

Hormones and dreaming

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We all dream, it is inevitable. You dream about people, places, homework, daily doings, and even things you don't even recognize as being a part of our life. People may often question the significance of dreaming or why humans do it, but it is an essential part for our brain function as you sleep and live day to day. It allows for our minds to process the input it receives. There have been ample researchers who have studied the brain and its relationship with dreaming.

Most people are aware of the influence hormones have on the behavior of a person. However, such hormones have also been linked to the dream process and their content. My goal through this research paper is to identify several hormones, naturally secreted by the body, and the impact they have on the dreaming process for both males and females, with a particular focus on females. The articles provide evidence as to what specific hormones from the body affect dreaming and how the hormones enable that to occur. Article 1: Sleep, dreams, and memory consolidation

In this article, Payne and Nadel did not perform any actual experiments themselves; they did review the results of a number of different studies pertaining to cortisol and dreams. Researchers focused on the effects of brain neurohormones, specifically cortisol, as it impacts sleep, dreams, and memory. Researchers believed that variations in amounts of cortisol, as well as other neurotransmitters, affect the hippocampal formation and neocortical circuits, two parts essential for fusing memories, a process which occurs during sleep usually through dreams.

It is important to understand that cortisol is released by the adrenal cortex in response to stress and low levels of blood glucocorticoid meaning.

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Researchers of the studies that were reviewed provided background and assumptions for topics concerning sleeping and dreaming such as the sleep stages, the distribution of dreams, and the relationship between dreams, sleep, and memory consolidation. First, sleep does not merely serve one purpose for humans.

Second, content of dreams shows which portions of the brain are active. Third, if cortisol levels affect the hippocampal formation then the stages during sleep in which memory consolidation occurs will be also altered. In the studies looked at by Payne and Nadel, all findings showed that cortisol levels do fluctuate during a night's sleep based on the sleep stage (REM, NREM, SWS). Some studies also indicated that sleep strengthens communication for the neocortical circuits and hippocampal formation.

Many of the same studies continued to point out that the changes in cortisol levels interrupt the hippocampal formation function, which is the processing of episodes, and neocortical interactions. The results therefore alter dream content because the two brain parts are closely linked with dreaming during sleep. This dream interruption comes because the brain is attempting to integrate the information with pre-existing knowledge and other related concepts.

The findings compiled by Payne and Nadel are examples of biological psychology, which displays the relationship between human behavior, the mind, and biological processes in comparison with the influence of neuroscience and chemical/hormonal reactions, specifically cortisol. Cortisol is known to increase with age because of its role as a stress

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response hormone. Stress increases as age increases, therefore the connection between cortisol and dream interruption is also a part of developmental psychology because it is a change that occurs throughout a lifep.

These findings are also relatable to a cognitive psychological perspective since the studies investigate the mental process of dreams and how the brain sorts through new information and past information; simply stated: it is cognitive psychology because it is the brain working as one sleeps. These articles go into depth about the process of dreaming and how it is affect negatively by cortisol. Payne and Nadel also demonstrate social psychology, which is how our behavior is affected by others, in their review.

Cortisol can be released by the body as a response to the stress brought about by others meaning that the behavior produced in our dreams is a result of our interactions with those around us. It would not be necessary to cut off contact with the world to decrease stress levels and attempt to control amounts of cortisol secreted by the body, but it can help people understand their own dream process through the night.

Article 2: The Influence of the Hormonal Cycle on Dream Recall in Women

In the dissertation by Phyllis Bales, Bales focuses on the impact of womens' hormonal cycle in relationship to dream intensity, vividness, and content.

As demonstrated in the first article, hormones can have a pronounced effect on dreams while sleeping because of hormonal influence on the brain. She hypothesized three things: first, there would be higher dream activity and recall during the luteal phase, when large amounts of progesterone are
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emitted; second, dream intensity would be higher during the luteal phase; third, thematic content would co-vary with the hormonal, or menstrual, cycle. Bales performed a study with seven female subjects who were not taking birth control, since birth control is known to alter hormone balances.

