

Waterloo Sleep Paralysis And Waking Nightmare Project



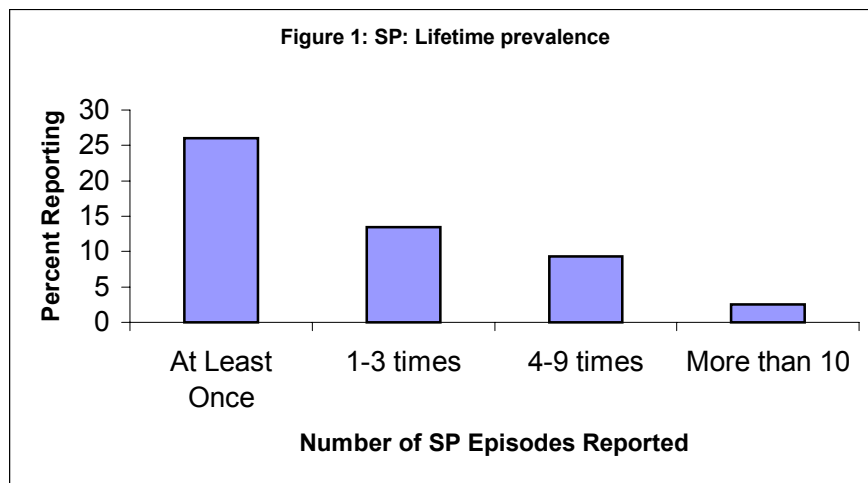
Sleep paralysis, accompanied by vivid nightmare hallucinations, has the odd distinction of possibly being the commonest “unknown” experience for people in Industrialized societies. People in traditional culture know it well under a number of names.

The Waterloo Sleep Paralysis and Waking Nightmare Project (SPAWN) has so far involved over 12, 000 individuals who have had SP experiences making it the largest study by quite a margin ever conducted on the subject. It is also one of the most detailed in terms of the range of experiences sampled.

In the English-speaking world it was well known as the *nightmare*. The 19th century writer MacNish describes, with considerable vividness what he unambiguously called simply the *nightmare*, which he distinguishes from conventional bad dreams. One who experiences the nightmare lies helpless and paralyzed, MacNish writes, “crushed by rocks, held in the coils of a serpent with phosphorescent eyes, hissed at by serpents,” tortured by “demons,”

taunted by voices and cold touches,” not to mention “hags, witches, and fiends”. One feels “malignant demons at his side” and suffocated by a “monstrous hag squatting on his breast.” MacNish also notes, as we have in our own research that the person experiencing the nightmare often imagines herself or himself to be screaming and shouting with sufficient intensity “to raise the house” only to discover subsequently that no sound was ever made. MacNish also describes a ringing in the ears, a cold terror, a swell as shivering and breathlessness produced by the nightmare.

These paralyzing nightmares are remarkably common, given that they are rarely and only briefly discussed in the modern scientific and medical literature. The figure below is based on data from a half dozen recently published studies. According to these studies approximately one quarter of the population reports at least one episode and about 2 % experience multiple episodes, many of these experiencing SP nightmares weekly or even more frequently.





The Waterloo Episodic Sleep Paralysis Study

We are writing this brief report to thank our participants and to bring them up-to-date about the progress of this study so far. The information that we can provide at this time will necessarily be rather general and descriptive. You will understand that it would be inappropriate for us to provide our participants with preliminary results regarding our major hypotheses, as we do not wish to influence anyone's objectivity in reporting their experiences. With these admitted restrictions we thought it would be of some interest to you to know a bit about our project and its scope. Thus although our comments in this newsletter will be very general we expect you will find them of some interest.

