Cultural differences in sleep paralysis manifestations

Does the manifestation of sleepparalysis change across culture?

Abstract

Objective

Sleepparalysis appears to be a sleep disorder that has existed for hundreds of yearsand in multiple cultures. The first presumed recorded instance of sleepparalysis dates to ancient Samira (Jalal & Hinton, 2015). Recordings of sleep paralysis have been found in many distinct cultures sincethen, appearing in stories from Ancient Egypt to a Dutch captain's log in 1664(Cox, 2015) This gives sleep paralysis the general appearance of being auniversal mental disorder. However, because researchers focus primarily onexamining sleep paralysis as a modern-day affliction, little research has beenconducted on sleep paralysis in non-western cultures. Even fewer studiescompare the symptoms of sleep paralysis in different populations to find any varianceor similarities. With other mental disorders manifesting themselves in separateways across cultures, it may not be correct to assume that sleep paralysis isexperienced in a universal manner. It is possible that what a culture believesabout mental disorders has the possibility to change how the mental disordermanifests itself.

Methods

Several studies conducted separately are reviewed and compared to each other. The studies were chosen as representative samples of distinct cultures within different countries. All but two studies were conducted upon university-aged students. The studies were read in depth, annotated, and analyzed. A list of repeating symptoms of sleep paralysis was created and

used to critically evaluate the sources as a reliable way to contrast and compare the instances of the sleep disorder.

Results

Overall, it was found that sleep paralysis occurs consistently across cultures despite wildly varying belief systems. Common systems include pressure upon the chest, inability to move, inability to speak, hallucinations, and the impression of an intruder within the room. However, rates of hallucinations, trouble breathing, and fatalities were linked to cultures that had been taught to fear incidents of sleep paralysis as a spiritual attack.

Conclusion

These findings appear to demonstrate that sleep paralysis is relatively uniform across culture and across time. Its manifestation is similar regardless of culture, suggesting that it is primarily biological disorder. However, the interpretation of sleep paralysis is highly dependent upon culture. These interpretations influence the amount of fear one can have over incidents of sleep paralysis and perhaps has the capability of turning sleep paralysis into a fatal experience.

Introduction

Salma, a 20-year-old student from an American university in Cairo, suffered from several incidents of sleep paralysis (Jalal, Simons-Rudolph, Jalal, Hinton, 2014). She described these incidents as waking up without having the ability to move and immediately feeling the presence of an intruder in her room. In one instance, Salma saw a fearsome creature who had blood-stained fangs standing next to her. Terrified, she began to recite verses from the Qur’an in

hopes that it would protect her. Salma also reported feeling like she was suffocating duringepisodes of sleep paralysisand that reciting the Qur'an increased the pressure upon her chest. Although this student had access to the internet and initially believed her sleep paralysis to be a sleep disorder, she rejected the idea that this event could be considered scientific. Instead, she attributed her sleep paralysis as an attack by a *Jinn,* a malevolent creature in Islamic tradition. (Jalal & Hinton, 2015). A 52-year-old American related the story of their sleep paralysis experiences (Adler, 2011). According to this individual, the sleep paralysis began to occur in their mid-twenties. Such an episode began with the respondent becoming fully awake, but finding themselves completely paralyzed. Immediately fear set in as they realized there was the presence of an intruder in the room. Despite not being able to open their eyes, the respondent heard someone moving around in the room and feared for their life. The intruder sat down on the bed, and the respondent tried to move but was unable to do so. The respondent never mentioned any belief in any supernatural involvement and related how sharing this experience with others had them assuming they were insane or a liar. These two incidents occurred in two individuals divided by culture, belief, age, and symptoms. However, the underlying theme of their encounters with sleep paralysis shows striking similarities. This may suggest that sleep paralysis will remain consistent across culture.

