The continuity hypothesis of dreaming states that dreams reflect waking life experiences and are affected by the factors: emotional involvement; personality traits; the type of waking life experience[[1]](#endnote-2). These three factors have been shown to impact the content of an individuals dream through various studies.

**Emotional Involvement:**

The factor of emotional involvement refers to the emotional intensity, whether positive or negative, of an event in an individual’s life, and the individual’s response to that event[[2]](#endnote-3). To determine the impact of the factor of emotional involvement on dream content many studies have been conducted and analysed.

To test the effect of an individual’s response on dream content, a study was conducted by Michael Schredl, a well-known doctor of psychiatry and psychotherapy, and sleep researcher. Participants were asked to keep a dream journal, recording daytime time experiences and evaluating the emotional intensity of each, then were asked to record subsequent dreams. It was found that if an incident was ranked as emotionally intense by the individual there was a greater probability it would be incorporated in following dream content[[3]](#endnote-4). This was supported by a study conducted by three Australian psychologists from the Universities of Tasmania and Queensland that aimed to discover which emotions of waking-life had a high chance of dream incorporation. Results showed that the strongest predictor of dreams was the participant’s experience of the waking emotion rather than the emotion itself[[4]](#endnote-5). This suggests that if an individual interprets an event as emotionally intense the event will likely be incorporated into subsequent dreams.

The intensity of daytime happenings affecting dream content has also been researched thoroughly, particularly the effect of negatively intense events[[5]](#endnote-6). Dr. Rosalind Cartwright, an American neuroscientist and professor and chairman of the Department of Psychology at Rush-Presbyterian-St. Luke's Medical University, investigated the effect of divorce on women’s dreams. She found that the divorced women experienced more negatively toned dreams than the control group of married women, indicating a strong correlation[[6]](#endnote-7),[[7]](#endnote-8),[[8]](#endnote-9). These results were consistent with other studies that looked at negatively intense events such as: the effect of divorce on children’s dreams[[9]](#endnote-10) and the impact of abortions on dream content[[10]](#endnote-11). Traumatic experiences have also extensively been shown to impact dream content even when not followed by post-traumatic stress disorder (PTSD). For example, out of the women surveyed after sexual assault, 25% reported frequent and 50% reported occasional nightmares relating to the traumatic events[[11]](#endnote-12). Additionally, studies investigating the long-term effects of sexual abuse during childhood found that following the experiences, nightmares occurred more frequently for many years than in comparable control groups[[12]](#endnote-13),[[13]](#endnote-14). These studies conclude that negatively intense events impact the content, specifically the tone, of dreams to a large extent and that the severity of an experience affects the frequency of these negatively toned dreams.

The effect of positively intense events on dream content has also been investigated. The dreams of pregnant women were shown to reflect the worries surrounding the birth and health of the baby but also held many positive emotions about motherhood[[14]](#endnote-15). Additionally, a study conducted by three qualified psychologists aiming to test the relationship between waking emotions and the same or related dream emotions found signiﬁcant positive correlations between positive waking and positive

dream emotions[[15]](#endnote-16). Although there has been less research, it has been shown that positively intense events also impact dream content to a great extent.

**Personality Traits:**

The second factor of the continuity hypothesis is the effect of an individual’s personality on dream content. This includes the gender of a person, personal skills such as problem solving, and character traits.

Many studies have investigated differences between male and female dreams and have repeatedly found differences in dream recall frequency with women recalling dreams more frequently than men[[16]](#endnote-17),[[17]](#endnote-18),[[18]](#endnote-19). When comparing dream content between sexes it was found that weapons were mentioned significantly more often in men’s dreams than women’s, and clothing was mentioned with a significantly greater frequently in women’s dreams. However, this seemed to reflect what the participants thought about more or interacted with, for example media consumption, showing the impact of interests on dream content rather than gender differences[[19]](#endnote-20). These studies indicate that gender differences affect dream recall frequency rather than dream content, and that variances between individuals is dependent on personality differences rather than gender.

To determine differences in types of content due to an individual’s personality a survey of 1000 American’s was done. This involved using the Myers-Briggs Type Indicator (MBTI) personality test to reveal characteristics of participants then having respondents report dreams they had experienced[[20]](#endnote-21). It was found that introverts were more likely to dream of being unable to influence the world around them, for example punching without effect. While extroverts were more likely to dream of active pursuits, such as travelling[[21]](#endnote-22). The second category assessed in the MBTI test is intuition compared to sensing. It was found in the survey that those who personality favoured intuition were more likely to dream of threatening outcomes, such as being attacked or killed, than those that favoured sensing. It was also found that those with the intuition personality were more likely to dream than sensing individuals, possibly because sensing individuals naturally resist any kind of fantasy[[22]](#endnote-23). Another personality trait analysed by the MBTI test is judging compared to perceiving. It was found that people inclined to judging, preferring facts and logic, were similarly less likely to dream than perceiving personalities[[23]](#endnote-24). The final category assessed was thinking as opposed to the feeling personality. It was seen in the survey that those inclined to thinking rather than feeling, were more likely to dream of killing someone, going against their personality type of logic and consistency. Feeling personalities were shown to dream more about people in their lives, particularly family with a greater frequency, than thinking individuals[[24]](#endnote-25).According to Dr Michael Schredl a well-known sleep researcher, other personality factors such as openness to experience; boundary thinness; and absorption also influence dreams[[25]](#endnote-26), particularly the frequency of creative dreams[[26]](#endnote-27), however there has not been much research into the impact of these factor on dream content.

