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Sleep Paralysis:

Do people that view sleep paralysis as supernatural or morally charged experience greater fear than those that view it medically or physiologically?

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Sleep paralysis (SP) manifests physiologically the same universally. But it has historically been interpreted through diverse cultural, supernatural, and moral frameworks. Taking the salience hypothesis into consideration, this paper examines whether individuals in societies that interpret SP through supernatural or morally charged lenses experience greater fear than those who view it as a medical or physiological phenomenon. A comparative literature review was conducted, synthesizing findings from ten peer-reviewed studies found in the database PsycINFO. The reviewed evidence consistently demonstrates that cultural frameworks have a correlation with more intense fear in SP. Cross-national, immigrant, and clinical studies show that supernatural explanations, such as attacks by spirits, demons, or ghosts, heighten fear, panic, and distress, whereas physiological interpretations are associated with a reduced emotional impact.

Introduction

During normal REM sleep, the brain induces a state of motor paralysis to prevent the sleeper from acting out vivid dreams and potentially harming themselves. Sleep paralysis (SP) is a phenomenon in which an

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individual “regains awareness” during rapid eye movement (REM) sleep. The individual’s perceptual processes are activated while the muscle atonia (or paralysis) characteristic of REM sleep persists (Farooq & Anjum, 2023). These episodes typically manifest either at the onset of sleep (hypnagogic) or upon awakening (hypnopompic) (Cheyne et. al., 1999). As a result, the person is conscious but unable to move, often experiencing intense fear and distress. This dissociative state occurs between sensory awareness and motor control and is often accompanied by vivid hallucinations. These typically include intruder experiences, involving a sensed threatening presence, incubus hallucinations, characterized by chest pressure and often aggressive or sexual content, and less common unusual bodily experiences such as levitation or out-of-body sensations (De Sá & Mota-Rolim, 2016). Historically and across cultures, this physiological phenomenon has been interpreted through a variety of supernatural and moral frameworks. According to the salience hypothesis, culture provides a framework for SP that leads to the phenomenon taking greater significance. This is known as “cultural priming”, describes the process by which a community’s shared folklore and beliefs “prime” individuals to recognize, interpret and fear specific symptoms. Consequently, once the phenomenon occurs, the individual will seek to confirm their experience in accordance with culturally shaped beliefs (Jalal et. al. 2021). The fear is motivated by the belief that they are being attacked by a supernatural agent which prompts the individual to resist the atonia and escape. However, attempting to move in this state generates unpleasant somatic sensations. The resulting panic combined with these somatic sensations feeds back into and intensifies the hallucinatory content, thereby reinforcing this fear cycle (Jalal et. al., 2021).

This paper explores the question of whether individuals in societies that interpret SP through supernatural or morally charged lenses experience significantly greater fear than those in societies that view it through a medical or physiological lens.

Method

This comparative literature review synthesizes empirical and qualitative evidence from 10 peer-reviewed studies identified through PsycINFO. Most studies were published within the last 10 years to ensure relevance and quality. Five database searches were conducted in November and December 2025 using keywords related to sleep paralysis.

The initial search using (sleep paralysis AND college students) yielded 24 studies, of which two were selected. A second search with (“sleep paralysis”) AND (students) produced 13 results, with one study included. A third search using (“sleep paralysis”) AND (culture) identified 10 studies, three of which were selected. Due to the frequent appearance of a key author, a fourth search using (“sleep paralysis”) AND (Jalal) yielded 14 studies, three of which were included. The final search using (“sleep paralysis”) AND (folklore) returned three studies, with one selected. Studies were excluded if they lacked relevance to the research theme.

Results

The reviewed studies show that while sleep paralysis (SP) is universally a neurophysiological phenomenon, it is still strongly shaped by cultural frameworks. A broader cultural-historical perspective was provided by De Sá and Mota-Rolim (2016), who conducted an extensive literature review of anthropological, linguistic, and sleep science sources related to the Brazilian legend of the Pisadeira. Searching on databases such as Google Scholar, Bireme, and Scielo, the authors demonstrated that the Pisadeira’s defining features such as chest pressure, breathing difficulty, and occurrence during supine sleep, which are identical to SP. This review highlighted how cultural narratives not only explain SP but also instigate behavioral rules, such as avoiding sleeping on one’s back after eating, showing how culture actively shapes fear and meaning.

