

The Dream Effect of Waking Thought, Experience, and Illness: A Research Proposal

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ABSTRACT: Dream imagery and frequency amongst individuals who are victims of amputation, depression, anxiety, trauma, and many mental disorders, have produced similar content results across the board of many studies. Specifics of other biological and physiological factors that contribute to such content are also examined in the data presented, along with specific case studies that have resulted in self-reported statistics that demonstrate the outcome and impact of waking-day stressors, experiences, and state/trait anxiety on sleeping individuals. Previous data has been collected on dream content recorded amongst amputees, individuals who experienced dreams while undergoing mental disorders, dreams that were supposedly induced with familiar scents, and other outside factors that contributed to the purpose of the study. Further examination of participants is proposed, along with information given on sampling methods, study techniques, and possible outcomes.

KEYWORDS: Circadian Rhythms; Pre-Clinical Psychology; Dream Research; Rem Sleep; Anxiety; Sleep; Dream Content

INTRODUCTION

If you think about what makes the world go around and round, it appears that most things in life function with routines—cycles—patterns. Most living organisms wake and grow with the sun as it cycles from day to night every twenty-four hours. Organisms typically partake in daily eating and work schedules, along with other personalized daily routines.

In regards to human patterns, researchers have gone through great lengths to break down and understand the human body, starting with circadian rhythms. A circadian rhythm is the body's biological mechanisms that helps to maintain components necessary for a healthy lifestyle- one of them being your sleep patterns within a 24-hour period (Stroke, 2019). Wake and sleep schedules are heavily influenced by the organism's circadian rhythm that is demonstrated daily as one starts to get sleepy around the same time every day. During periods of sleep, humans' cycle through stages (Stroke, 2019). These stages have been found to contribute to dream content and imagery- specifically, unpleasant ones. There are individuals who have experienced unpleasant dreams in the morning rather than at night, as a result of waking-day, situational and ongoing issues. There are also scenarios that have been identified as a hypnagogic-hypnopompic experience that occur during the rapid eye movement (REM) stage of the sleep cycle (where dreams occur) (Waters, et al., 2016).

Anxiety and depression (often coexisting) were also found to be large influencers when it came to dream content (Michael R. Nadorff, Ben Porter, Howard M. Rhoades, Anthony J. Greisinger, Mark E. Kunik, & Melinda A. Stanley, 2014). This falls under that waking-day category for dream content and frequency influencers. Anxiety dreams were often found to include the images of animals and location changes. Studies show that there are also increased levels of anxiety amongst individuals that result in poor sleeping habits, and unpleasant dreams. More specifically, in those who are aware of the COVID-19 virus (MacKay & DeCicco, 2020). Anxiety itself was founded into two different forms that were measured in study participants- State and Trait anxiety. This is another way of looking at waking-day factors that effect dream content and frequency. Not every aspect that plays apart in dream content or frequency has to be permanent- state anxiety being more situational and trait anxiety being longer lasting. Both have been measured with well-known questionnaires and tracked with dream journals that were used by participants over a two-week period (Laura J. Julian, 2011). These same tests were also used to connect General Anxiety Disorder (GAD) with bad dreams (Michael R. Nadorff, Ben Porter, Howard M. Rhoades, Anthony J. Greisinger, Mark E. Kunik, & Melinda A. Stanley, 2014). Research data supports the idea that waking experiences and thoughts affecting dream imagery content. This would make sense of both trait and state anxiety. Along with additional information on how psychological disorders such as multiple personality disorder can contribute to dream imagery (Bob, 2015).

STATEMENT OF PURPOSE AND HYPOTHESIS

It has been said that there is much to be discovered about the brain. This is in fact, very true. Growing up, as imagination begins to blossom, children realize how advanced and creative their dream imagery may become. Parents may address dream questions with the simple answer that you never dream of someone you have not seen or met before, or that it is just your mind remembering things you have already seen. However, researchers have a different response.

