

# A WEB SURVEY OF THE CONTENT, SENSORY MODALITIES, AND INTERPRETATION OF HYPNAGOGIC AND HYPNOPOMPIC EXPERIENCES

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**ABSTRACT:** Various anomalous experiences have been reported just as people are falling asleep (hypnagogic state) or awakening from sleep (hypnopompic state). These states might be conducive to the operation of paranormal processes but might also facilitate the misinterpretation of normal experiences. It is therefore important to investigate the range of experiences reported in these states and how they are interpreted. Research into hypnagogic/hypnopompic imagery has focused on hypnagogic (HG) imagery and the visual and auditory modalities in particular. Comparatively little is known about hypnopompic (HP) imagery and other sensory modalities. A web survey, with 492 respondents, investigated the relative frequency of sensory modalities for HG and HP imagery, their content, and how they have been interpreted. The results suggest that HG is more common than HP imagery; visual, falling and sense of presence sensations are the most common forms, followed by auditory, tactile, bodily, and movement sensations. Olfactory and gustatory imagery is rare. A qualitative analysis revealed a wide range of themes that apply to both HG/HP experiences, although some only occur in one particular state. Respondents' interpretations of the imagery included normal aspects of mind/body functioning, possible physical or mental health problems, and paranormal, spiritual, mystical, or supernatural processes.

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Various anomalous experiences have been reported just as people are falling asleep (hypnagogic state) or awakening from sleep (hypnopompic state). These states might be conducive to the operation of paranormal processes but might also facilitate the misinterpretation of normal experiences (Sherwood, 2000a, 2000b, 2002). Surveys have found that people who report more childhood experiences of hypnagogic/hypnopompic imagery or sleep paralysis also report a greater number of anomalous experiences during childhood or adulthood (Sherwood, 1999, 2000a). More specifically, hypnagogic/hypnopompic imagery has been associated with reports of extrasensory perception (ESP), apparitions and communication with the dead, out-of-body experiences (OBEs), visions of past lives and experiences involving extraterrestrials (e.g., Glicksohn, 1989; Gurney, Myers, & Podmore, 1886; Leaning, 1925; McCreery, 1993; McKellar, 1957; Mavromatis, 1983, 1987; Spanos, Cross, Dickson, & DuBreuil, 1993). It is therefore important to investigate the range of imagery and experiences reported in these states and how they are interpreted.

The terms “hypnagogic imagery” and “hypnopompic imagery” were introduced by Maury (1848) and Myers (1903), respectively, and refer to imagery of varying sensory modalities that is experienced in the borderline states just as one is falling asleep or awakening from sleep, respectively. The images are typically fairly brief in duration (Nielsen, 1992) but can be extremely vivid and realistic. Some writers distinguish between imagery that occurs in the hypnagogic and hypnopompic states (e.g., Glicksohn, 1989; McKellar, 1989) but others do not (e.g., Mavromatis, 1987).

Previous experimental and survey research has tended to focus on hypnagogic (HG) imagery (e.g., see Mavromatis, 1987; Schacter, 1976), although some articles on hypnopompic (HP) imagery have been published (e.g., Gillespie, 1989, 1997). This bias may be understandable, to some extent, considering that HG seems to be more common than HP imagery. Surveys have estimated that about 33–75% (Glicksohn, 1989; Leaning, 1925; McKellar, 1957; McKellar & Simpson, 1954; Richardson, Mavromatis, Mindel, & Owens, 1981) of people have experienced HG imagery on at least one occasion compared with 21.4% (McKellar, 1957) to 67.6% for HP imagery (Richardson et al., 1981). One recent large-scale survey estimated that 37% (12.5%) of the UK population had experienced some form of HG (or HP) imagery at least twice a week during the preceding year (Ohayon, Priest, Caulet, & Guilleminault, 1996). These different estimates may reflect the different survey techniques and different terminology used in these studies and/or the fact that not everyone may remember their HG/HP experiences. Apart from the focus upon HG imagery, researchers have also focused upon the visual and auditory modalities as these seem to be the most common form of HG imagery (Foulkes & Vogel, 1965; Hori, Hayashi, & Morikawa, 1994; McKellar & Simpson, 1954; Mavromatis, 1987; Schacter, 1976). However, comparatively little is known about imagery that occurs in other sensory modalities, such as olfactory, gustatory (taste), tactile, thermal, kinesthetic, bodily and synesthetic sensations, plus sensations of a presence (Leaning, 1925; Mavromatis, 1987; Schacter, 1976). It is also known that imagery in more than one sensory modality can occur simultaneously (e.g., McKellar, 1957; McKellar & Simpson, 1954; Mavromatis, 1987; Oswald, 1962). These combinations of imagery might enhance the degree of realism of the experiences; it may be that the greater the number of different attributes, the more hallucinatory the experience (Nielsen, 1992).

Attempts to classify the content of the imagery have also focused on HG imagery and visual imagery in particular (Leaning, 1925; Mavromatis, 1987). Leaning (1925) identified five categories of visual HG imagery: (a) Formless (e.g., spots or clouds of light); (b) Faces; (c) Designs and objects; (d) Landscapes; (e) Scenes. Mavromatis (1987) based his classification on Leaning's but proposed six categories: (a) Formless; (b) Designs; (c) Faces, figures, animals and objects; (d) Nature scenes; (e) Scenes with people; (f) Print and writing.

As McKellar (1957, p. 35) has noted, HG/HP experiences can mean very different things to different people. However, there does not appear to have been much research into the kinds of interpretations that people give to HG/HP experiences. Some people may not be very concerned about their experiences but others may find them puzzling and may be keen to find an explanation for them. A few people may even be worried that such experiences are a possible indication of physical or mental abnormalities (McKellar, 1957; Rose & Blackmore, 1996). It is known that some people can attach a paranormal or supernatural interpretation to their HG/HP experiences (e.g., Hufford, 1982; Leaning, 1925; Liddon, 1967; McKellar, 1957, 1989). The available evidence suggests that, although the HG/HP states might be conducive to certain types of anomalous experience, such as ESP and OBEs, some HG/HP experiences might also be misinterpreted as involving anomalous processes or agencies (Sherwood, 2000a, 2000b, 2002). In order to stand a chance of being able to differentiate between genuine and misinterpreted anomalous HG/HP experiences, it is necessary to obtain a full understanding of the range of content that can be experienced in the various sensory modalities. Thus the aims of this survey were to investigate:

1. What sorts of sensations and feelings are experienced during the HG and HP states and what characteristics they share.
2. The relative frequency of various sensory modalities for both HG and HP imagery.
3. The content of each type of imagery.
4. Which sensations have been experienced together.
5. How these sensations are similar/different to dreams.
6. How these sensations have been interpreted.