One of the studies that shows this was conducted by Jalal et. al. (2014), who compared SP experiences in the general populations of Egypt and

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Denmark. Using the Sleep Paralysis Experiences and Phenomenology Questionnaire (SP-EPQ), the authors screened 223 Danish and 470 Egyptian participants across two studies. The findings revealed striking differences where Egyptians reported nearly three times as many lifetime SP episodes as Danes (19.4 in Egypt and 6.0 in Denmark). Furthermore, a larger proportion of Egyptians reported an extreme fear of dying during episodes (54.1 % Egyptians and 17.2 % Danish). Jalal et. al. (2014) concluded that these differences were not attributable to biological differences but rather to cultural interpretation.

The role of cultural knowledge and belief systems was further examined in Italy by Jalal et. al. (2021), who focused on the Abruzzo region, where the folklore figure of the Pandafeche is widely known. Using convenience and snowball sampling, the researchers recruited 67 participants from the general population and conducted the SP-EPQ. The results showed that 42 % of participants feared they could die during SP, a level of distress comparable to that found in Egypt (Jalal et. al., 2014). Notably, 84 % of participants recognized the Pandafeche by name, and over one-third attributed their SP directly to this supernatural myth. The authors argued that having a culturally recognized cognitive category for SP produces cultural priming. This increases focus on bodily sensations and amplifies fear and longer immobility duration (Jalal et. al., 2021). The SP-EPQ is used again in another research by Jalal and Hinton (2016) to compare ethnic and non-ethnic Danes living in Denmark. Although ethnic Danes reported higher lifetime occurrence, non-ethnic Danes experienced more than twice as many SP episodes (8.9 for non-ethnic Danes and 4.1 for ethnic Danes), indicating a “heritage effect” which suggests that culturally transmitted beliefs from non-Western societies continue to influence the severity of SP even within highly secular environments such as Denmark.

Qualitative evidence from Pakistan further illustrates how cultural and religious frameworks shape SP experiences. Khan et. al. (2025) conducted semi-structured interviews with 23 master’s-level students from diverse ethnic backgrounds. Participants frequently interpreted SP as a form of “spiritual punishment” for neglecting religious obligations, a

framing that generated intense guilt and heightened panic during episodes. Hallucination content also closely followed geographical folklore that changed across Pakistan. Pashtun participants described entities such as the Khapasaan or Sheeshaka, while other groups referenced locally specific figures.

The interaction between cultural interpretation and trauma was examined clinically by Hinton et. al. (2019) in a study of 112 Cambodian refugees receiving psychiatric care. Using the PTSD Checklist (PCL), a custom Ghost Bothered Scale, and semi-structured interviews, the authors investigated ghost-related distress across sleep, hypnagogic (SP), and waking states. More than half of participants (54 %) reported being distressed by ghost encounters, and there was a strong correlation between ghost-related distress and PTSD severity ($r = .80$). In Cambodian cultural frameworks, SP is commonly described as “the ghost pushes you down”. This interpretation transformed SP into a trauma cue that produced memories of violent deaths during the Khmer Rouge genocide, creating a vicious cycle in which trauma heightened SP distress and SP reinforced trauma symptoms.

Evidence from Turkey suggests that supernatural interpretations persist even within scientifically literate populations. Jalal et. al. (2021) interviewed 59 Turkish university students who had experienced SP, using the SP-EPQ. Although only 17 % of participants explicitly endorsed the belief that a supernatural creature caused their SP, 88 % recognized the term *Karabasan*, and 37 % reported engaging in supernatural prevention behaviors such as reciting the Quran or wearing a *musqa* (amulet).

Additionally, there is evidence from the Netherlands that further supports the role of cultural heritage. Molendijk et al. (2022) conducted a cross-sectional study of 749 participants, including students and psychiatric patients, using the Waterloo Unusual Sleep Experience Questionnaire to research incubus-type SP experiences. The phenomenon was more common among individuals with non-Western European backgrounds, which the authors attributed to the salience of supernatural interpretations in non-Western cultural and religious traditions.

Finally, cross-national data from Awadalla et. al. (2004) and cognitive framework comparisons by Fukuda et. al. (2000) reinforce the other studies. Awadalla et. al. (2004) found that SP was more common and chest-pressure was more distressing among students in Kuwait and Sudan compared to the United States, attributing these similarities to shared Islamic and Arabic cultural frameworks. Fukuda et al. demonstrated that Japanese students, who have a known cultural term for SP (kanashibari), rarely misidentified the experience as dreaming. Meanwhile Canadian students, lacking such a framework, often dismissed SP as a dream, reducing its perceived significance and fear.