Evidence supports the influence of anxiety and other mental disorders on dreams and nightmares as well as the theory that dreams stem from certain brain structures. Through self-reports, previous case studies, and questionnaires, the goal is to identify specifics on waking experiences, current mental state, and mental health history that may contribute to dream imagery. One of the questionnaires used has been constructed by the researcher and will attempt to explore self-reported data from individuals who will be randomly selected from those who are already undergoing therapy to assist with mental disorders such as depression, anxiety, PTSD, trauma, multiple personality disorder, etc.—resulting in a total number of five hundred participants to ensure wide range of responses for comparison. Other factors that are found to contribute to dream imagery are to be recorded and reported in the conclusion portion of the research.

DREAM STUDIES

Amputee Dream Content

An amputation is when an individual has a body part such as leg, arm, foot, etc. surgically removed. There have been reported cases of those who have had one or more of those limbs removed and still felt the presence of the missing limb- this became known as phantom limb (Bekrater-Bodmann, et al., 2015). Negative emotional bias, negative waking situations and otherwise unpleasant experiences while in a waking state were found to have a significant impact on dream imagery and were often displayed as negative content. Three thousand, eight hundred and sixty-two participants were recruited anonymously through state agencies and asked to complete a fifty-three-item questionnaire. This questionnaire was carefully constructed to target post-amputees, and their amputation-related dream content. Demographics of sex and age were recorded; following dream-related questions on the questionnaire were used to measure frequency of amputation in the form of seven-point scales.

Results showed age had little to no effect on dream content (Bekrater-Bodmann, et al., 2015). However, there was a significant difference when comparing results of women vs. men. When looking at dream content, nearly twenty-five percent of participants stated that their dreams consisted having a story line where their limbs have always been intact, and nearly three percent stating the exact opposite. Twenty-two percent were not able to recall if their limbs were intact or not, and nearly thirty-five percent of participants were able to recall a combination of the dream content reported.

Dissociative States and Dreams

Dissociation is a form of waking disturbance that is a little bit more intense than “dosing off” and has been shown to be a result of poor sleeping habits or having unbalanced circadian rhythms (Kloet & Lynn, 2020). The process has been identified as a defense mechanism that is often a result of childhood trauma. It was also theorized that dissociated symptoms are conjured by disruptions in memory which the brain struggles to process during REM sleep- then carrying these fragments of effected memories and experiences over to the individual’s waking state. Afterwards, the sleeping individual may wake with a sense of distortion, feeling slightly delusional, or having a confused sense of self (Kloet & Lynn, 2020). Have you ever recalled an event or brief memory and could not decide whether or not it was in a dream, or if it really happened? This may clear things up a bit.

COVID-19 Dreams

Nineteen students were chosen from Trent University who were enrolled in Psychology courses 1030 or 2019 to participate in a study that evaluated the covid-19 pandemic effect on dream imagery (MacKay & DeCicco, 2020). As an incentive for participation, the students were promised a 4.25 bonus credits that would be reflected on their final grade, and were given these points in small amounts as they completed each task that was required during the study. The group of participants presented as mostly female, were predominately between the ages of eighteen and twenty-five, and seventy-four percent identified as Caucasian during the demographic aspect of a background survey they were instructed to complete.

Dream data was collected during the study by dream journals that were kept by all of the participants (MacKay & DeCicco, 2020). Each member was instructed to record his or her dreams in this journal for two weeks. After turn-in, the participants were

debriefed on the purpose of the study and given contact information on all who were involved, should they have questions at a later time.

The dream journals were compared to a control group set of journals and it was found that the COVID-19 group experienced a much higher volume of dream imagery that included location changes, animals, food, and virus-related content—all of which were found to also be common amongst those who were diagnosed with waking-day anxiety (MacKay & DeCicco, 2020).