The survey was essentially exploratory and qualitative, and aimed to identify and describe themes relating to the content and interpretation of HG/HP experiences.

## **Method**

### **Design**

This survey used a computer-presented questionnaire that was made available to users of the World Wide Web (WWW) computer network. Participants were required to describe their HG experiences, their HP experiences, or both.

## **Participants**

Five hundred and twenty-three sets of responses were collected between June 21 and December 13, 1997. Thirty-one sets of responses were excluded: participants who had submitted their responses more than once (20 cases); cases where there was a problem with the responses received, such as their being mostly or completely blank (11 cases). Thus, only 492 of the 523 sets of data collected were analysed.

There were 170 male and 309 female (13 unspecified) participants aged 12–92 years ( $M = 27.03$ ,  $SD = 11.43$ ). Fifty-six percent of the participants were American, 4% Canadian, 12% British, 7% other European, 9% other non-European, and 12% were of an unspecified nationality.

## **Apparatus and Security Measures**

The computer acting as the web server was running under a Linux operating system. The questionnaire was written in HyperText Markup Language (HTML) and used various “forms” (e.g., radio buttons, text areas) to collect the responses. Submitted results from the clients’ computers were handled and saved to a results file by a Perl CGI script.

In order to help maintain the anonymity of responses, the IP address, domain name and time/date of submission were saved to a file that was separated from the file containing the participants’ responses. This submission information was also removed from the server at weekly intervals; this meant that anyone who might have been able to gain unauthorised access to the responses file could not necessarily gain access to information that might help to identify the respondents. The results file was also copied at periodic intervals of 4–5 weeks. File permissions on the server were also set to minimise the risk of unauthorised access to the questionnaire and data files. Participants were informed that their IP address would be recorded and that it might act as a crude indicator of possible attempts to bias the results of the survey via multiple submissions. Participants were also informed that the data transmission method was not secure and that there was a risk that a suitably skilled and motivated person could potentially intercept the information during transit.

To help minimise the potential bias of multiple submissions, the file containing the submission information was checked at the end of the survey. The IP addresses were placed in numerical order and then checked for identical or similar addresses. If identical IP addresses were detected then the responses associated with those addresses were checked; identical or almost identical sets of responses were excluded. Similar checks and exclusions were also made for sets of responses that had IP addresses that began with the same two or three blocks of numbers. As can be seen from the “Participants” section, the number of multiple submissions was fairly small so there were no immediately obvious attempts to bias the results.

## Survey Questions

There were 15 main questions within the survey<sup>1</sup>, each of which had at least two subsections. The first 12 questions began by asking the participants to indicate (via “Yes” or “No” radio buttons) whether they had had a particular experience as they were falling asleep and/or as they were waking from sleep. The main questions asked were as follows:

1. Have you ever experienced any visual imagery?
2. Have you ever experienced any auditory sensations?
3. Have you ever experienced any sensations of smell?
4. Have you ever experienced any sensations of taste?
5. Have you ever experienced any sensations of seeming to touch, or be touched by, someone or something? (Please do not include actual physical contact, e.g., with bed partner or a pet)
6. Have you ever experienced any unusual sensations relating to your body? (Please do not include apparent sensations of movement in this section)
7. Have you ever felt as if you were falling?
8. Have you ever felt as if you were moving or were being moved (even though in reality this was not the case)?
9. Have you ever made any actual movements or uttered any actual sounds?
10. Have you ever been actually unable to move or speak?
11. Have you ever experienced a feeling that there was someone or something else in the room or the surrounding area (even though you knew that this should not be the case)?
12. Have you ever experienced any other sensations that have not been mentioned so far?
13. Which (if any) of the sensations covered in the earlier questions have you experienced together (i.e., during the same experience)?
14. How are dreams similar/different to sensations that have occurred?
15. How have you interpreted these sensations that have occurred?

Participants were then presented with pairs of text boxes in which they could describe the kinds of experiences they had had in the HG and/or HP states. There was also a section in which participants were asked to type in some personal details, such as their age, gender, and nationality, and to give feedback about the survey.

<sup>1</sup> Data relating to questions 9, 10, and 14 will not be reported in this paper.

## NOTES ON COMPLETION

Each main question refers to two different time periods:

1. The period of time in which you are **falling asleep** (column one)
2. The period of time in which you are **waking from sleep** (column two)

Thus, each question requires two responses, one for each of the two time periods. The questionnaire has been laid out in two columns to allow for this.

Responses can be made by pointing to and clicking on the button next to the appropriate response or by typing in the boxes provided. Please note that the amount of space available in the boxes is actually greater than it appears on the screen.

Unless otherwise stated, this questionnaire is concerned with sensations or feelings which are **essentially “imaginary”**, i.e. they do not seem to be the result of external stimulation even though they may often be extremely vivid and realistic.

If you have never experienced a particular sensation or feeling, either as you are falling asleep or waking from sleep, subsequent questions about that experience will not apply to you. If this is the case, you can jump to the next question by pointing to and clicking the underlined text which follows the question i.e., “If you answered ‘No’ in both cases then please go on to the next question”.

Some experiences may be relatively more common than others and therefore not everyone will have had some or all of the experiences listed. **If you are uncertain whether or not you have had a particular experience then please answer “No”.**

*Figure 1.* Instructions for participants that appeared at the beginning of the questionnaire.

## **Procedure**

Visitors to the Koestler Parapsychology Unit homepage at the University of Edinburgh were able to go to a section entitled “Experiments.” Visitors may have found the KPU site either by knowing its address and gaining direct access, by following links from other related sites, or by searching various online search engines. Visitors who followed the KPU hypertext link to the “Survey of sleep-related experiences” were sent a copy of the questionnaire that was displayed on their computer screen along with the instructions (see Figure 1). If the individual chose to do so, he/she went through and completed the questionnaire.

Participants recorded their responses by moving the on-screen pointer to the appropriate position and pressing the button on their mouse to select it or by typing them into the appropriate textboxes provided. At the end, participants were provided with an on-screen button (labeled “Please press here to send in your completed responses”) for sending the data to and storing them on the Koestler web server. Once the data had been stored, all participants received an on-screen message indicating that their responses had been recorded and that they had the right to withdraw their data at any time should they wish to do so.

## **Results**

A qualitative thematic analysis (Flick, 1998, pp. 192–198) of the text-based responses was carried out. This kind of analysis is useful when one has a large amount of text and is looking to identify structure in the data using a data-driven approach. This analysis was an iterative process that involved numerous reexaminations of the data and readjustments to the themes identified.