These participants kept a Dream Analysis Questionnaire and Menstrual Distress Questionnaire throughout the study, to track the content, intensity, and vividness of their own dreams. The findings from her study supported some of her initial hypotheses. The questionnaires showed that there was no difference in dream activity during the pre- and post-ovulatory phases, however, there was a significant increase in dream recall following the post-ovulatory phase, also known as the luteal phase as mentioned previously.

Another influence seen in the luteal phase was an increase in maternal dreams along with their duration and intensity concerning maternity. These results proved to be consistent as shown through other studies that even used different methodologies. Bales' study and dissertation are relatable to individual difference/personality with psychology as the results may vary insignificantly from person to person by extremely small numbers because of interactions with the environment, but will constantly be similar among women as a group, as long as they experience a menstrual cycle and have not entered menopause.

An interesting perspective to consider is evolutionary psychology because of its inclusion of behavioral differences among individuals in response to changing physical and social environments. Women may experience such differences in dreams as part of variations between males and females. Through history, females have been the ones to bear children, never men, as <https://assignbuster.com/hormones-and-dreaming/>

told in the bible, but there is the chance that the body may have undergone experiences that have altered the body in turn altering the mind, including dreams.

Article 3: Menstrual hormone changes and instinctual tendencies in dreams

In this paper by Judith Baron, Baron investigates whether the female sex hormone, progesterone, contributes to the content of dreams. Her main hypothesis was: the themes of dreams are more likely to contain maternal content when progesterone levels are high in the post-ovulatory or luteal phase. As part of the study included in the paper, seventeen female college students completed dream questionnaires for every dream remembered over two menstrual cycles.

Then, scales were created to measure obvious and symbolic dream content. Menstrual cycles were divided into follicular, without progesterone, and luteal, with progesterone, phases for comparison within each subject of dream content. Conclusions taken from this study showed that there were higher obvious and symbolic maternal scores in the luteal phase. It was concluded that hormones do influence maternal instinctual tendencies as expressed in dreams and supported Baron's beginning hypothesis concerning dream content in relation to progesterone levels.

Again, this study backed the hypothesis that hormones do affect dream content. These findings suggest two things: first, hormones do impact the content of dreams; second, specifically progesterone has been linked to increase the maternal content in females' dreams. This study is relatable to cognitive psychology because it is strongly tied with internal mental

processes as the hormones influence the dreams females have and remember, even what they may learn from these dreams.

Baron's results are also representative of a biological perspective since it focuses on the biological foundations in relation with behavior and mental processes, including dreams. Progesterone released by the body affects the behavior that occurs in dreams for women. Conclusion People dream each night because it is our brain's way of processing new experiences and information for our brain. Dreaming can be fun as it pertains to enjoyable events, like reliving a date or time with a loved one, or it can be terrifying as through nightmares, where our worst fears seem real.

I have experienced both ends of the dream content spectrum as I have dreamt about a cute guy or even about death. Looking back at the findings in these articles, I am better able to understand the context in which these dreams happened and rationalize the occurrence I experienced. As a female, this research brings to light the even greater differences that are seen by scientist between men and women. We already have different physical features and behaviors which are linked to the dreams we experience.

These physical features and behaviors are typically tied with hormones like testosterone, progesterone, and cortisol, the same hormones that affect dream processing, content, and vividness. With ovulation, the findings of increased maternal dreams in a sleeping pattern can also help women understand the reasoning behind why they are experiencing more dreams about being a mother. Some people may question the importance of such information concerning hormones and their effects on dreams, but it is

important to note that many of our bodies' hormones are released without real control over them.

They are a response to outside stimuli or other impacts from our environment. With this research, we are able to answer two rather popular questions as to what our dreams may mean or why we had the dreams we did. Take the time to evaluate the environment around you, whether it is ovulation, stress, or even pregnancy. One thing to consider the next time you dream are the hormones your body may be producing and how they may be affecting your dreams. So next time you recall a dream, just ask " is a dream really a wish your heart makes? "