Generalized Anxiety and Adult Dreaming

Falling to the category of waking-day experiences, the effects of anxiety on bad dream occurrence was examined in older adults (Michael R. Nadorff, Ben Porter, Howard M. Rhoades, Anthony J. Greisinger, Mark E. Kunik, & Melinda A. Stanley, 2014). Participants were chosen from a secondary study that had recorded bad dream frequencies of those patients who were observed for fifteen months after receiving cognitive behavioral therapy. Patients in the secondary study were evaluated for generalized anxiety disorder; one hundred and thirty-four participants met the criteria and the remaining members were used as a control.

Results showed that those who fell into the generalized anxiety disorder category has a much higher frequency rate of bad dreams compared to the remaining amount of the secondary study participants (Michael R. Nadorff, Ben Porter, Howard M. Rhoades, Anthony J. Greisinger, Mark E. Kunik, & Melinda A. Stanley, 2014). Thus, also showing that cognitive behavior therapy was a beneficial tool that lowered bad dream frequency in those with generalized anxiety disorder.

The Negative Effect Of Familiar Scents

Of the five senses that are used daily for most individuals, one that has been linked to dream content, while in a sleeping state, is the sense of smell—more specifically, the smelling of familiar things (S., M., T., & K., 2019). In a study, the test group was exposed to a rose-like airflow while the control scent was odorless airflow during REM sleep. When they awoke, the participants were instructed to fill out a questionnaire that pertained to the content of their dreams. Participants, who claimed to be familiar with the scent, reported having more negative dream results than those who were not familiar with the scent. It was concluded that familiar scents may be perceived more heavily and impact dream content due to sensory connections to the amygdala (S., M., T., & K., 2019).

Sleep Disorders and Dreams

There are over a dozen different disorders that pertain to sleep quality, sleep disturbances, and multiple less than desirable sleeping conditions. Dream researcher, Michael Schredl, has preformed and published many studies in peer reviewed journals that go into detail about how certain disorders affect dream frequency, dream content, and further explains different types of dream states. Michael Schredl notes in “Dreams in patients with sleep disorders” that those such as patients with insomnia are more likely to have this disorder as a result of waking-day stressors (Schredl M., 2009). He has also stated that cognitive impairment can be a contributing factor to negative dream content—further supporting the idea that waking-day experiences and stressors are carried over into dreams.

Fever Dreams

There are many jokes about how movies that have very curious, abnormal, and peculiar content were most likely a result of someone’s fever dream—Michael Schredl has covered this topic as well, with partnered researchers. Through an online study, Schredl and his fellow scholars evaluated the dream content found in those who were undergoing a fever (Schredl & Erlacher, 2020).

Participating voluntarily, one hundred and sixty-four participants, made of sixty-three females and one hundred and one men, between the ages of twelve and fifty-six, were used as a sample for Schredl’s study (Schredl & Erlacher, 2020). Each of the participants was asked to complete a questionnaire that contained questions pertaining to dream frequency, emotional intensity, and frequency of a fever being present during these dreams. The following results were conducted after receiving a total of one hundred reported fever dreams. Most participants had claimed to have fever dreams quite frequently. Participants also reported to have a level of emotional intensity during a fever dream that surpassed the level of those who had recalled regular dreams.

Attention Deficit Disorder (ADHD) and Dreams

Many factors are taken into consideration when diagnosing a child or adult with ADHD—sleep being one of the most researched (Schredl & Sartorius, 2010). Like other studies conducted by Michael Schredl, a questionnaire was used to support the hypothesis that waking-life is reflected in dreams. After conducting the study with one hundred and three children with ADHD, and

one hundred kids without, questionnaires were evaluated and showed little to no correlations of dream frequency compared to those who did not have ADHD. However, those participants with ADHD did show to experience more negative results in their dreams along with the dreamer being the target in a fearful situation. Schredl's study concluded that this might be a display of the child's inner world (Schredl & Sartorius, 2010).

SUMMARY

On seven separate occasions, researchers have used studies to further understand the effects of mental disorders, sleeping disorders, illness, waking-day stressors and experiences, amputations, and the stress of a currently existing global pandemic, on dreams, their intensity and frequency. In most cases, there appeared to be a correlation between the existing problem or stimulus, and the dreams that were being experienced.