Initially, the author read all of the HG/HP raw data for each question in order to gain some familiarity with it. The HG responses to a particular question (e.g., relating to visual imagery) were then reread and the author made a note of text (e.g., a chair) that suggested possible themes (e.g., objects) as he went along. Subsequent pieces of text that related to previously identified themes were then recorded alongside them, thus grouping them together. This process was then repeated for the HP responses. The identified themes from both the HG and HP responses were then combined and reexamined to see whether any were sufficiently similar that they ought to be combined under a more general theme. Initial labels for the identified themes were then devised. This process was repeated for each question in turn. The data were then reexamined and parts of the responses that illustrated particular themes were identified and listed under each theme label (these are not presented here but are available from the author upon request). The list clearly distinguished between text from the HG responses and text from the HP responses. This process was

repeated a number of times and constant improvements and revisions were made. Note that, due to the qualitative nature of the analysis, quantitative data concerning the relative frequency of the identified themes are unavailable.

### **Hypnagogic/hypnopompic Sensory Modalities**

Table 1 shows that at least half of the participants had experienced one of the following HG sensations: visual, falling, a sense of presence, auditory, tactile, bodily, or moving. Relatively few participants had experienced HG sensations of smell or taste.

Table 1  
*Percentages of Respondents Who Reported Each Type of Hypnagogic and Hypnopompic Experience*

	Hypnagogic	Hypnopompic
Visual	81.8%	71.0%
Falling	76.7%	50.3%
Sense of presence	73.0%	58.9%
Auditory	59.4%	50.4%
Touch	57.3%	53.8%
Bodily	52.0%	37.7%
Moving	52.5%	33.6%
Smell	18.7%	19.7%
Taste	9.1%	14.7%
Other sensations	21.9%	19.0%

Table 1 also shows that at least half of the participants had experienced one of the following HP sensations: visual, falling, a sense of presence, auditory, tactile. Over one third of the sample reported having experienced HP bodily and movement sensations. Relatively few participants had experienced HP sensations of smell or taste.

Visual, falling, sense of presence, auditory, bodily, and movement sensations tended to be much more common during the HG than the HP state. Sensations of taste tended to be more common during the HP than the HG state.

**Visual imagery.** Almost 82% of the respondents had experienced visual HG and 71.0% had experienced visual HP imagery. The results indicated that, most of the time, visual HG or HP imagery tends to be experienced with eyes closed (83.8%, 79.9%, respectively) and in colour (88.6%, 89.8%, respectively).



An examination of the sorts of visual images experienced during the HG and HP states, together with knowledge of categories devised by Leaning (1925) and Mavromatis (1987), suggested a number of themes (see Table 2).

Table 2  
*Themes Identified for Visual HG/HP Imagery*

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• Formless	• Print, writing and symbols
• Designs	• Visions of falling or tripping over
• Faces, body parts, figures, animals, insects, creatures	• Visions of moving along
• Objects	• Visions of being at the bottom of the sea/ lake
• Places	• Images from dreams
• Scenes with people	• Tunnels
• Scenes relating to self	

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It is clear from the list that the HG/HP imagery themes range from relatively simple forms, such as formless and designs, to increasingly more complex forms, such as scenes involving the self or other people. In some instances, such as when experiencing images of objects or places, the experient is more of a passive observer but in other instances, such as when having visions of falling or moving, the experient has more of an active role. Images from dreams are exclusively reported in HP rather than HG imagery.

**Auditory imagery.** Fifty-nine percent of the respondents had experienced auditory HG imagery and 50.4%, auditory HP imagery. An examination of the sorts of auditory images experienced during the HG and HP states suggested a number of themes (see Table 3). Some of these themes relate to humans, animals, or insects whereas others relate to objects, such as motors and machinery, transport, or ringing and related sounds. Some auditory imagery is related to natural sounds, such as the wind-like and water-related sounds. Other auditory imagery includes percussive sounds, scratching, humming, vibrating, buzzing, swishing, whooshing, and static sounds. Sometimes the auditory imagery is relevant to visual imagery also being experienced or, in the case of HP imagery, it may be related to earlier dreams.

Table 3  
*Themes Identified for Auditory HG/HP Imagery*

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• Wind-like sounds	• Motors and machinery sounds
• Water-related sounds	• Humming, vibrating, buzzing sounds
• Vocalisations	• Scratching, clicking, creaking sounds
• Ringing, bells, whistles, sirens, beeps, tones, high-pitched sounds	• Swishing, whooshing, rustling sounds
• Percussive sounds	• Transport sounds
• Music and singing	• Dream-related
• Footsteps and sounds of movement	• Relevant to visual imagery
• Static/white noise	• Related to self
• Animal and insect sounds	

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**Olfactory (smell) imagery.** Fewer than 20% of the respondents had experienced HG (18.7%) or HP (19.7%) olfactory imagery. An examination of the sorts of olfactory images experienced during the HG and HP states suggested a relatively small number of themes (see Table 4). A number of respondents reported that their olfactory imagery often seems random but at other times it can correspond with imagery from other modalities.

Table 4  
*Themes Identified for Olfactory HG/HP Imagery*

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• Burning	• People
• Floral, plants	• Water
• Food and drink	• Chemical
• Unpleasant	• Outdoors
• Perfumed	• Dream-related

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**Gustatory (taste) imagery.** Gustatory imagery was the least common form of HG (9.1%) or HP (14.7%) imagery reported by the respondents. As with olfactory imagery, only a relatively small number of themes were identified (see Table 5). As one might expect, some of the gustatory themes are similar to the olfactory themes, for example, food and drink, tobacco, and unpleasant. Sometimes the taste sensations reflect other imagery, such as olfactory or visual.

Table 5  
*Themes Identified for Gustatory HG/HP Imagery*

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• Food and drink	• Unpleasant
• Bitter	• Kissing and sexual
• Sweet	• Mint
• Salty	• Flowers, plants
• Metallic/blood	• Electricity
• Tobacco	• Dream-related

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**Tactile (touch) imagery.** More than half of the respondents reported HG (57.3%) or HP (53.8%) tactile imagery. The tactile sensations can broadly be divided into active and passive sensations (see Table 6). Active sensations are those in which the experiencer is doing the touching; passive sensations include those in which the experiencer is touched by something or someone. Some sensations can be pleasant, such as being stroked, hugged or kissed; others can be unpleasant and/or frightening, such as being choked, pinched, poked, or cut.