Definition of Sleep Paralysis

Sleep paralysis has generally been accepted as the experience of falling asleep or waking up and being unable to move (Sharpless & Doghramji, 2015). Eyes are typically the only portion of the body that is capable of

movement and the person is considered to be fully conscious. While the person suffering from sleep paralysis is able to breathe, difficulty breathing is also associated with this disorder (French & Santomauro, 2007). During the REM sleep cycle, the body is paralyzed in order to keep the sleeper fromacting out dreams. Supposedly during an incident of sleep paralysis, a person becomes conscious during the REM cycle. This disturbance to the sleep cycle leaves the sleeper somewhere between waking and dreaming (Cox, 2015) This juxtaposition between being awake enough to be afraid, but unable to move is known to be disorientating and frightening. This altered state of mind is of interest to researchers and often results in hypnagogic or hypnopompic hallucinations, both auditory and visual. While the sudden atony is enough to create distress in the sleeper, the hallucinations are primarily responsible for the great distress associated with sleep paralysis. These hallucinations are typically viewed as threatening or bizarre because sleep paralysis hallucinations often revolve around the presence of a threatening figure (Girard, 2013). They have been described as being intruders, strangers, spirits, vampires, or demons, but other hallucinations attached to sleep paralysis are nightmarish animals, objects, and shapes. Auditory hallucinations include footsteps, opening doors, opening windows, or whispers. In some cases, incidents of sleep paralysis can leave sleepers afraid to sleep or fearful for their lives (Kompanjie, 2008). While the direct cause of sleep paralysis is still unknown, some studies have connected sleeping in a supine position leading to higher rates of sleep paralysis (Cheyne, 2002). Sleep paralysis has also been linked to panic disorder, PTSD, and anxiety (Cheyne & Girard, 2007).

The History of Sleep Paralysis

Sleepparalysis is a fairly unique disorder because it is thought there have beenrecorded instances of it for hundreds of years. It has long been connected tothe succubus, with the earliest reference to this creature being Lilith (Cox, 2015). Lilith, or Lilitu, has been discovered on the Sumerian King list of 2400B. C. In the Jewish tradition, Lilith was Adam's first wife who fell from favorand became a demon who preys on women in childbirth and in some cases, sleepingon men (Jalal & Hinton, 2015). Other traditions havenumerous tales of witches, ghosts, demons, and more supernatural, threateningbeings (Sharpless & Doghramji, 2015). Japanese culture has a phenomenonthat is called *Kanashibari ,* literally meaning " bound in metal" (Fukuda, Miyasita, Inugami, Ishihara, 1987). This event referencesthe belief that a ghost, often female, is capable of entering a room andsitting on top of the victim, making them unable to move, an experience oftenassociated with intense fear. The Inuit ofCanada have been shown to connect nightmares to spirituality and their languagereflects how nightmares and dreaming have a prominent part in the religion(Adler, 2011). Nightmares are called *uqumangirniq* in the Baffin dialect and have been described as an event when a person is sleepingand finds oneself suddenly paralyzed. This event is connected to contacting thespirit world, and although it can be fatal to the sleeper, it does not appearto be feared by the Inuit people. This is a marked difference in the perceptionof sleep paralysis since most cultures appear to view the phenomenon asdisturbing and as an attack (Cheyne, Newby-Clark, Rueffer, 1999).

Thefirst clinical description appeared in 1664 (Cox, 2015) The Dutch physician Van Diemerbroeck writes of an incident that is widely thought to be acase of sleep paralysis. Here, a fifty-year-old woman had several experiencesof being pinned to the bed by the devil in the form of a man or a large dog. During these episodes, she would struggle to breathe and would not be able tomove. Van Diemerbroeck claimed it to be an incident of an Incubus or aNight-Mare. The word very “ nightmare” stems from the English word “ mare” whichreferences a horse pressing down upon a person or a horse bringing nightmares tosleepers (Alder, 2011). In the 1970s, a researcher studied the idea of theNight-mare in the small population of Newfoundland (Alder, 2011). He discoveredthat there was still a strong belief in ghosts, omens, and fairies. Here, thepeople described their sleep paralysis events as being attacked by the “ the OldHag.” This notion of pressing down upon is repeated throughout other cultures. However, while Night-Mare would include numerous various kinds of sleepdisturbances such as parasomnia and Night Terrors, it also appears to haveencompassed incidents of sleep paralysis. However, it was not until VanDiemerbroeck that the Night-Mare became a clinical diagnosis. In the first 1664case, Van Diemerbroeck blamed numerous causes of the woman’s affliction, including sleeping upon her back (Kompanjie, 2008). The condition was thought to be dangerous, even fatal, for the sleeper.