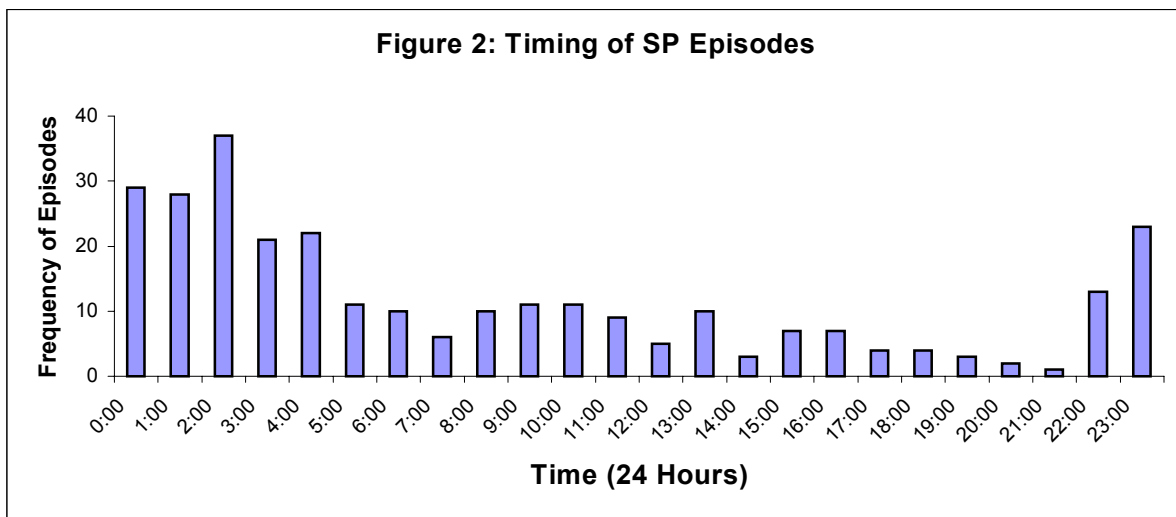
First, we should put this particular project in perspective. The Waterloo Episodic Sleep Paralysis (WESP) Study is, so far as we have been able to determine the first study to attempt to study naturally occurring SP prospectively, that is, as they occur over time, one episode at a time. For the WESP study we successfully contacted and received preliminary Sleep Survey reports from over 800 individuals and have so far received reports on individual episodes from

almost 300 people. Many of these have sent in reports on many episodes.

One of our interests from earlier research, as participants will have noticed from the questions about the time of SP, was to obtain information about the effect of the time of day on the nature and severity of the experiences. Having reports on individual episodes soon after their occurrence is particularly important here as different episodes occurring at different times of the day or night are likely to become confused.

One of our major hypotheses concerns the effects of circadian (i.e., daily) rhythms, especially of wake-sleep cycles, on SP. This is one reason that we ask people to provide us with the times and dates of SP episodes. As is evident from Figure 2 below, SP episodes occur throughout the day, reflecting the fact that SP occurs during naps as well as nocturnal sleep. SP episodes peak around 2:00 in the morning, again in mid-morning, and after lunch (13:00). This finding is, in itself interesting because SP is often thought of as a sleep onset experience and, somewhat less of as something that happens when people awake in the morning. We will be studying several aspects of these patterns in some detail in the coming months.

- Al Cheyne





The General Sleep Questionnaire

We now have some preliminary results, based on 763 respondents, from the first general sleep-related questionnaire filled out by participants in the episodic study. The first few questions asked about how likely you were to doze in various situations. Low total scores (minimum = 0) across these items are associated with difficulty falling asleep, while high total scores are associated with the opposite problem, falling asleep too readily, sometimes referred to as hypersomnia (maximum = 24). The mean score of our respondents was 8, which is well within the normal range. On individual items, the situation least associated with dozing was "Sitting and talking to someone" (89% said "never doze"). The situation associated with the highest likelihood of dozing was "Lying down to rest in the afternoon when circumstances permit" (54% reported a "high chance of dozing" in this situation).

The next set of questions asked about sleep-related habits. The average amount of sleep per night was 6-7 hrs – but responses ranged from less than 4 to more than 10. Again this seems well within the normal range for most national samples. On average, respondents had difficulty falling asleep and awakening a few times per month. The average time to fall asleep was ½ hour. Respondents indicated waking up during the night more than a few times per month and that this occurred, on average, about twice per night. 79% reported using an alarm and the mean number of times to hit the 'snooze' was 2. About 2/3 of the sample takes naps, about 2-3 times per week for an average duration of 1 hour. Following a nap, more reported feeling groggy than those feeling refreshed.

