Personality and Dreams:

The Relationship Between Big Five Personality Traits and Frequency of Dream Themes

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Abstract

The purpose of the present research was to examine the relationship between Big Five personality Traits and specific dream themes. For example, do extraverts more often dream about other people, and do more neurotic people dream more about anxious situations and negative themes. Prior research has examined the relationship between Big Five personality traits and dream themes and found correlations. One study by Bernstein and Roberts (1995) found that the Big Five were found to have a link to certain dream characteristics like dream setting or characters. For example, they found that subjects who scored higher in agreeableness reported more dream characters, while subjects who scored higher in openness reported having more unfamiliar dream characters. These studies did not examine the frequency with which specific dream themes were experienced. In the present study, I tested the hypothesis that Big Five personality traits will be related to the frequency that specific dream themes occur. In the online study, 150 participants answered questions about demographics, personality traits, attitudes, beliefs about dreaming, dream recall and frequency, and dream content. The results showed that there are significant correlations between the Big Five factors and dream themes. For example, higher levels of neuroticism were found to be correlated with themes like losing something valuable, insects or spiders, being dressed inappropriately, snakes, and being chased or pursued.

Scholars and scientists have been doing research on dreams and their meanings for hundreds of years, even dating back to ancient Greece and Rome (Barbera, 2008), yet there is still much to be learned about dreams and their meaning. Research on dreams and dream content is important because research has shown that sleep and dreaming is healthy for us and can result in improved memory organization, waking emotion regulation, social skills, and creativity (Perogamvros et. al., 2013). One important finding that was made from dream research was the discovery of REM sleep, which changed the way scientists and the world viewed sleep (Noreika & Windt, 2008). Individuals differ vastly in the frequency and content of their dreams. This difference among individuals' dream experiences has been studied, and it has been found that personality may affect dreaming. There is even some evidence that an individual's Big Five Inventory scores may affect dream content (Berstein & Belicki, 1996). In this study, we surveyed students to find if dream content is affected or predicted by Big Five Inventory scores.

Currently there are many different working theories about dreams and why we dream (Zink & Pietrowsky, 2015). Although one challenge that dream research faces is the difficulty in establishing set theories, many have been tested with good evidence. Some strong theories that are relevant to the current research include the Threat Simulation Theory of dreaming (TST), the Social Simulation Theory (SST), the Continuity Hypothesis of dreaming, Jung's Personality Theory of Dreaming, and Activation-Synthesis Theory. According to Valli et. al. (2005) TST states that our dreaming consciousness is from an ancient biological defense mechanism that was evolutionarily selected for its ability to repeatedly simulate threatening scenarios to help us survive if these scenarios were to occur. Many studies have found evidence to support this theory by studying the reoccurring dreams in young adults (Gauchat et. al., 2015) (Revonsuo, 2000)

(Valli et. al., 2005). Another theory that focuses on dreams as simulations of waking life events is the SST, which states that the function of dreaming is to simulate social events (Tuominen et. Al., 2019). This theory has a few articles with supporting evidence, but more research is needed (Tuominen et. al., 2019) (Tuominen et. al., 2021) (Revonsuo et. al., 2015).

The Continuity Hypothesis of dreaming is one of the most widely studied models of dreaming, and it states that dream content is psychologically meaningful in that it reflects the dreamer's current thoughts, concerns and salient experiences (Guerrero-Gomez et al., 2021). The idea that dreams are generally continuous with these waking dimensions and come from the same psychological pattern that waking life follows also lies at the core of many modern theories of dream function. Another theory that will be discussed is Jung's Personality Theory of Dreaming which essentially states that dreams act as compensation for waking life, meaning that dreams are messages from the unconscious intended to balance conscious attitudes and behavior (Cann & Donderi, 1986). Jung's theory of dreaming states that there are two kinds of dreams: archetypal dreams and everyday dreams. These archetypal dreams are strange and bizarre, and the everyday dreams are considered mundane and routine dreams. The archetypal dreams have been proven to increase with stress; the type of person you are, or your personality, determines the kind of dreams you will have. The last dream theory discussed will be the Activation-Synthesis Theory of dreaming, which states that essentially dreams are meaningless, and are the result of electrical brain impulses that form random thoughts and imagery in our minds from our memories (Hobson & McCarley, 1977).