Moderntime shows just as wide a variety of cultural explanations. Some cultures, suchas the Japanese, still predominantly believe supernatural reasons to explainsleep paralysis (Fukuda et al., 1987) . A study on Nigerian medical students discovered that 65% of thosewho self-reported sleep

paralysis believed it had been caused by maliciouswitchcraft (Ohaeri, Odejide, Ikuesan, Adeyemi, 1989). Other beliefs appear to have been created to explain the incident ofsleep paralysis such as individuals who believed they were abducted by aliensin their sleep while experience episodes of sleep paralysis (Hinton, Hufford, Kirmayer, 2005). This condition is also reported to have connections to repressedmemories of sexual trauma, suggesting a link between trauma and sleep paralysis(McNally & Clancy, 2005). However, it appears the predominant global view of sleep paralysis in moderntimes is that it is a stress or sleep deprivation psychological malfunction ofsorts with no supernatural tendencies attached to it.

Sleep Paralysis in Multiple Cultures

Method

This review explores several diverse cultures' reported incidents of sleep paralysis and compares and contrasts the results of the studies. Many different questionnaires were used to assess reported cases of sleep paralysis, but were consistently created by the researchers themselves. Consistent questions were given, in most cases, in the native language of the test participants, who were asked a wide variety of questions to determine if they fit the clinical diagnoses of sleep paralysis. Each study was conducted in a similar fashion; test participants were gathered for interviews, often conducted in their native language, and given a survey to test their experience with sleep paralysis. Those determined to have had a sleep paralysis experience were then further interviewed. While some studies were conducted numerous years ago, they still remain the most relevant works within their specific culture.

Results

The median age for all test participants was 20. 6years old, with most studies attempting to research university students. However, two studies, those who focused on Italian and Hmong populations, hadan average age of 40 (Jalal, Romanelli, Hinton, 2015; Adler, 1995). All test subjects had experience sleep paralysis at least once in their life. 39%of interviewed Mexicans and 43% of interviewed Japanese reported having sleepparalysis at least once in their lifetime (Jiménez-Genchi et al., 2009; Fukuda et al., 1987). 40% of Cambodian refugees reportedhaving episodes four times a year (Hinton et al., 2005). American students reported having sleep paralysis a median average of 5. 5events per lifetime (Awadalla, 2004). Only 3. 2% reported having it more than once in Hong Kong and Nigeria had lowerfrequency rates, with 55% reporting sleep paralysis as a rare occurrence (Yeung &Chang, 2005; Ohaeriet al., 1989).

Overall, it appears that sleep paralysis is more frequent in females than it is males. However, the difference is rather small, as shown in the 39% female rates versus the35% male in the Hong Kong study (Yeung & Chang, 2005). The largest discrepancy in sex ratio was found in Japan, where 51% of femalestudents within the test group reported it, while only 37% of males reported it(Fukudaet al., 1987). According to some reports, females are alsomore likely to report significantly more intense hallucinations and higherlevels of fear than males (Cheyne, 2002). It is also noted that women are more likely to believe the sensedpresence is intending to rape or murder them.

Sleeping on one’s back has often been thought to contribute to sleep paralysis and sleep apnea (Cheyne, 2002). Six distinct cultures (Mexican, Cambodian, Hmong, Japanese, Italian, and American) all stated that several test participants either noted sleeping in a supine position contributed to their experiences or thought it was the cause. Several cultures believed that not sleeping on the back helped alleviate sleep paralysis symptoms (Jiménez-Genchi et al., 2009; Fukuda et al., 1987; Hinton et al., 2005; Cheyne et al., 1999). The remaining cultures did not mention sleeping on the back as a cause of sleep paralysis or of notable worth in experiences (Yeung & Chang, 2005; Ohaeri et al., 1989). Some researchers required test participants to be paralyzed to be considered having experienced sleep paralysis, while other researchers did not include this in their definition. Those that did not were the studies conducted in Mexico, Japan, and Hong Kong. The respective rates of inability to move were then 88. 80%, 95%, and 92. 80% (Jiménez-Genchi et al., 2009; Fukuda et al., 1987; Ohaeri et al., 1989). Throughout the studies, the most often mentioned position was lying flat upon the back.

Some of the greatest variability was amongst the hallucinations. Sleep paralysis is perhaps so terrifying in part because of the sense presence of an intruder and the fear that it can bring (Sharpless, McCarthy, Chambless, Milrod, Khalsa, Barber, 2010). The disturbing images seen are often associated with personal myths and cultural legends. The study examining Mexican high schoolers found the general belief in something called “ se me subio el muerto” (Jiménez-Genchi et al., 2009). This translates roughly to “ death took me up” or “ the dead body crawled on top of me” (Zachary Field).