A number of respondents asked what was "HLA." HLA refers to genetic markers of narcolepsy. As sleep paralysis is one symptom of narcolepsy, we were wondering how many of those experiencing sleep paralysis might also have some of the other features of narcolepsy. In the sample of 763, none indicated testing positive. An important symptom of narcolepsy is

cataplexy (i.e., sudden muscle weakness – technically, a bilateral loss of postural muscle tone associated with intense emotions).

Therefore we included a few questions related to muscle tone and emotion/ arousing situations. Based on the responses to these items, there was no strong indication of cataplexy in the overall sample (but some individuals' responses indicated slight cataplexy).

We also asked about medication use. In general, only a relatively small proportion of the sample indicated use of medications. The most common were Paxil (3.1%), Ambien (2.9%) and Prozac (2.1%).

Please note that the above results are preliminary and furthermore are just descriptive in nature. That is, one should not make any causal links based on this data (e.g., the idea that the medication used most was Paxil, so it is probably the best for preventing sleep paralysis is inappropriate – there is no evidence supporting such links here). Nonetheless, we thought that you might be interested in comparing your situation to that of others with sleep paralysis. If you feel that there is cause for concern (e.g., you indicated a high chance of dozing for all situations – total score = 24), it may be just – and you might consider exploring the matter further with a health professional.

In future analyses we will be checking for links between some of these general measures of sleep and the characteristics of the sleep paralysis episodes.

- Todd Girard

Once again, we would like to extend our appreciation for the contributions of all our participants – we hope that you found this preliminary feedback of some interest. Please remember to fill in the episodic questionnaire, when possible/ practical, soon after each sleep paralysis episode at:

<http://watarts.uwaterloo.ca/~acheyne/epi/spqepi.html>.

It is important that you use the same PIN on all submissions – if you have lost this information; please contact us for your PIN.



Note on Conventional Dreams and SP:

Quite clearly SP can occur any time around or during sleep. Something we have been struck by in the episodic study is the number of people that report waking from a dream into the SP state. This is very interesting because it is consistent with the notion that SP is a kind of dream experience associated with rapid eye movement (REM) sleep. SP is often described as a sleep onset experience. Even when it occurs late in the night it is thought to occur when people wake up briefly and then begin to fall asleep. Many of the accounts of our participants suggest otherwise, however, in many cases the SP experience rather clearly arise directly from a dream and, in some cases, appears to be a continuation of the dream themes.

A Personal Experience - Overcoming paralysis by controlling out-of-body experiences:

It has been a few months since I asked for feedback, on our website from individuals who have tried overcoming the paralysis by producing an out-of-body experience. A few people have responded and commented on the difficulty of explaining how they accomplish this maneuver. To understand what it is like, they say that it is necessary to "try it for yourself." The typical instruction is simply to just "will it" to happen. Sometimes, the first experience is spontaneous. After a period of struggling, individuals give up but later find themselves outside of their bodies. The act of leaving the body is described as effortless and natural, and sometimes as a purely "mental" act. Sometimes, individuals report having some difficulty in moving for a while after the initial OBE and speak of having to learn all over to walk as well as acquiring the entirely novel skills of moving by floating and flying.

It was somewhat frustrating reading this accounts and not being able to experiment myself with this kind of experience. I have learned to produce and control lucid dreams but, because I had not had a SP experience in over twenty years, I was unable to try the techniques of the "astral projectors" to produce an OBE during SP. Then one day I finally got my chance.