These theories explore different ideas about why humans dream, and different factors that influence our dream content. One early article found studying dream content was by Schwartz and Maquet. Schwartz and Maquet (2002) studied sleep imaging using neuropsychological

assessment of dreams. The research at the time focused on Rapid Eye Movement and the regions of the brain active during dreaming, but they wanted to assess the dreams themselves using neuropsychology. They determined that dream features can be mapped onto a specific distribution of activity in the brain. Prior research has found that the presence of negative emotions, anxiety and fear is common in dreaming. This means there could be a relationship between universal dream characteristics and REM sleep patterns. They found that certain bizarre dream features resembled certain syndromes; for example, people who dream often of mistakenly misidentifying visual perceptions like faces or geographical locations corresponded with Fregoli syndrome, which is when an unknown person's face is mistaken as someone familiar, regardless of lack of any resemblance. These early correlations between dream content and waking life features opened the door for more research on the influences of our dream content, and the hypothesis that dream content is not random or meaningless.

Another article that focuses on dream content is by Nielsen (2012) which assessed dream recall frequency (DRF) and dream theme diversity (DTD) using an online questionnaire that consisted of 55 different dream themes, called the Typical Dreams Questionnaire (TDQ). The 28,888 subjects ranged from 10-79 years of age and were an assortment of male and female. A group of themes were found that did not vary much by region, gender, or age, but differences that were found can be because of developmental milestones, personality attributes or sociocultural factors. Women were found to dream primarily of negative themes like failure, loss of control, snakes and insects whereas men dreamed of positive factors like magic and alien life. The results of the study support the concept of typical dreams themes as consistent over time; gender and region were found to reflect the influence of factors like sociocultural, personality, cognitive or physiological factors. More research is needed to determine possible other variables

that could cause these differences. The TDQ used by Nielsen is the one chosen to be used in the current study to measure differences in dream content as it may relate to personality.

There has been prior research showing evidence of a relationship between personality and dream content. One of the most popular measures of personality is the Big Five Inventory developed in 1991 which includes a 44-item questionnaire that determines your scores for the Big Five personality parameters (John et al., 1991). One study by Hess et al. (2017) studied how the Big Five impact lucid dreaming. The results of the study indicated that there were small but significant associations between lucid dreaming and some of the Big Five factors, including openness, agreeableness, and neuroticism. Another link they found was between the age of the first lucid dream and the conscientiousness factor. This article linked the results to the Continuity Hypothesis of dreaming, assuming that individuals who are more anxious about controlling their waking life may be more likely to try to control their dreams as well.

Another study by Bernstein and Roberts (1995) conducted a survey to see if there was a link between the Big Five and dream content. This study used a 41-item survey that asked multiple questions about dream content. They did not find a link between extraversion and dream characters like they predicted but did see a correlation of low conscientiousness scores and unfamiliar dream characters as well as a link between Conscientiousness and openness to having less consistent dream settings. Extraversion was also linked to having more dreams settings at night, and higher Neurotic scores showed viewing themselves as frustrated and confused in their dreams, and their sexual partners were someone unfamiliar. This study showed that there could be a correlation between personality and dreaming, but more research is needed.

The purpose of the current research is to find evidence of a correlation between dream content and the Big Five Inventory personality assessment. The hypothesis is that each of the Big

Five factors (neuroticism, openness, extraversion, agreeableness, and conscientiousness) will correlate with predetermined dream themes. This study differs from others in that the survey used in the online questionnaire includes a long list of very specific dream themes that regularly occur throughout an individual's life. Another unique aspect is the use of a frequency scale to measure dream themes from. The participants were asked to rate the frequency with which they dreamed each dream theme on a 7-point scale ranging from 1 = never, 7 = very frequently. These dream themes were then predetermined to coincide with one of the five personality traits in the Big Five. For example, a dream about flying or soaring through the air coincides with the Big Five personality trait of Openness.

## Materials and Methods

## Participants

A total of 150 participants (18-51 years old, Mean age = 21; Female = 91, Male = 56, non-Binary= 3) completed the online survey between March 7, 2022, to April 7, 2022. The participants were all undergraduate college students enrolled at Oklahoma State University, with 100 individuals identifying as Caucasian/white, 0 as Latinx/Hispanic, 1 as Asian/South Asian/Eastern Asian, 4 as Black/African, 6 as Native American, 1 as Pacific Islander, and 21 selected multiple ethnicities.