Table 6  
*Themes Identified for Tactile HG/HP Imagery*

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• Someone touching you	• Holding hands
• Someone or something stroking or caressing you	• Kissing and sexual sensations
• Hugging or holding someone or being hugged or held down	• Sensation of being strangled, choked or suffocated
• Someone sitting or lying on the bed	• Sensation of being hit or hitting something

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*Themes Identified for Tactile HG/HP Imagery*  
(continued)

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<ul style="list-style-type: none"> <li>• Pushing someone or being pushed</li> </ul>	<ul style="list-style-type: none"> <li>• Sensation of being shaken</li> </ul>
<ul style="list-style-type: none"> <li>• Someone pulling you</li> </ul>	<ul style="list-style-type: none"> <li>• Sensation of touching something or something (an object) touching you</li> </ul>
<ul style="list-style-type: none"> <li>• Sensation of being grabbed</li> </ul>	<ul style="list-style-type: none"> <li>• Pain</li> </ul>
<ul style="list-style-type: none"> <li>• Sensation of being pinched or poked</li> </ul>	<ul style="list-style-type: none"> <li>• Feeling the movement of air or breath</li> </ul>
<ul style="list-style-type: none"> <li>• Pressure on body part(s)</li> </ul>	<ul style="list-style-type: none"> <li>• Sensation of being in water</li> </ul>
<ul style="list-style-type: none"> <li>• Animals or insects touching or moving over you</li> </ul>	<ul style="list-style-type: none"> <li>• Tickling sensation</li> </ul>
<ul style="list-style-type: none"> <li>• Itching sensations</li> </ul>	<ul style="list-style-type: none"> <li>• Sensation of bed covers being moved</li> </ul>

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**Bodily sensations.** Bodily sensations seem to be much more common during the HG state (52.0%) than the HP state (37.7%). A whole variety of unusual bodily sensations were reported to have occurred during the HG and HP states (see Table 7). These ranged from sensations relating to the position or location of the body or the “self,” to changes in the size or density of the body or the arrangement of the body parts. The sensations of shrinking and expanding, plus the confined space sensation, seem to be characteristic of the HG state. Some sensations related to the outside of the body, such as tingling and pins and needles, but others seem to be internal, such as numbness, the movement of energy through the body, and vibrations. A few respondents also reported feeling as if something was trying to take over their body or pull their spirit from it. Other sensations include feeling disconnected or somewhere else, calmness, and feeling as if you are located within an enclosed space.

Table 7  
 Themes Identified for HG/HP Bodily Sensations

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• Tingling, pins and needles	• Feeling of being somewhere else
• Pain	• Separation or rearrangement of body parts
• Numbness	• Feeling of being outside of the body
• Shrinking	• Something trying to take over the body or pull the spirit from the body
• Expanding	• Acute senses
• Spinning	• Cold or warmth
• Light, floating, drifting	• Movement of energy or electricity through the body
• Sinking	• Sensation of waves hitting or moving through you
• Heaviness	• Vibrations from within
• Sense of changed orientation	• Feeling of being inside a confined space
• Feeling of being disconnected	

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**Sensations of falling.** Sensations of falling are much more common during the HG state (76.7%) than the HP state (50.3%). The sensations of falling tend to be either general sensations or more specific instances in which individuals feel themselves slip or lose their balance and/or fall into, off, or from something (see Table 8).

Table 8  
*Themes Identified for HG/HP Falling Sensations*

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• General sensation of falling	• Heart beating quickly
• Feeling of slipping or losing balance	• Sweating
• Sensation of falling into something	• Floating, flying feeling
• Sensation of falling off or from something	• Feeling of wind or air rushing past you
• Visual imagery	• Helplessness or being out of control
• Auditory imagery	• Muscles tensing as if bracing for impact or attempts to stop yourself
• Feeling one's stomach drop	• Sensation of hitting the ground
• Tingling	• Spasmodic jerking of the body
• Weightlessness	• Fear
• Heaviness	• Peace, comfort, relaxation
• Tightness of chest	• Panic
• Spinning, turning or side-to-side motion	• Exhilaration, enjoyment
• Nausea	• Numbness
• Dizziness, lightheadedness	• Vertigo
• Disorientation or confusion	• Heat

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*Themes Identified for HG/HP Falling Sensations*  
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|---|--|
| <ul style="list-style-type: none"> <li>• Startled feeling</li> </ul>                                  | <ul style="list-style-type: none"> <li>• Disconnectedness from the body</li> </ul> |
| <ul style="list-style-type: none"> <li>• Breathing hard or difficulty catching your breath</li> </ul> | <ul style="list-style-type: none"> <li>• Worried feeling</li> </ul>                |
| <ul style="list-style-type: none"> <li>• An adrenaline rush afterwards</li> </ul>                     |  |
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Accompanying features can include visual, auditory, and temperature sensations. Bodily sensations can include heaviness or weightlessness, tingling, numbness, vertigo, feeling your stomach “drop,” and being disconnected from the body. Feelings of nausea and dizziness, difficulty breathing, rapid heartbeat, and sweating can also accompany falling sensations. Other accompanying sensations of movement may include spinning or turning, floating, or flying. An accompanying feeling of wind or air rushing past sometimes enhances the sense of realism.

Some respondents also report feelings of helplessness or being out of control, and these may be linked to reports of muscles being tensed as if bracing for impact. In fact, some respondents report a sensation of actually hitting the ground. The end of the falling sensation may be marked by a spasmodic jerk of the limbs and can be followed by an adrenaline rush.

Some experiences appear to be quite pleasant and respondents may report feelings of peace or exhilaration; others are not so pleasant and respondents may report feelings of fear, panic, or worry.

**Sensations of movement.** Sensations of movement appear to be more common during the HG state (52.5%) than the HP state (33.6%). Sensations of falling are the most common but these sensations of movement have already been covered in the preceding section. Other sensations of movement (see Table 9) can range from moving by yourself—for example, walking, flying, or swimming—to being carried or pulled by another person, or of being in or on some kind of vehicle, such as a car or a bicycle. Thus, some movements are active and some passive. These movements can sometimes take place at great speed but at other times they can be quite slow. Other sensations of movement include rotating or spinning, rocking, rolling over, and feeling as though you are being hung upside down or as if you are getting up out of bed.

Table 9  
*Themes Identified for HG/HP Movement Sensations*

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• Moving forward	• Rolling over, head over heels
• Speed of movement	• Sliding
• Rotating or spinning	• Being picked up or carried or set down
• Rocking	• Movement through a tunnel
• Floating or flying	• Swimming or floating in water
• Being in or on a moving vehicle	• Feeling as though you are being hung upside down
• Being pulled along	• Feeling like getting up out of bed
• Movement on foot	

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**Sensations of presence.** A sense of presence appears to be much more common during the HG state (73.0%) than the HP state (58.9%). The sense of presence appears to be a very rich experience that can have a variety of different themes and accompanying features (see Table 10). The presence can be perceived as being in a number of locations: somewhere very close, standing, leaning or hovering over you, standing near the bed, standing in the corner or moving around the room, waiting or hiding somewhere; or it can be in the doorway, just entering or exiting the room; or it can feel as if it is elsewhere in the house. There may also be a sense of someone else breathing in the room or a movement of air. There may be a general feeling of not being safe or that someone or something is trying to warn you. The presence may be perceived as having a sense of purpose, for example, that it is watching you or wishes to take you somewhere.

