typing the dreams for the occurrence of different means of transportation, for example, driving a car, being a co-driver (for the different means of transportation see Table 1), and car troubles. In a second step, the non-car dreams were rated for occurrence of trouble with the respective means of transportation.

The Alchera software also provides a word count for each dream report. Dream reports included only dream experience related words and all redundancies were excluded. The analysis unit was a single dream report. The data were exported into an Excel spreadsheet (Microsoft) and the data analysis was carried out using the SAS 9.4 software package for Windows. For comparing percentages of different time periods, the algorithm of Klingenberg (2008) was adopted. To analyze the single binary time series we fitted an autoregressive Generalized Linear Mixed Model (AR-GLMM) with a logit link and serial correlation within the GLIMMIX procedure with a power covariance structure.

Table 4. Problems related to transportation in dreams

Туре	Dreams	Percent
Car (Driver)	93/211	41.23%
Car (Co-driver)	57/508	11.24%
Motorcycle	4/59	6.78%
Airplane	2/44	4.55%
Bicycle	15/339	4.42%
Public transportation (Bus, tram, train, subway)	22/552	3.99%
Ship	6/155	3.87%



Table 3. Means of transportation in two time periods

Туре	1984 – 1990 (N = 2290 dreams)	2011 – 2014 (N = 1750 dreams)	Statistical test ¹
Public transportation (Bus, tram, train, subway)	4.45%	5.20%	t = -1.1 p = .2714
Car (Co-driver)	5.24%	3.94%	t = 2.1 p = .1616
Bicycle	3.58%	2.23%	t = 2.5 $p = .0134$
Car (Driver)	2.75%	1.43%	t = 2.7 p = .0071

¹Algorithm according to Klingenberg (2008)

3. Results

Overall, in 15.56% of the dreams (1,784 out of 11,463) the dreamer used some form of transportation (see Table 2). The most common form of transportation was public transportation (Bus: 274 dreams, train: 155 dreams, tram: 150 dreams, subway: 6 dreams). The percentage of dreams in which the dreamer is co-driver is considerable higher compared to the percentage of dreams in which the dreamer is driving the car. Dreams in which the dreamer is riding a bicycle are also relatively common whereas dreams with submarines, helicopters, carriages, spaceships, and horseback riding are very rare. Several examples of these rare dreams are included below.

The percentages for four different means of transportation over the years are depicted in Figure 2. The statistical analysis comparing time intervals from the beginning of the recording period and the end of the recording period (see Table 3) showed that there is a significant decrease of bicycle and driving dreams whereas the smaller decrease in

co-driving dreams and the small increase in dreams including usage of public transportation were not significant.

In 207 dreams, the dreamer had to deal with some problems while using different means of transportation. For several categories the percentages are depicted in Table 4. Clearly, the percentage of problems is the highest if the dreamer is driving the car himself, whereas in other modes of transportation the percentage of problematic dreams is much lower. In order to illustrate how such problems can manifest within the dream several examples are presented below.

Example of submarine dream

"We are in a kind of submarine. A man demonstrates the rescue facilities for emergencies. And then a device peeps, but only after a while, the people who belong to the boat recognize that actually an emergency exists. We go into the rescue capsules and fly out of the water (a dammed river) through the air."

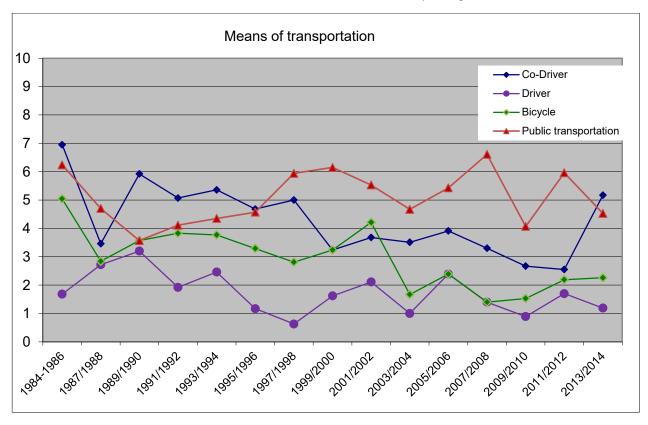


Figure 1. Percentage of dreams with different means of transportation (public transportation, driving a car, being co-driver, riding a bicycle)