## Procedure and Materials

Participants were recruited only after I received IRB approval for the study. Students were recruited from a SONA system in the Department of Psychology. All participants were informed of the purpose and content of the study, and informed consent was obtained at the beginning of the questionnaire. The questionnaire took 25 minutes to complete and gave the

participant ½ credit for SONA. All materials were collected within one month. The data collected from the subjects were analyzed using SPSS.

The study was conducted using a self-report survey on Qualtrics that consisted of 33 questions about demographics, personality traits, attitudes, beliefs about dreaming, dream recall and frequency, and dream content. This survey included multiple measures drawn from pre-existing research on personality, dreams, childhood experiences, and dream content including the Big Five personality traits, the Typical Dreams Questionnaire (TDQ), and additional dream themes that I hypothesized would be related to personality. Demographics were recorded as well.

To measure personality traits and attitudes as well as dreaming and childhood experiences, we used multiple questionnaires including the Big Five mini markers , the TDQ, and the new items modeled on the TDQ. I measured the Big Five personality traits using Saucier's (1994) mini markers measure. This measure consists of 40 adjectives, with 8 adjectives per Big Five trait, and it asked participants to rate how well each describes them on a scale of 1-9, with 1 = extremely inaccurate, and 9 = extremely accurate. The measure used to record the subjects' dream content is the TDQ which is from the article by Nielsen (2012) that wanted to investigate the dimensional structure of dreams. Along with the original TDQ, I created another TDQ with more dream themes that I found doing research on typical dreams of individuals that were not on the original TDQ. We put these into two different survey questions and labeled them as TDQ1 (the original) and TDQ2 (the list of themes created for this study).

**Results**

In order to examine the relationship between personality and dream themes, mean ratings for the Big five personality traits (i.e., Extraversion, Agreeableness, Conscientiousness,

Neuroticism, and Openness) were correlated with dream theme frequency ratings for the TDQ and for the new dream themes created for this study. These results are displayed in Tables 1 and 2, respectively. The results supported the hypothesis that there would be relationships between Big Five personality traits and frequency of dreaming about specific themes. The results for the TDQ1 showed that out of 55 dream themes, 37 of those themes (67.3%) were correlated to at least one Big Five factor. A total of 275 correlational values were analyzed, and only 49 of those were determined to be significant (17.8%). Out of the remaining correlational values, 8/49 (16.3%) of the significant correlations were as predicted. The TDQ2 results showed out of 30 dream themes, 17 of those (56.7%) were correlated to at least one Big Five factor. With a total of 150 correlational values, 21 of those were significant (14%). The remaining themes resulted in 4/21 (19.0%) significant correlations that were consistent with the hypothesis, making it more successful in relation to predicted results.

Overall, the Big Five personality factors were correlated to various dream themes, and each factor had its' own unique set of common dream themes. Lower levels of extraversion were found to be related to more frequent dreaming of only three themes which included looking for someone, seeing a UFO, and seeing wild beasts. All of these were correlated with other traits. Higher levels of openness were found to be related to nine themes. Two of these were not related to other traits including losing control of a vehicle and arriving late for something. Lower levels of agreeableness were related to twenty-two themes, and nine of these were not related to any other trait. These themes were swimming, being an animal, seeing an angel, seeing yourself in a mirror, a face very close to you, killing someone, seeing yourself as dead, playing sports, and being in prison. Lower levels of conscientiousness were related to thirteen themes, all of which were related to other themes. Some of these themes included: being a member of the opposite

sex, being a child again, and being accused of a crime. Lastly, higher levels of neuroticism were found to be correlated with twenty-two themes, six of which were unique to this trait: these themes were losing something valuable, being on an airplane, insects or spiders, being dressed inappropriately, snakes, and being chased or pursued. These results overall showed support for the hypothesis that an individual's score on the Big Five Inventory test is correlated with dream content.

**Discussion**

The aim of the study was to examine the relationship between personality and dream content. Overall, the results were significant and supported the hypothesis that Big Five personality traits will be related to the frequency that specific dream themes occur. The results for the study showed that there are correlations between the Big Five factors and dream content. One example of the results that support our hypothesis, was the significant correlation between the Big Five factor Openness and the dream theme flying or soaring through the air *(r = .233, p < .0001 p = .007)*. The higher you scored in Openness, the more frequently you dreamed of flying or soaring through the air. To summarize this data, the hypothesis was supported, and the results showed that there are significant correlations between the Big Five factors and dream themes. Some of these relationships were expected, for example the factor neuroticism, and some of these relationships were surprising, like the factor conscientiousness. More research is needed to explain these results.