In terms of the characteristics of the presence, it can be perceived as being positive or negative, and it may or may not be familiar or recognisable. The presence can also be perceived to be powerful. The weight or force of the presence may be felt, and sometimes even tactile sensations or apparently physical blows are reported. Other accompanying features may include visual, auditory, or olfactory HG/HP imagery and perhaps paralysis.



Bodily sensations may include a feeling of cold or shivering, hair standing on end, a change in pressure, or a sensation of being very large.

Table 10  
*Themes Identified for HG/HP Sensations of Presence*

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• Feeling that there is someone or something very close	• Paralysis
• Someone or something standing or leaning over you	• Visual imagery
• Someone or something hovering over you	• Auditory imagery
• Someone or something standing near the bed	• Olfactory imagery
• Someone or something in the corner or moving around the room	• Hair on arms and neck standing up
• Someone or something waiting or hiding	• Feeling cold, shivering
• Someone or something in the doorway, coming into or exiting the room, elsewhere in the house or just outside	• Change in pressure
• Feeling of being watched or observed	• Sensation of being very large
• Someone or something else breathing in the room	• Confusion or disorientation
• The presence has a sense of purpose	• Curiosity

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*Themes Identified for HG/HP Sensations of Presence*  
(continued)

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|--|--|
| <ul style="list-style-type: none"> <li>• Positive feelings of warmth, non-threatening, protection, helpfulness, caring, reassurance</li> </ul> | <ul style="list-style-type: none"> <li>• Fear, scared, panic</li> </ul>            |
| <ul style="list-style-type: none"> <li>• Negative, evil, harmful, malevolent, threatening, unwelcome, unpleasant</li> </ul>                    | <ul style="list-style-type: none"> <li>• Annoyance, anger</li> </ul>               |
| <ul style="list-style-type: none"> <li>• Power, powerful force</li> </ul>  | <ul style="list-style-type: none"> <li>• Sorrow, sadness</li> </ul>                |
| <ul style="list-style-type: none"> <li>• Identity of the presence</li> </ul>   | <ul style="list-style-type: none"> <li>• Paranoia</li> </ul>                       |
| <ul style="list-style-type: none"> <li>• Sensation of being touched</li> </ul>   | <ul style="list-style-type: none"> <li>• Calm, peaceful, happiness</li> </ul>      |
| <ul style="list-style-type: none"> <li>• Weight or force against the body</li> </ul>   | <ul style="list-style-type: none"> <li>• Objects are moving in the room</li> </ul> |
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During the experience, individuals may feel confused and disoriented, and they may be curious, with an urge to look around the room. Emotions felt can be quite negative, such as fear, annoyance, sorrow, or paranoia, or perhaps less frequently, positive, such as calm or happiness. Another feature of the sense of presence experience may be a sense that objects are moving in the room.

**Sensations experienced together.** Although a small number of people report that they have not experienced any of the previous HG/HP sensations together, the other responses suggest that combinations of most of the sensations can be experienced together. Olfactory and gustatory imagery can occur together but tend not to be reported in combination with many other HG/HP experiences.

**Differences between hypnagogic and hypnopompic themes.** The main difference between the content of HG versus HP themes is that HP are often (but not always) related to previous dreams whereas HG themes tend not to be. However, some themes and features were reported in either HG or HP experiences but not both (see Table 11).

Table 11  
 Themes Specific to the HG or HP States

Hypnagogic	Hypnopompic
<ul style="list-style-type: none"> <li>• Spiders webs, spirals and kaleidoscopic images, furniture, peaceful places, scenes relating to the self, visions of being at the bottom of the sea or a lake</li> </ul>	<ul style="list-style-type: none"> <li>• Kissing and sexual tastes</li> </ul>
<ul style="list-style-type: none"> <li>• Swishing, whooshing or rustling sounds</li> </ul>	<ul style="list-style-type: none"> <li>• Tactile sensations often interpreted as an attempt to awaken the sleeper</li> </ul>
<ul style="list-style-type: none"> <li>• Sweet taste</li> </ul>	<ul style="list-style-type: none"> <li>• Apparent movement of the bedcovers</li> </ul>
<ul style="list-style-type: none"> <li>• Sensations of shrinking or expanding, feeling as if in a confined space, waves hitting or moving through you, a feeling of disconnectedness, sinking, calm</li> </ul>	
<ul style="list-style-type: none"> <li>• Falling sensation accompaniments: tingling, numbness, heaviness, tightness of chest, nausea</li> </ul>	
<ul style="list-style-type: none"> <li>• Sensation of presence accompaniments: feeling very large, a change in pressure, paranoia, objects moving in the room</li> </ul>	
<ul style="list-style-type: none"> <li>• Sense of urgency or danger, feeling of being about to implode</li> </ul>	

Table 12  
*Interpretations of HG/HP Imagery*

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• None, don't know, haven't tried	• Tiredness
• Normal	• Stress, anxiety
• Hypnagogic imagery	• Phobia
• Sleep paralysis	• Need for affection, homesickness
• Dreams	• Energy release or relaxation
• Sleep-wake transition stage	• Food or drink
• Altered states of consciousness	• Seizures
• Continuation or anticipation of daily events	• Fear of insanity
• Cognitive processes	• Warning. Communication
• Imagination, subconscious, wishful thinking	• External source
• Memory	• Strange
• Sensory impressions	• Paranormal, psychic, spiritual, mystical, supernatural
• Brain, mind	

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**Interpretation of hypnagogic/hypnopompic experiences.** The responses suggest a range of possible interpretations of HG/HP experiences (see Table 12). Some people seem not to pay much attention to them or they are not sure what they are. Some people consider these experiences to be normal; some consider them to be part of the normal waking-sleeping transition process or as part of dreaming; a few may describe them as HG imagery or sleep paralysis. Others may consider them to be a continuation or anticipation of daily events, a result of general mind/brain activity, or the result of cognitive processes, such as imagination, thinking, or memory. Some people think that particular circumstances may bring about their

HG/HP experiences. Such circumstances may include stress and anxiety, tiredness, energy release or relaxation, certain food and drink, phobias, or the need for affection. Some people believe that their experiences are due to some kind of seizure, or they may be fearful of some kind of mental illness.

HG/HP experiences may also be considered to be strange, and some may consider them to have an external source or be some kind of a warning or communication. These notions are reflected in the fact that a number of people consider their experiences to have some kind of paranormal, spiritual, or supernatural significance. Paranormal interpretations of hypnagogic/hypnopompic experiences tend to be associated with ESP or possible survival-related experiences, which might include communication with the dead, ghosts and hauntings, past-life experiences, and out-of-body experiences. Spiritual, mystical, and supernatural interpretations involve gods or angels, an unknown force or forces of nature, or beings from other dimensions.