Hallucinations were noted 78% of the time, with a sensed presence noted 49. 80% of the time. Among Cambodians, who overwhelmingly believed sleep paralysis experiences to be sleep disturbance, a low percentage believing in the “ ghost that pushes you down,” it was found hallucinations were noted 91% of the time, and 91% of the time a presence was sensed (Hinton et al., 2005). At a significantly lower rate, only 20% of those tested in Japan reported experiencing any hallucinations and only felt a presence 35% of the time (Fukuda et al., 1987). The studies in Italy and Nigeria noted hallucinations 38% of the time and 32. 55% of the time respectively (Jalal et al., 2015; Ohaeri et al., 1989). The Italian hallucinations were often described as being an old woman or a large, black cat. American students noted hallucinations were common, as did the study in Hong Kong (Cheyne et al., 1999; Hinton et al., 2005).

Japanesebelief was found to be in the *kanashibari,* or a female ghost (Fukuda et al., 1987). Students describe the ghost as a fearsome presence who would sit on theirchest. 47% reported pressure upon their chest, but none reported problemsbreathing. Although the prevailing belief that sleep paralysis was the resultof a sleep disorder, the students felt fear 60% of the time. The studyconducted in Mexico found that students reported pressure on their chest 49. 80%of the time (Jiménez-Genchi et al., 2009). They also found thatno one reported having difficulty breathing despite this, and that there wereno noted cases of being deeply afraid of the phenomena. Cambodian studentsreported difficulty breathing 98% of the time, whereas pressure was noted only83% (Hintonet al., 2005). Every test participant from Cambodia referenceda feeling of fear concerning their sleep paralysis incident. In Italy,

testsubjects noted that 27% of the time their incidents involved a shadow sittingupon their chest and a sensed presence 60% of the time, but they did notexperience any difficulty breathing (Jalal et al., 2015). Despite 51% of the test respondents believing sleep paralysis was a scientificdisorder and only 34% believing in the Italian witch *Pandafeche,* fear was noted 94% of the time. American collegestudents overwhelming believed that sleep paralysis was a sleep disorder, reporting fear at a moderate level 75. 64% of the time, but only overwhelmingfear 10% of the time (Awadalla, 2004). There was no noted pressure upon the chest, and only 11% reported a sensedpresence. Nigerian students were heavily divided on beliefs, with only 23%believing stress was the cause of sleep paralysis and 65. 11% believingwitchcraft was the cause (Ohaeri etal., 1989). Only one test individual reported having no fear during asleep paralysis incident. As for the Hong Kong study, 50% reported feelingpressure upon their chest and felt fear 58% of the time, but surprisingly 20%reported they ignored the attack altogether (Hinton et al., 2005). There was no mention of a sensed presence or difficulty breathing. Theprevailing belief in Hong Kong students with sleep paralysis was that it was asleep disorder, while Hong Kong residences who had never had it themselvesbelieved it to be ghost oppression.

The final study examined concerned the Hmong immigrant culture and its ties to sleep disorders (Young, Xoing, Finn, Young, 2013). In answering the question of whether sleep paralysis may change across culture, it seems wise to investigate a culture where sleep paralysis appears to be fatal. In 1977, a Hmong man died in his sleep with autopsies showing no discernable cause of death (Adler, 2011). This was not an isolated incident, with one-

hundred and seven men and one woman dying unexpectedly in their sleep. Reports from loved ones show that some awoke in their sleep, lay on their back, struggled to breathe, and were dead within minutes. The Hmong who died were diagnosed with SUNDS or Sudden Unexpected Nocturnal Death Syndrome. While what exactly killed them remains officially inconclusive, some studies have hypothesized that sleep paralysis may be to blame (Adler, 1995). The median age of the deceased was 33, and all had been within the United Sates for an average of seventeen months. It is speculated that Hmong cultural tradition can act as a trigger for SUNDS (Young et al., 2013). Traditional Hmong culture calls for a strong belief in animism, ancestor worship, and shamanism. The evil spirit, called the *dab tsog* is thought to rape women and attack people in the night by sitting upon their chest or suffocating them(Adler, 2011). Reports of the *dab tsog* include sensing a presence, the supine position, pressure upon the chest, tactile hallucinations, immobility, and extreme fear (Adler, 1995). It is also thought the *dab tsog* is lethal when it attacks men, but nonlethal when it attacks women. It is possible that the intense fear that sleep paralysis brings can be interpreted as a supernatural attack which can trigger a death. Such high rates of SUNDS amongst the Hmong immigrate population of American can be tied to the high rates of PTSD and anxiety linked to higher rates of sleep paralysis — brought on by memories of war and immigration (Young et al., 2013). It seems that in some cases, sleep paralysis can be fatal if one is terrified enough.