Although there has been some studies about the impact of an individual’s personality on their dreams these results have not been conclusive, and it has also been discussed whether there is a direct connection between personality and dream content or rather if dream content is a side product of characteristics of that personality type[[27]](#endnote-28),[[28]](#endnote-29). For example, if an extrovert is more socially active then there is an increased probability that their dreams with incorporate these social interactions. Therefore, possibly dream content is the product of waking life experiences rather than personality type and traits.

**Type of Waking Life Experience:**

The third factor of the continuity hypothesis is type of waking life experience. This refers to the type of activity or activities that an individual interacts with throughout the day and the impact of this on subsequent dream content.

Many studies have been performed to test this hypothesis and have found that the impact on dream content depends of the cognitive involvement of the brain with each activity[[29]](#endnote-30),[[30]](#endnote-31). The first influential work about the impact of waking life activity was a study done by Ernest Hartmann M.D. a professor of psychiatry [[31]](#endnote-32). In his first survey Hartmann asked participants about the frequency of reading, writing, typing and calculating in their dreams and in a second survey asked participants about how frequently they dreamt of walking, writing, talking with friends, reading, sexual activity and typing in their dreams[[32]](#endnote-33). Participants responded consistently that activities such as reading, writing, typing, and calculating had not appeared in dream content compared to the other activities such as walking, talking with friends and sexual activity which had appeared[[33]](#endnote-34). These results were later confirmed by many other studies on this topic[[34]](#endnote-35),[[35]](#endnote-36),[[36]](#endnote-37) who found that focused cognitive activities occurred less often in dream content. It was suggested that these activities may be included less frequently in dreams as they occur less often in people’s lives, however, this was disproven as the surveyed group reported spending a mean of six hours a day engaged in these activities yet no incorporation in subsequent dreams[[37]](#endnote-38). Another hypothesis was that dreams only included little of “overlearned” or “automatized” skills, however this was shown to be incorrect as walking is also overlearned but appears frequently in dream content[[38]](#endnote-39). It was also theorised that dreams may be archaic, meaning old-fashioned, however, this was disproved by a study where there was frequent occurrences of driving a car in participants dreams[[39]](#endnote-40). Instead it has been shown that dream content is affected by the level of cognition attached to the activity. According to Deride Barret, a professor of psychology at Harvard, this is because the language area of the brain becomes less active during dreams, limiting activities such as reading and writing[[40]](#endnote-41). Therefore, dream content is seen to be impacted to a high extent by the type of waking activity as although cognitive activities are frequent in waking life they have a low probability of being incorporated in dreams.

**Conclusion:**

It has been shown that the factors of emotional involvement, personality traits, and the type of waking experience affect dream content. When assessing the effect of emotional intensity on dream content it was seen that an event was most likely to be incorporated into subsequent dreams if the event was considered emotionally intense by the individual. When comparing the impact of negatively intense events to positively intense events it was found that negatively intense events had a higher probability of impacting dream content than positively intense events. However, this conclusion may be misinformed as there has been less studies conducted on the effect of positively intense events on dream content. Overall, both negatively toned events and positively toned events were shown to impact dream content to a large extent. When investigating the factor of personality type and traits it was found that there were many differences between individuals. Differences between the dream content of males and females appeared to be based on what they thought about or interacted with rather than the result of differences in brain chemistry. When comparing dream content of different personality types through the Myers-Briggs Type Indicator (MBTI) personality test, it was found that personality traits such as introversion or extroversion, intuition or sensing, judging or perceiving, thinking or feeling, affected the content of an individuals dreams to a great extent. However, it was considered that this may be the result of what an individual interacts with rather than differences in brain chemistry, similar to gender differences. The final factor investigated was the effect of the type of waking life activity on dream content. It was seen that different activities had a greater probability of being incorporated in dreams depending on the cognitive involvement of the brain with each activity. Activities such as reading, writing and arithmetic were less likely to affect dream content compared to activities such as walking, talking and sexual activity which often appeared in dreams. It was theorised that this may be because the language area of the brain is less active during dreams, limiting cognitive activities such as writing and reading. As cognitive activities occupy a majority of most individuals time yet are not often incorporated in dreams, it was concluded that dream content is impacted to a high extent by the type of waking activity.

Word count: 1913

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