### **Discussion**

The results of this WWW survey have provided a great deal of information about the content and features of HG and HP imagery, though one should note that the sample was self-selected and taken from the WWW-user population, which limits the generalisability of the findings. The results of this WWW survey suggest that, within HG/HP imagery, visual, falling, and sense of presence sensations seem to be the most common, followed by auditory, tactile, bodily, and movement sensations. Olfactory and gustatory imagery are relatively rare. HG imagery seems to be more common than HP. Although the range of HG/HP imagery content is quite broad, a qualitative analysis of the survey data revealed a wide range of common themes that apply to both HG and HP experiences in most cases. However, there are some themes and features that seem to occur in either the HG or HP state, but not both. The survey results have partially confirmed and expanded upon previous classifications of visual HG/HP imagery proposed by Leaning (1925) and Mavromatis (1987).

Apart from the obvious difference in that HG occurs as one is falling asleep whereas HP imagery occurs just as one is waking from sleep, there are some ways in which the two types do differ. The main difference between HG and HP content is that HP content is often (but not always) related to previous dreams whereas HG tends not to be. In a temporal sense, there is also some indication that HG imagery may relate to events prior to sleep whereas HP imagery may have a tendency to anticipate daily events that may follow sleep (McKellar, 1957). It is not surprising to find that HP tends to have greater associations with dreams than HG imagery, particularly given the original definition of HP imagery by F. W. H. Myers (1903), which described the imagery as dream images that persisted into

wakefulness. But, it also appears that HP imagery is not always associated with previous dreams (see Mavromatis, 1987, p. 39) and so perhaps one ought to classify two types of HP imagery (Leaning, 1925): (1) persistent dream-related imagery, (2) imagery that does not relate to dreams. Comments made by respondents also suggest that sometimes dreams may seem to follow on from, or elaborate upon, previous HG images. The survey results also suggest that a number of themes may be characteristic of HG imagery. For these reasons, I think it is useful to maintain the distinction between HG and HP imagery.

The survey also identified a range of possible interpretations of HG/HP experiences: Some people seem not to pay too much attention to them or are not sure what they are; some consider them to be normal aspects of mind/body functioning; a few are concerned about possible physical or mental health problems. Others consider them to have some kind of paranormal, spiritual, mystical, or supernatural cause or significance. Such anomalous interpretations are not surprising given the similarities between certain HG/HP features and reports of anomalous experiences of various types.

There is evidence to suggest that the HG/HP states might be conducive to a range of anomalous experiences, that normal HG/HP experiences might be misinterpreted, or both (Sherwood, 2000a, 2000b, 2002). The anomalous interpretations tend to be associated, as one might expect, with the processes and agencies with which they share similar characteristics: for example, ESP, contact with the dead, apparitions, and OBEs. Other interpretations involve angels/demons, some kind of anomalous force, and beings from other dimensions. UFO-related interpretations seem to be rare, as are interpretations in terms of PK, even though sensations of moving objects in the room or movement of the bedclothes are reported and are obviously similar to descriptions of macro-PK. Previous work has suggested that HG/HP experiences can be interpreted as ESP, apparitions, OBEs/NDEs, visions of previous lives or other worlds, religious and mystical experiences, alien abductions, witchcraft or attacks by evil spirits or demons and so forth (e.g., Blackmore, 1998; Hufford, 1982; Leaning, 1925; Liddon, 1967; McKellar, 1957, 1989; Spanos et al., 1993; Wilson & Barber, 1983).

Visions of complex scenes involving other people or yourself, complete with a soundtrack, might be interpreted as extrasensory impressions. Some researchers believe that HG visions might actually be an early form of ESP (Leaning, 1925; Mavromatis, 1983, 1987). The HG/HP states do have physiological and psychological features that are considered to be psi-conducive (see Sherwood, 2002). Some experimental studies have also found that HG/HP imagery seems to be conducive to telepathy (Gertz, 1983; Schacter & Kelly, 1975). There are a number of features of the HG and HP states that could lead to interpretations in terms of communication with the dead. Visions of faces, which are sometimes pleasant and sometimes terrifying, can develop into figures that approach the sleeper

(Leaning, 1925; Mavromatis, 1987; McKellar, 1957). Voices, including hearing your name being called, and the sound of footsteps, sensations of a presence or of being watched, smells associated with a deceased person, and sensations of being touched or of someone sitting or lying on the bed can all contribute to such interpretations. Some reported encounters with deceased loved ones in psychomanteum chambers (Moody with Perry, 1993) share characteristics of HG imagery (Sherwood, 2000b). A well-documented case of a haunting in northeast England from the 1830s (the Mill House at Willington) included a variety of HG phenomena occurring in the bedrooms at night (MacKenzie, 1982; Procter, 1891–1892). OBEs are often reported during the HG state, and there are similarities between HG imagery and OBE features, such as feelings of floating and flying, visions of traveling, changes in body image, feelings of being disconnected and being outside of the body, and the conditions in which they occur (Mavromatis, 1983, 1987; Sherwood, 2000a, in press).

Apart from the specific content, there are a number of features of HG/HP experiences that can make them seem real and that may facilitate misinterpretation. These include the fact that it can be difficult to determine whether one is awake or asleep; one may feel more awake than during dreams and be aware of one's surroundings; the experiences can occur with the eyes open or closed (though mostly closed) and may involve more than one sensory modality. Nevertheless, some HG/HP experiences may not have any similarities with anomalous experiences, and some can be linked to recent experience or current thoughts, hopes, worries, and fantasies or dreams.

It is certainly not true that HG/HP imagery and/or sleep paralysis can account for all reports of anomalous experiences. For instance, many anomalous experiences are reported during wakefulness and during various activities; others may be experienced by more than one person simultaneously. My aim has been to highlight the similarities. These similarities may be because some reports of anomalous experiences are simply misinterpretations of normal HG/HP features, or the two kinds of experiences may share similar underlying processes or mechanisms. However, just as we do not fully understand what causes various anomalous experiences, we also do not fully understand the causes of and mechanisms involved with HG/HP features. Nevertheless it is hoped that this survey has advanced our understanding of the content of HG/HP experiences and how they are interpreted.