Example of spaceship dream

"I'm at a party that someone organized. There are quite a few people. Men and women are about equally represented. Suddenly we find ourselves a big spaceship. I have to be the leader because as a Martian I can use supernatural powers. But we cannot do anything. That's kind of a Noah's ark, I think. The pilot we don't have access to steers the ship to an entrance in another world, but this entrance is guarded by earthlings. However, since construction work is currently in progress, the measures of control are loosened. We do not really want to leave and do not know who has planned this trip."

Example of a helicopter dream

I am a helicopter pilot and want compete with an alien force. Something does not seem to work and we, the referees and I, try to call the opponent. I got a telephone number from the city Bern from them and when I'm in the telephone booth, I cannot find the area code for Bern. Later I am flying with helicopter. I can do all sorts of tricks with it.

Example of horse riding dream

"A man has been held captive for a long time, unjustified. I helped him to escape. He walks quickly down a small footpath down the hill, I follow riding on a horse, so the tracks become a bit blurred (although I can see the footprints and the hoof marks quite well). It will take a day or two before they are no longer visible. How long it takes for them to realize he fled is not clear. Although he runs fast to get away, he pauses to look back, the houses on the hillside (small town) look great, sunlight. A very impressive view. I am a little worried that the persecutors might catch us, with less fear for me than for him. The chances of a successful escape are very high."

Example of being a driver and having problems

Volker's car, whose key I have, blocks parking space, other drivers are searching for parking spaces. I drive the car away to find a new, proper parking lot. But that's not easy, as many bike racks stand around and the area is pedestrian. The car is hard to brake, a typical dream car. I turn sharply past posts and stop once briefly before two women. I always press the brake pedal with full force.

Example of being a co-driver involving danger

I'm sitting in a VW bus with some other people. Ernst drives. He drives backwards through a wooded area that I know a bit. I know it's dangerous and I'm warning him. But he does not listen to me and continues driving very fast. I open a window and jump out of the car. A short time later, the car crashes into an abyss and explodes. I can feel the pressure wave at the top. There are four dead persons, all male. It is a sad feeling. I think there are others at the top of the abyss.

Example of using public transportation with danger involved

I am sitting in a bus, in the front, near the driver. It goes through rural areas and there are some people on the bus that I know. These are the first to notice that there is something wrong with the bus driver, he drives at full speed next to the road and jumps over a hill, so that the bus flies several tens of meters. This is dangerous, also because there are trees. I give the bus driver a shove, he is startled, apparently he has fallen asleep, and in addition it could be that he is drunk. Somehow, some people, among others, Daniel and I can exit the bus before the bus crashes (I think it falls into an abyss). Now we wait for the travel connection in a small town. The others find the correct tram line; my bus is also leaving soon.

Example of a bicycle dream including difficulties

I am in the countryside and driving from a village in the direction of my home town. I am in a hurry and ride my bike westwards. There is a strong tailwind and I'm racing out of town at an exceptionally high speed. There is a bend ahead where I have to brake hard and get off the road, which is not dangerous. However, I get on very badly because the whole ground is squashy from the rain. I have to push the bike up the mountain and look for a paved path. At the top of the hill, it will go on.

4. Discussion

The present findings indicate that waking-life experiences with transportation are reflected in dreams, e.g., the decrease of bicycle dreams with time within this dream series. Despite this continuity between waking and dreaming, some dreams are discontinuous to actual waking-life experience and, thus, creative. The high percentage of car trouble dreams supports the notion of a metaphorical link between these dreams and waking life as the dreamer has never experience real car trouble like accidents.

