Parasomnia: what happens inside a sleepwalker's brain?

The typical portrayal of someone sleepwalking isn't entirely accurate. In reality, sleepwalkers often have their eyes open and may have complex interactions with their environment.

Sleep scientists refer to such behaviour as 'parasomnia', which can include a variety of behaviours. It is not clear what sleepwalkers experience during these behaviours. Some report dreams, others don't report any experience.

To better understand why people differ in their conscious experience during an episode, patients were asked to spend two nights at the dreams lab. The researchers induced a parasomnia-episode by playing a sound while the patient was in a deep-sleep stage (some also experienced an episode when no sound was played). Meanwhile, the patients were monitored with an EEG and asked about their experience afterwards.

What happens during a parasomnia-episode?

The majority experienced a dream during the episode (it was often about an impending accident or danger). Some patients didn't report anything but simply awoke, almost as if in a trance.

The parasomnia-episode seems to depend on the patient's state at the moment of the sound. When the brain activity is similar to dreaming, they seem to 'make something' of the activation. When their brain does not show this activity, simple behaviors seem to occur without experience.

This research clarifies what these patients are experiencing and why they can either experience dreams or nothing. It also demonstrates that it's possible to induce dream contents of danger using a loud sounds. This helps us better understand how parasomnias and dreams are generated. In the future, these findings could contribute to more specific interventions, as parasomnias are often treated with unspecific sleeping drugs, which aren't always effective and can have negative side effects.

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