What is needed now is to identify what distinguishes normal from apparently anomalous HG/HP experiences, though this is easier said than done. Perhaps there might be some qualitative differences between HG/HP experiences that seem to involve anomalous processes and those that do not. It will always be more difficult to evaluate spontaneous case reports deemed to be paranormal, particularly if there is no corroborating evidence, but it is hoped that knowledge of common HG/HP experiences

might act as a baseline that will aid assessments of the validity of spontaneous case reports. A more controlled experimental approach might be better. Perhaps individuals who regularly experience HG/HP imagery and/or sleep paralysis could take part in a series of ESP trials, and contrasts could be made between imagery that leads to successful and unsuccessful ESP judgements; these could be compared with control experiences. Certainly some studies have found that naturally occurring HG/HP imagery does seem to be conducive to ESP (e.g., Braud, 1977; White et al., 1971). One could also interview psychics, or analyse existing biographical materials, to try to establish differentiating features. It is known, for example, that some developing and some well-known mediums, such as Eileen Garrett (1941, cited by Mavromatis, 1987, p. 140), had ESP experiences during the HG/HP states. Another approach that might yield useful information is to attempt to build up a picture of which HG/HP features tend to occur together in specific clusters (Cheyne, Newby-Clark, & Rueffer, 1999; Cheyne, Rueffer, & Newby-Clark, 1999).

### References

- Blackmore, S. (1998). Abduction by aliens or sleep paralysis? *Skeptical Inquirer*, 22(3), 23–28.
- Braud, W. (1977). Long-distance dream and presleep telepathy [Abstract]. In J. D. Morris, W. G. Roll, & R. L. Morris (Eds.), *Research in parapsychology 1976* (pp. 154–155). Metuchen, NJ: Scarecrow Press.
- Cheyne, J. A., Newby-Clark, I. R., & Rueffer, S. D. (1999). Relations among hypnagogic and hypnopompic experiences associated with sleep paralysis. *Journal of Sleep Research*, 8, 313–317.
- 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.
- Flick, U. (1998). *An introduction to qualitative research*. Thousand Oaks, CA: Sage.
- Foulkes, D., & Vogel, G. (1965). Mental activity at sleep onset. *Journal of Abnormal Psychology*, 70, 231–246.
- Gertz, J. (1983). Hypnagogic fantasy, EEG, and psi performance in a single subject. *Journal of the American Society for Psychological Research*, 77, 155–170.
- Gillespie, G. (1989). Lights and lattices and where they are seen. *Perceptual and Motor Skills*, 68, 487–504.
- Gillespie, G. (1997). Hypnopompic imagery and visual dream experience. *Dreaming*, 7, 187–194.
- Glicksohn, J. (1989). The structure of subjective experience: Interdependencies along the sleep-wakefulness continuum. *Journal of Mental Imagery*, 13, 99–106.
- Gurney, E., Myers, F. W. H., & Podmore, F. (1886). *Phantasms of the living* (Vols. 1–2). London: Trübner.



- Hori, T., Hayashi, M., & Morikawa, T. (1994). Topographical EEG changes and the hypnagogic experience. In R. D. Ogilvie, & J. R. Harsh (Eds.), *Sleep onset: Normal and abnormal processes* (pp. 237–253). Washington, DC: American Psychological Association.
- Hufford, D. J. (1982). *The terror that comes in the night: An experience-centered study of supernatural assault traditions*. Philadelphia, PA: University of Pennsylvania Press.
- Leaning, F. E. (1925). An introductory study of hypnagogic phenomena. *Proceedings of the Society for Psychical Research*, 35, 287–411.
- Liddon, S. C. (1967). Sleep paralysis and hypnagogic hallucinations: Their relationship to the nightmare. *Archives of General Psychiatry*, 17, 88–96.
- MacKenzie, A. (1982). *Hauntings and apparitions*. London: Heinemann.
- Maury, M. A. (1848). Des hallucinations hypnagogiques, ou des erreurs des sens dans l'état intermédiaire entre la veille et le sommeil. [Hypnagogic hallucinations, or errors of the senses in the intermediate state between waking and sleeping]. *Annales Médico-Psychologique du Système Nerveux*, 11, 26–40.
- Mavromatis, A. (1983). *Hypnagogia: The nature and function of the hypnagogic state*. Unpublished doctoral thesis. Brunel University, England.
- Mavromatis, A. (1987). *Hypnagogia: The unique state of consciousness between wakefulness and sleep*. London: Routledge & Kegan Paul.
- McCreery, C. (1993). *Schizotypy and out-of-the-body experiences*. Unpublished doctoral thesis. University of Oxford, England.
- McKellar, P. (1957). *Imagination and thinking: A psychological analysis*. London: Cohen & West.
- McKellar, P. (1989). *Abnormal psychology: Its experience and behaviour*. London: Routledge.
- McKellar, P., & Simpson, L. (1954). Between wakefulness and sleep: Hypnagogic imagery. *British Journal of Psychology*, 45, 266–276.
- Moody, R., & Perry, P. (1993). *Reunions: Visionary encounters with departed loved ones*. London: Little, Brown.
- Myers, F. W. H. (1903). *Human personality and its survival of bodily death*. London: Longmans, Green.
- Nielsen, T. A. (1992). A self-observational study of spontaneous hypnagogic imagery using the upright napping procedure. *Imagination, Cognition and Personality*, 11, 353–366.
- Ohayon, M. M., Priest, R. G., Caulet, M., & Guilleminault, C. (1996). Hypnagogic and hypnopompic hallucinations: Pathological phenomena? *British Journal of Psychiatry*, 169, 459–467.
- Oswald, I. (1962). *Sleeping and waking*. Amsterdam: Elsevier.
- Procter, E. (1891–1892). The haunted house at Willington. *Journal of the Society for Psychical Research*, 5, 331–352.
- Richardson, J. T. E., Mavromatis, A., Mindel, T., & Owens, A. C. (1981). Individual differences in hypnagogic and hypnopompic imagery. *Journal of Mental Imagery*, 5, 91–96.

- Rose, N., & Blackmore, S. (1996, August/September). *Two pilot surveys of unusual personal experiences*. Paper presented at the 20th International Conference of the Society for Psychical Research, The Royal Agricultural College, Cirencester, England.
- Schacter, D. L. (1976). The hypnagogic state: A critical review of the literature. *Psychological Bulletin*, *83*, 452–481.
- Schacter, D. L., & Kelly, E. F. (1975). ESP in the twilight zone. *Journal of Parapsychology*, *39*, 27–28.
- Sherwood, S. J. (1999). Relationship between childhood hypnagogic/hypnopompic and sleep experiences, childhood fantasy proneness, and anomalous experiences and beliefs: An exploratory WWW survey. *Journal of the American Society for Psychical Research*, *93*, 167–197.
- Sherwood, S. J. (2000a). *Modelling childhood antecedents of anomalous experiences and beliefs: Fantasy proneness, hypnagogic/hypnopompic and sleep experiences*. Unpublished doctoral dissertation, University of Edinburgh.
- Sherwood, S. J. (2000b). A comparison of the features of psychomanteum and hypnagogic/hypnopompic experiences. *International Journal of Parapsychology*, *11*, 97–121.
- Sherwood, S. J. (2002). Relationship between the hypnagogic/hypnopompic states and reports of anomalous experiences. *Journal of Parapsychology*, *66*, 127–150.
- Sherwood, S. J. (in press). A comparison of phenomena experienced during hypnagogic/hypnopompic states and reports of out-of-body experiences. *International Journal of Parapsychology*.
- Spanos, N. P., Cross, P. A., Dickson, K., & DuBreuil, S. C. (1993). Close encounters: An examination of UFO experiences. *Journal of Abnormal Psychology*, *102*, 624–632.
- White, R. A., Krippner, S., Ullman, M., & Honorton, C. (1971). Experimentally-induced telepathic dreams with EEG-REM monitoring: Some manifest content variables related to psi operation. In W. G. Roll, R. L. Morris, & J. D. Morris (Eds.), *Proceedings of the Parapsychological Association, Number 5, 1968* (pp. 85–87). Durham, NC: Parapsychological Association.
- Wilson, S. C., & Barber, T. X. (1983). The fantasy-prone personality: Implications for understanding imagery, hypnosis, and parapsychological phenomena. In A. A. Sheikh (Ed.), *Imagery: Current theory, research, and application* (pp. 340–387). New York: Wiley.