Overall, the results are consistent with the continuity hypothesis described with the theories of dreaming. Waking life experiences are similar for people with similar traits. Dreams may reflect waking life experiences; therefore, they are expected to be similar according to the continuity hypothesis of dreaming. Future research will investigate how other personal

characteristics in addition to personality might be related to individuals' dream content- one example is the adverse childhood events, also known as the ACEs questionnaire. Prior research shows that those with higher ACE scores also report higher levels of neuroticism (Grist & Caudle, 2021). Individuals with higher ACE scores may also dream more frequently of negative emotional themes and violent themes than others. The data collected so far supports this possibility.

**Conclusion**

Dreaming and dream content has been a mystery that scientists and scholars have tried to find an answer to for thousands of years. Previous research has shown that dream content is linked to various factors, one of them being personality. The aim of the current study is to examine the relationship between Big Five personality Traits and specific dream themes. For example, do extraverts more often dream about other people, and do more neurotic people dream more about anxious situations and negative themes. After carrying out an online questionnaire with measures for dream content, personality, and adverse childhood events, the results supported the hypothesis that Big Five personality traits will be related to the frequency that specific dream themes occur. More research is needed to examine this relationship more closely and find out why the relationship exists, and what benefits lie in doing more research on the subject. Future research will be focused on the relationship between ACE scores and dream content, as the data collected so far has found a significant link between the two.

Table 1: *Summary of Correlational Results for the TDQ1*

| TDQ1 | Extraversion | Agreeableness | Conscientiousness | Neuroticism | Openness | ACEs |
|---|---|---|---|---|---|---|
| swimming | 0.027 | **-0.206*** | -0.003 | 0.125 | 0.111 | |
| Being an animal | -0.112 | **-0.198*** | -0.156 | 0.162 | 0.097 | |
| Seeing an angel | -0.022 | **-0.206*** | -0.093 | 0.139 | -0.027 | |
| Seeing a UFO | **-0.190*** | **-0.191*** | **-0.290**** | 0.144 | -0.089 | |
| Being a member of the opposite sex | -0.124 | **-0.253**** | **-0.280**** | 0.137 | 0.125 | |
| Being an object | 0.004 | **-0.209*** | **-0.203*** | 0.089 | -0.132 | |
| Travelling to another planet/visiting a different part of the universe | -0.164 | **-0.206*** | **-0.273**** | **0.217*** | 0.126 | |
| Having superior knowledge or mental ability | 0.021 | **-0.192*** | -0.070 | **0.219*** | 0.152 | |
| Lunatics or insane people | -0.13 | **-0.273**** | -0.067 | **0.185*** | 0.002 | |
| Being a child again | -0.072 | -0.054 | **-0.188*** | **0.210*** | **0.248**** | |
| Flying or soaring through the air | -0.001 | **-0.231**** | -0.087 | 0.065 | **0.233**** | |
| Losing control of a vehicle | 0.025 | -0.113 | -0.120 | 0.112 | **0.192*** | |
| Arriving too late (e.g. missing a train) | 0.056 | 0.022 | -0.012 | 0.112 | **0.224**** | |
| seeing yourself in a mirror | -0.095 | **-.0259**** | -0.142 | 0.083 | 0.013 | **0.300**** |
| Seeing a face very close to you | 0.016 | **-0.239**** | -0.131 | 0.093 | 0.019 | **0.277**** |
| Killing someone | -0.032 | **-0.253**** | -0.103 | 0.140 | 0.097 | **0.241*** |
| Seeing yourself as dead | -0.039 | **-0.189*** | 0.012 | 0.137 | 0.128 | **0.207*** |