I had not had more than an incipient SP episode for about 20 years until early in the morning of May 10, 2002. I had experienced difficulty falling asleep the previous evening, which was very unusual for me. After tossing and turning from around 23:00 to about 1:30, I found myself staring at the bedroom wall. There was something about the light reflected on the wall that did not seem to be right. The reflection should have been on the opposite wall. In addition, the orientation of the wall was also not quite right. When I tried to turn over to look at the opposite wall I realized I could not move. I next realized my eyes were actually closed and so forced them open; and the anomalous reflection was gone. The previous impression had been hallucinatory. I then remembered my determination to experiment with the OBE should I ever have another SP experience. Here was an opportunity try to roll out of my body. I tried to do this as nonchalantly as the circumstances permitted and had immediate success – well almost. I could feel myself separating from the upper half of my body by turning to the right, but felt stuck in my lower torso and legs. I then decided spontaneously to try to spin out of my body and I immediately began to spin around the longitudinal axis of my body and slid out, floating down the bed, and ending up hovering across the foot of the bed – actually just past the foot of the bed – hovering, in a horizontal position, a couple of feet above the bedroom floor.

Now that I was "out," I decided to experiment further. I first tried to levitate my "astral" body – which seemed to be complete. I was unable, however, to rise above about three feet off the floor. I then decided to let myself fall – or rather, sink - into the floor. In this, I was successful and I passed through the floor effortlessly, noting the floor joists as I passed, through the next level and the next floor. I then realized that I would next sink into the ground and decided that would be unpleasant and so stopped myself from sinking and found myself once again at the foot of my bed. I next decided to try floating horizontally toward the window. This worked immediately and I awaited, with some anticipation, my passage through the



window. I passed through the window quite effortlessly, though I felt myself brushing aside a few of the slats of the Venetian blinds that really do hang in my bedroom window. Then things began to get truly interesting!

I next found myself floating, in the same horizontal position, outside my bedroom window, except it was now outside my bedroom on Clendenan Avenue in Toronto where I grew up. I was floating over the roof of the veranda looking over the edge. I noticed an eaves trough along the roof with Engelmann ivy growing in it. (I do not remember whether the veranda had an eaves trough but I do know that there was no ivy growing at the old house. There is, however, Engelmann ivy growing along the eaves outside my window in my present home.) I hesitated to try to float out beyond the roof of the veranda. Although, I was well aware of the fact that this was a dream, I was somewhat apprehensive about floating so high above the ground. I thought it might be safer to swing down from the ivy. I realized quite well also that the vines of such ivy could not support my weight in the waking world but felt sure that they would in the dream world. I grabbed the vines and swung from the roof. I then began swinging back and forth in ever-greater arcs from the house next door on the right, which was a semi-detached just as it had been on Clendenan) to the house on the left, which also appeared just as I now remember it. This was the most exhilarating part of the dream. The swinging was rather breathtaking but not scary. I did this for a while as the vine gradually lengthened and finally let me down gently on the lawn.

I began to wander around the old neighborhood. In the back of my mind, I could not suppress the thought that I might meet a pretty girl in my wanderings! I passed a kind of wall or pillar in front of the driveway of the house where two of my childhood friends lived back then. As I looked at the wall I thought how incredibly real and faithful to the original neighborhood everything I was experiencing about the neighborhood seemed. Ironically, the wall that engendered this feeling was entirely fictional; perhaps the only inauthentic part of the neighborhood in my dream, for it was quite clear to me that I was now having a full-fledged dream, however lucid. I came to a door and

began to open it. As I was doing so, I glanced through a window (actually a kind of port hole) and realized that I was going, not inside, but outside, onto the deck of an ocean liner. I could clearly see the water through the glass. When I got outside, I had some difficulty closing the heavy door, which was very like the heavy metal doors on many of the ocean liners on which I have traveled. It was difficult to close, as they usually are, partly because of their weight and partly because to the rocking of the ship. The deck seemed deserted. As I moved along the deck and turned to go around some stairs, a pretty girl in a dark overcoat passed me. I attempted to seduce her but she seemed rather coy for a dream girl. Then, just when I thought she was becoming somewhat receptive to my blandishments I woke up. Serves me right, astral travelers usually warn against the distractions of sex during lucid dreams. Yet, I did manage to remain lucid throughout the dream, never losing sight of the fact that it was all a dream. In any case, it sure beat the hell out of the typical SP episode!