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## **Abstracts in Other Languages**

### *Spanish*

#### **UNA ENCUESTA EN LA RED SOBRE CONTENIDO, MODALIDADES SENSORIALES, E INTERPRETACIÓN DE EXPERIENCIA HIPNAGÓGICAS E HIPNOPÓMPICAS**

**RESUMEN:** Diversas experiencias anómalas se han mencionado cuando la gente se está quedando dormida (estado hipnagógico) o está despertando (estado hipnopómpico). Estos estados pueden ser propicios para el funcionamiento de los procesos paranormales, pero también podrían facilitar la mala interpretación de experiencias normales. Por tanto, es importante investigar la gama de experiencias en estos estados y la forma en que se interpretan. La investigación sobre la imagería hipnagógica/hipnopómpicas se ha centrado en imágenes hipnagógicas (HG), particularmente visuales y auditivas. Comparativamente poco se sabe sobre imágenes hipnopómpicas (HP) y otras modalidades sensoriales. Una encuesta en la red con 492 participantes investigó la frecuencia relativa de las modalidades sensoriales de las imágenes de HG y HP, su contenido, y cómo se han interpretado. Los resultados sugieren que las imágenes HG son más comunes que las imágenes HP; las sensaciones visuales, de caer y de presencia son las formas más comunes, seguidas por sensaciones auditivas, táctiles, corporales, y de movimiento. Las imágenes olfativas y gustativas son raras. Un análisis cualitativo reveló una amplia gama de temas que se aplican a las experiencias HG/HP, aunque algunas sólo ocurren en un estado. Las interpretaciones de los encuestados sobre las imágenes incluyen aspectos normales de funcionamiento de la mente/cuerpo, posibles problemas de salud físicos o mentales, y procesos paranormal, espirituales, místicos, o sobrenaturales.

### *French*

#### **UN SONDAGE EN LIGNE DU CONTENU, DES MODALITES SENSORIELLES ET DE L'INTERPRETATION DES EXPERIENCES HYPNAGOGIQUES ET HYPNOPOMPIQUES**

**Résumé :** Diverses expériences anormales ont été relatées par des personnes à l'endormissement (état hypnagogique) et au réveil (état hypnopompique).

Ces états pourraient faciliter l'opération des processus paranormaux mais pourraient aussi faciliter la mauvaise interprétation d'expériences normales. Il est donc important d'étudier la gamme des expériences relatées dans ces états et les façons de les interpréter. La recherche sur l'imagerie hypnagogique / hypnopompique s'est focalisée sur l'imagerie hypnagogique (HG) et les modalités visuelles et auditives en particulier. Comparativement, on en sait peu sur l'imagerie hypnopompique (HP) et les autres modalités sensorielles. Un sondage en ligne, avec 492 participants, étudiait la fréquence relative des modalités sensorielles de l'imagerie HG et HP, leurs contenus, et les façons de les interpréter. Les résultats suggèrent que l'imagerie HG est plus commune que l'imagerie HP ; que les sensations visuelles, de chute et de présence sont les formes les plus couramment rencontrées, suivies par les sensations auditives, tactiles, corporelles et de mouvement. L'imagerie olfactive et gustative est rare. Une analyse qualitative a révélé qu'une large gamme de thèmes s'applique aux deux types d'expériences, bien que certaines ne semblent survenir que dans un état particulier. Les interprétations de leurs imageries par les participants incluaient des aspects normaux du fonctionnement corps/esprit, de possibles problèmes physiques ou de santé mentale, et des processus paranormaux, spirituels, mystiques ou surnaturels.

*German*

#### EINE WEBBASIERTE UMFRAGE ÜBER INHALTE, SENSORISCHE MODALITÄTEN UND INTERPRETATION HYPNAGOGER UND HYPNOPOMPER ERFAHRUNGEN

Verschiedene anomale Erfahrungen wurden von Menschen berichtet, die gerade einschlafen (hypnagogischer Zustand) oder aus dem Schlaf erwachen (hypnopomper Zustand). Diese Zustände können das Zustandekommen paranormaler Prozesse erleichtern, aber ebenso Missdeutungen normaler Erfahrungen begünstigen. Von daher ist es wichtig, das Spektrum der in diesen Zuständen berichteten Erfahrungen zu untersuchen und wie sie interpretiert werden. Forschungen zu hypnagogisch-hypnopompischen Bildeindrücken haben sich auf hypnagogische Bilder (HG) konzentriert und besonders auf die visuellen und auditiven Modalitäten. Vergleichsweise wenig bekannt ist über hypnopompe Bilder (HP) und andere sensorische Modalitäten. Eine webbasierte Umfrage, die auf 492 Antworten basierte, untersuchte die relative Häufigkeit der sensorischen Modalitäten für HG- und HP-Bilder, ihre Inhalte und die Art und Weise, wie sie interpretiert werden. Die Ergebnisse legen nahe, dass HG-verbreiteter sind als HP-Bilder; visuelle Eindrücke, Gefühle des Fallens und einer Anwesenheit werden am häufigsten berichtet, gefolgt von auditiven, taktilen, körperlichen und Bewegungsempfindungen. Geruchs- und Geschmacksbilder sind selten. Eine qualitative Analyse ergab ein breites Spektrum an Themen,

die HP- wie HG-Erfahrungen betreffen, obwohl einige von ihnen nur in einem besonderen Zustand berichtet werden. Die in den Antworten gegebenen Deutungen der Bildeindrücke umfassten normale Aspekte des Leib-Seele-Zusammenhanges, mögliche physische oder psychische Gesundheitsprobleme sowie paranormale, spirituelle, mystische oder übernatürliche Prozesse.