The study with amputees resulted in the exposure of those who reported having dreams about never having had the amputation at all (Bekrater-Bodmann, et al., 2015), and dreamers who were experiencing waking-day anxiety caused by COVID-19 and generalized anxiety disorder, supported the idea that waking experience and stress does in fact contribute to dream content and frequency (MacKay & DeCicco, 2020) (Michael R. Nadorff, Ben Porter, Howard M. Rhoades, Anthony J. Greisinger, Mark E. Kunik, & Melinda A. Stanley, 2014). Disorders such as attention deficit disorder and common sleep disorders also supported this idea (Schredl & Sartorius, 2010) (Schredl M. , 2009). Lastly, external and biological stimuli effects were examined by exposing familiar scents to participants during REM sleep to find that these familiar scents resulted in negative dream content (S., M., T., & K., 2019), as well as dreams of one-hundred self-reported dreams of those who were experiencing fevers at the time of dream occurrence.

SAMPLE AND METHOD

A request will be sent out nation-wide to hospitals, clinics, and private practices, to randomly select individuals to participate in a one hundred percent voluntary, twenty-item survey (Lara, 2021). This survey will be a self-reported study with no incentive for participation in order to maintain authenticity. Participants may reside in various locations around the country. A survey generator cite, Survey Monkey, will be used to create the twenty-item survey that will consist of the questions shown below. The survey should take no more than fifteen minutes to complete and will have individual identifiers as numerical data to preserve anonymity.

Survey Draft

1. What is your current state of residence?
2. What is your age?
3. What gender do you identify as?
4. Do you have any underlying medical issues? Please explain.
5. Do you wake up multiple times during the night?
6. If you answered yes to question 5, please explain the most common reasons for your waking up.
7. Are you currently undergoing any medical treatment? Please explain.
8. Are you currently receiving therapy from a mental health professional? Please explain.
9. Do you feel as if you have a hard time clearing your mind before bed?
10. Do you often wake up feeling tired due to an active mind at night?
11. When does it seem like most of your dreams occur?
12. How often are you able to recall the imagery of your dreams?
13. Where are you located when most of your dreams occur (in real life)?
14. How would you describe the content of your dreams?
15. Do you have a history of any mental disorders (Professionally or Self diagnosed)?
16. Do you experience feelings of uneasiness, fatigue, anxiousness, or worry throughout the day?
17. Do you often wake up in a state of anxiousness about everything that needs to be done that day?
18. I usually wait until the last minute to get things done (agree or disagree).
19. I am a very social person (agree or disagree).
20. I have healthy eating and sleeping schedules (agree or disagree).

The questions listed in the survey draft have been selected based off of previous research to support the idea that waking-day stressors, mental health conditions, and other factors contribute to dream imagery, content and frequency (Lara, 2021). SurveyMonkey.com comes equip with tools to analyze surveys by individual response to questions, as well as statistical data of answers submitted throughout all participants as a whole. The independent variable will be the outside factors that are present in each individual's waking-day, and the dependent variable will be the dream content results presented in the survey.

ANALYZING DATA

Data will be analyzed through research of previous dream cases, and a questionnaire that will dive into the background of the participant's age, gender, ability to recall dreams, and dream-related content to include: frequency, imagery, timing, and emotional content.

Survey Monkey conveniently comes equipped with tools to analyze this data via question summaries, insights and data trends, and individual responses- all of which would contribute a more in-depth description of participant responses as a whole. This cite also includes live views on how many people have participated, and the average time spent participating, as well as how many participants actually completed the questionnaire.

The results of the questionnaire should provide data that determines whether or not waking-day experiences, thoughts, and mental health contribute to dream content and frequency. Through statistical figures that will be analyzed, a correlation will be established to determine the accuracy of the original hypothesis that the variable listed above contribute to dream content and/or frequency- along with any other variables that present themselves as frequent throughout the questionnaire results.

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