Discussion

The reviewed studies show that supernatural or morally charged interpretations significantly amplify fear during sleep paralysis (SP), which aligns closely with the salience hypothesis of cultural lenses making SP more salient and thereby intensifying fear and distress. The study comparing Egypt and Denmark (Jalal et al., 2014) illustrates that Egyptian participants, who interpreted episodes as attacks by jinn, reported more frequent episodes and greater death-related fear than Danish participants, who viewed SP as a physiological dysfunction. Similar patterns appear in culturally traditional regions, such as southern Italy, where belief in the Pandafeche was associated with fear levels comparable to those in Egypt (Jalal et al., 2021), and in Brazil, where the Pisadeira legend shaped fear and avoidance behaviors (De Sá & Mota-Rolim, 2016).

This pattern persists across immigrant and minority populations. Jalal and Hinton (2016) identified a “heritage effect” in Denmark, where non-ethnic Danes experienced greater SP distress than ethnic Danes despite identical environments. Similarly, in Pakistan, SP interpreted as spiritual punishment makes guilt and moral anxiety heighten panic (Khan et. al., 2025). Among Cambodian refugees, SP was understood as a ghost attack linked to traumatic memories, resulting in greater distress (Hinton et. al., 2019). Turkish university students attributed fear responses to the Karabasan despite awareness of scientific explanations

(Jalal et. al., 2021). This suggests that cultural frameworks are influential. Cross-national studies further support this conclusion; higher distress in Kuwait, Sudan, and Japan compared to the United States and Canada shows that different cultures interpret the experience differently, not that they fail to recognize SP (Awadalla et. al., 2004; Fukuda et. al., 2000).

Exploring the question of this paper, it became evident that understanding the role of cultural and moral frameworks in shaping experiences of SP could be especially important in clinical contexts. When SP is understood through supernatural or cultural frameworks, such as attacks by Jinn in Egypt (Jalal et. al., 2014), Pandafeche in Italy (Jalal et. al., 2021), or Karabasan in Turkey (Jalal et. al., 2021); the experience often becomes more threatening. Consequently, the individual desperately struggles to move and triggers somatic symptoms such as chest pressure, choking sensations, and spasms (Jalal et. al., 2021). This could be interpreted as “proof” of a spiritual experience, intensifying hallucinations in a vicious cycle of terror. Therefore, a culturally sensitive approach could help clinicians to both acknowledge the patient’s belief systems and provide comfort in a more targeted treatment.

If clinicians ignore or disregard these culturally established meanings of SP, patients may feel invalidated or shamed, weakening trust towards clinicians and reducing engagement with treatment. As mentioned by Jalal et. al. (2014), the individual’s experience may be affected by stigma, which can affect whether and how they describe their experiences. Notably, reported rates vary widely across cultural, ethnic, and

racial groups. While most studies suggest that between 18 % and 40 % of the general population has experienced SP at least once in their lifetime, some investigations have reported prevalence rates as low as 6 % by Jalal et al. (2021). Fear of stigma may lead individuals to remain silent and avoid further clinical help and seek help in more spiritual or cultural coping strategies instead, which may partly explain the relatively low reported prevalence rates of SP mentioned.

In addition to this, incorporating spiritual or cultural coping practices alongside evidence-based interventions can reduce fear and enhance a sense of control. For example, 95 % of Egyptians who believe in “Jinn attacks” use Quranic recitation for protection (Jalal et. al., 2014). Other practices include using amulets, reciting “dua” or performing ritual prayers like “namaz” (Jalal et. al., 2021). Furthermore, clinicians can provide behavioral advice, such as avoiding the supine position which is a cross-cultural biological trigger for SP, while it is also a fact recognized in legends as diverse as the Brazilian “Pisadeira” (De Sá et. al., 2016) and the Italian “Pandafeche” (Jalal et. al., 2021). Because cultural lenses shape fear and meaning in sleep paralysis, clinicians who integrate the patient’s spiritual and cultural coping strategies into treatment could reduce distress, strengthen trust, and deliver both inclusive and effective care.

Although the reviewed studies provide valuable information for this paper, there are limitations to take into account. Many of the studies rely on small sample sizes or were broadened by the Snowballing technique, limiting representativeness and could lead to selection bias. The generalization possibilities of these studies are also very limited, several studies focus on particular regions, or clinical populations, making it difficult to apply findings at the national level.

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