From a methodological viewpoint it must been noted that the presence of transportation in the dreams was not coded by external judges but by the dreamer himself; however the percentage of transportation dreams was comparable to figures for dreams of psychology students (see Table 1). Coding the presence or absence of specific topics can be done with high interrater reliability (Schredl, Burchert, & Grabatin, 2004) and, thus, possible bias due to incorrect coding should be minimal.

As the dreamer did not drive very often a car, the overall percentage of car-driving dreams is lower than the percentage of co-driver car dreams – comparable to the sample of participants of the Schredl and Hofmann (2003) study who did not drive a car during the two-weeks keeping the dream diary. Typically, car-driving dreams outweigh co-driver car dreams (see Table 1). The changes in means of transportation (less car driving, less bicycling) over the years is also reflected in the dream series. In a previous analysis (Schredl, 2011), plane dreams significantly increased after the first plan trip the dreamer undertook in waking life. Thus, the transportation dreams reflect waking-life travel habits and, thus, support the continuity hypothesis of dreaming.

On the other hand, there are some dreams – even if they are rare – that are discontinuous to the waking life of the



dreamer who never flew in a helicopter, did horseback riding, travelled in a submarine or a spaceship. Going back to the original formulation of the continuity hypothesis by Hall and Nordby (1972), it becomes clear that waking-life experience is not restricted to so-called "overt behavior" (what the person is doing in waking life) but also to "covert behavior" like thoughts, feelings, and fantasies. The problem for empirical studying this relationship is the impossibility to elicit all thoughts and fantasies a person has had in waking life even if only the previous day is under study. For example, the frequency of erotic dreams was only related to the amount of sexual fantasies in waking life but not to the frequency of sexual behavior (Schredl, Desch, Röming, & Spachmann, 2009) supporting the idea how important "covert" waking behavior is. The studies regarding media consumption clearly indicate that watching films (Moverley, Schredl, & Göritz, 2018), playing video games (Gackenbach, 2012), reading books (Schredl, Samaras, Henley-Einion, & Blagrove, 2018), especially if deeply immersed, has a strong effect on dreams. Within this context the examples of a space dream, a submarine dream, and a horse-riding dream might be explained as reminiscences of film viewing experiences. However, the question whether dreams can be truly creative - like fantasies in waking-life - is still unanswered, although creative impulses by dreams, e.g., the melody of 'Yesterday' by a dream of Paul McCartney, have been widely reported (Barrett, 2001; Schredl & Erlacher, 2007; Webb, 2017).

In line with the figures reported by Garfield (2001), car trouble dreams are quite frequent - much more frequent than dreams including problems with other means of transportation. One speculation might be that the dreamer due to driving very rarely might experience more anxiety related to driving and, thus, the car trouble dreams are an exaggerated version of these anxieties. However, the dreamer did not report heightened anxiety while driving and was not involved in any real-life car trouble like accidents or dangerous situations. Especially, the typical car trouble dream of malfunctioning brakes did not reflect any waking life experience of the dreamer. This would favor the idea that there is a metaphorical link between waking life and dreaming (Garfield, 2001) or - as Ernest Hartmann (2011) put it - a continuity between waking-life emotions and dream content. In a previous study, the finding that the occurrence of flying dreams which are typically experienced as positive were related to more positive emotions in waking life (Schredl, 2008) supports this notion. Similar, the negative correlation between job satisfaction and emotional tone of driving dreams in truck drivers (Schredl et al., 2005-2006) are in line with this concept. It would be very interesting to study, whether stress, specifically the feeling of losing control, in waking life is related to the occurrence of car trouble dreams.

To summarize, transportation dreams can reflect waking-life transportation relatively directly but it seems also very plausible that some transportation dreams, e.g., car trouble dreams, might be a metaphorical expression of the dreamer's waking life, e.g., the feeling of losing control. This would represent continuity on an emotional level. Very interesting topics for future research would be studying the relationship of "creative" dreams, i.e., dreams that did not reflect directly the actual waking-life experience of the dreamer, and his or her waking life, e.g., waking-life stress (car trouble dreams), experience of depending on others (co-driving dreams).

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