Discussion

It has been thought that cultures with stronger connections to supernatural explanations may encounter sleep paralysis more often (Sharpless & Barber, 2011). Sleep paralysis is known to affect certain populations at much higher rates than others due to its connection to stress and sleep deprivation. University aged students are the most likely to have sleep paralysis, but populations who suffer from higher rates of anxiety, PTSD, and other panic related disorders are likely to have sleep paralysis incidents (Sharpless & Grom, 2014). Japan, Mexico, Cambodia, and Nigeria have the highest rates of belief in supernatural involvement with sleep paralysis. When comparing theses cultures to countries who had higher belief in scientific reasons (America, Hong, Kong, and Italy) it appears that many of the symptoms remain consistent. Studies that examined university students found a consistent 26% to 40% prevalence rate. All studies discovered that females were more likely to have sleep paralysis than males, but this could stem from an overrepresentation of females within a study. Most studies reported that lying upon the back is a key factor of sleep paralysis. However, discrepancies arise in other factors.

One of the categories that fluctuated wildly across culture was hallucinations. Here a trend becomes more obvious. It appears that cultures that perceive the supernatural to be involved in sleep paralysis (Mexico, Hmong, and Cambodia) experience hallucinations more prevalently. This trend does not extend to auditory hallucinations, which appear to be more of a general mark of a culture believing in the supernatural as there is no notice of auditory hallucinations in American or Hong Kong students. Difficulty

breathing was also more likely to be noticed amongst cultures that deeply feared sleep paralysis events. It is also important to note that sleep paralysis is tied to populations that have anxiety or PTSD (Sharpless et al., 2010).). It could be that amongst populations with higher rates of PTSD, such as Cambodian refugees, overall rates of sleep paralysis are much higher than other representations of population.

Conclusion

Across culture and times, sleep paralysis appears to be a consistent disorder (Adler, 2011). These similarities appear to point towards a biological cause of sleep paralysis, one that cultural beliefs can attempt to explain. Distinctive details appear in each nationality as people try to explain what they see. Men in Italy report seeing a large black cat upon their chests, a form of the *Pandafech* (Jalal et al., 2015). The story of the cat does not appear in any other culture, leading to the conclusion that belief may influence how sleep paralysis is interpreted by the victim, if not how the actual symptoms of the sleep disorder present themselves. This interconnection of mind and body illustrates a unique interaction between culture and biology. Each culture has a structured format for discussing sleep paralysis, with an explanation for events preceding the event, the event itself, and how to cope with the event after it occurs (French & Santomauro, 2007). According to some researchers, cultural myths and legends surrounding nightmares could lead to anxiety-induced sleep disturbances (Hinton et al., 2005). The more one fears an incident of sleep paralysis, the more likely this event will occur. This would explain why the uncaring attitude of the Hong Kong study discovered that 20% of the time incidents were ignored, lower fear levels were registered,

and why only 3. 2% reported having it more than once a month. Compared to the rates of Cambodian refugees who all expressed intense fear and reported high rates of hallucinations, it would appear culture does have some influence upon it (Hinton et al., 2005). In the case of Hmong immigrates, although the Hmong had been living in America for several months, it has been noted that the Hmong culture was very anti-assimilation and clung to their religious and cultural beliefs (Adler, 1995). This, according to some researchers, may have resulted in their death (Alder, 2011). The wide and varied explanations of sleep paralysis show how deep some people take their convictions of what causes this condition (Jalal & Hinton, 2015). To answer the question of how culture affects the manifestation of sleep paralysis, it appears that most symptoms of sleep paralysis hold steady across culture, but the interpretation of it diverges widely. Only when the interpretation of it results in religious or spiritual fear of sleep paralysis do the symptoms appear to change. This appears to show how the connection between the mind and the body can change mental illness, if only to a small degree.

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