Now that I have tried and succeeded in producing a voluntary OBE, I must now try to do what I have asked others to do: describe how it is done. That it is difficult to describe is not surprising. It is difficult to describe because one has no idea how it is done – any more than one knows how one signs one's name, throws a ball, or takes a single step. One does not need to describe these things because, normally, nobody needs to be told how to do these things. These are simply things we do without thinking about them. We simply *decide* to do them – and we do them. This is also how lucid dreamers do things in their dreams: They simply decide to do them. This is as true of floating over cities and it is of making monsters disappear as it is of walking across a room. One decides to do things and automatic processes take over. My own view of lucid dreaming is that it differs from nonlucid dreaming only in that the frontal cortex has somehow become activated. Hence our planning and decision making ability has returned and we can decide to engage in particular acts and even that we will have certain kinds of experiences – and not others. Automatic processes take over – or, . . . sometimes . . . not. If they do not, there is



nothing else to do except to plan on doing something else and hope that the automatic processes for that are ready to hand. The point is that there is no way that one can voluntarily affect the automatic processes except by planning and deciding.

I think the forgoing should help us understand why simply trying harder and harder, that is, struggling to move our bodies is pointless. We have no voluntary control over the mechanisms that block the motor signals before they can activate the appropriate muscles. I think all the other automatic processes are activated, however, by our plans and decisions. They are simply prevented from acting on the body. One must forget the body for the brief period of paralysis and trust that the automatic processes, which have nothing to do with our wishing and willing, eventually release their inhibitory grip on our bodies. This does not mean that our experience is limited to lying motionless and terrified in our beds.

Recall that my first attempt to roll out of my body was not completely successful. I got stuck halfway out. Had I continued to struggle to get out of my lower body I think I would have been unsuccessful and would have quickly found myself altogether paralyzed within seconds. Rather than trying harder to have the experience of getting out of my body, I tried something different. I *decided* to spin. I do not know how I managed to spin any more than I really know how to sit up or roll over. I just decided to do it and some automatic processes just took over. There was no guarantee that they would do so. I might have got stuck again, though I did not. If I had, I suppose I would have tried to sink out of my body or float out. I am confident something would have worked eventually, as long as I did not start to struggle to make something happen that just was not ready to happen.

Trying to act in as natural and unforced a manner as possible is part of the solution but I do not think that it can be the whole answer. The type of movement seems important. Turning, spinning, rotating seem to work better than simple linear movements like sitting up.

Lucid dreamers are well aware of the fragile nature of the lucid state during dreaming. It requires keeping focused on one's state to

avoid lapsing into a conventional nonlucid dream. Of course, for the individual who is merely trying to end a SP episode this possibility of simply lapsing into a conventional dream from SP might be considered an additional blessing. The majority of SP experiencers have little interest in exploring these unusual experiences, they simply want relief from SP. Short of preventing SP episodes bring them to an end by using the techniques of astral projectors might be the best alternative available.

Some Articles based on the SPAWN Project:

Cheyne, J. A., Rueffer, S. D., & Newby-Clark, I. R. (1999). Hypnagogic and hypnopompic hallucinations during sleep paralysis: Neurological and cultural construction of the night-mare. *Consciousness and Cognition*, 8, 319-337.

Cheyne, J. A., Newby-Clark, I.R., & Rueffer, S.D. (1999). Sleep paralysis and associated hypnagogic and hypnopompic experiences. *Journal of Sleep Research*, 8, 313-318.

Cheyne, J. A. (2000). Play, dreams, and simulation. *Behavioral and Brain Sciences*, 23, 918-919.

Cheyne, J. A. (2001). The ominous numinous: Sensed presence and 'other' hallucinations. *Journal of Consciousness Studies*, 8, 133-150.

Cheyne, J. A. (2002). Situational factors affecting sleep paralysis and associated hallucinations: Position and timing effects. *Journal of Sleep Research*, 11, 169-177.

For brief abstracts of these papers see:

<http://watarts.uwaterloo.ca/~acheyne/SPAWNpub.html>