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|---|---|---|---|---|---|---|
| earthquakes | -0.125 | **-0.253** | **-0.193*** | -0.047 | -0.093 | **0.184*** |
| **Discovering a new room at home** | -0.097 | **-0.205*** | **-0.181*** | **0.176*** | -0.026 | **0.177*** |
| **having magical powers (other than flying)** | -0.146 | -0.165 | **-0.240** | **0.218*** | 0.120 | **0.179*** |
| **Seeing extra-terrestrials** | -0.138 | -0.139 | **-0.221*** | **0.194*** | -0.022 | **0.197*** |
| **Being killed** | -0.048 | -0.126 | -0.044 | **0.200*** | **0.190*** | **0.196*** |
| **Sexual experiences** | 0.134 | -0.065 | 0.060 | **0.237** | **0.209*** | **0.219*** |
| being physically attacked (beaten, stabbed, raped, etc) | -0.106 | -0.164 | -0.098 | 0.164 | 0.091 | **0.255*** |
| trying again and again to do something | -0.009 | -0.04 | 0.050 | -0.024 | 0.170 | **0.233*** |
| Being locked up | -0.032 | -0.129 | -0.082 | 0.101 | 0.107 | **0.254** |
| Floods or tidal waves | 0.018 | -0.103 | -0.089 | 0.094 | 0.030 | **0.179*** |
| Being on the verge of falling | -0.046 | 0.014 | 0.075 | 0.106 | 0.036 | **0.199*** |
| A person now dead as alive | -0.094 | 0.009 | -0.069 | 0.026 | 0.150 | **0.291** |
| A person now alive as dead | -0.063 | -0.075 | -0.006 | 0.109 | 0.119 | **0.185*** |
| Being smothered, unable to breath | -0.056 | -0.139 | -0.145 | **0.189*** | 0.146 | **0.291** |
| Being frozen with fright | -0.042 | 0.001 | -0.004 | **0.236** | 0.090 | **0.177*** |
| Wild, violent beasts | **-0.204*** | -0.168 | -0.060 | **0.224** | 0.147 | |
| being chased or pursued, but not physically injured | -0.094 | -0.010 | 0.070 | **0.249** | 0.090 | |
| Snakes | -0.097 | -0.078 | 0.076 | **0.185*** | -0.065 | |

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|---|---|---|---|---|---|
| Being inappropriately dressed | -0.072 | -0.136 | -0.103 | **0.189*** | 0.108 |
| Insects or spiders | -0.16 | -0.145 | -0.064 | **0.225*** | -0.145 |

Table 2: *Summary of Correlational Results for the TDQ2*

| TDQ2 | Extraversion | Agreeableness | Conscientiousness | Neuroticism | Openness | ACEs |
|---|---|---|---|---|---|---|
| Having a baby/getting a baby | -0.014 | -0.016 | 0.072 | 0.069 | -0.082 | **0.184*** |
| **Being locked in an empty room** | -0.120 | -0.067 | -0.042 | 0.123 | 0.103 | **0.244*** |
| **Having an affair/cheating on your partner** | 0.108 | -0.056 | -0.005 | 0.165 | 0.151 | **0.303*** |
| **Losing a limb** | -0.111 | -0.139 | -0.111 | 0.081 | -0.002 | **0.213*** |
| **cleaning** | 0.057 | 0.062 | 0.062 | 0.105 | 0.026 | **0.243*** |
| **Playing sports** | 0.062 | **-0.183*** | 0.084 | -0.115 | 0.023 | -0.021 |
| **Being in prison** | -0.037 | **-0.295*** | -0.130 | 0.089 | -0.001 | **0.187*** |
| **Talking to animals** | -0.077 | **-0.175*** | **-0.221*** | 0.084 | 0.132 | **0.187*** |
| **Getting a new pet** | -0.052 | **-0.249*** | **-0.183*** | 0.149 | -0.041 | **0.239*** |
| **Being accused of a crime** | -0.108 | **-0.294*** | **-0.187*** | **0.194*** | 0.103 | **0.230*** |
| **Helping people** | -0.032 | **-0.192*** | **-0.192*** | **0.242*** | 0.000 | **0.178*** |
| **Being forgotten/ ignored** | -0.111 | **-0.183*** | -0.159 | **0.196*** | 0.067 | **0.266*** |
| **Unexpected change** | -0.072 | -0.037 | -0.097 | **0.174*** | **0.193*** | **0.267*** |
| **Being on an airplane** | -0.096 | -0.141 | -0.070 | **0.178*** | 0.027 | **0.186*** |
| **Looking for someone** | **-0.193*** | 0.013 | -0.049 | 0.159 | **0.203*** | **0.244*** |
| **Losing something valuable** | -0.117 | 0.043 | -0.106 | **0.264*** | 0.109 | 0.077 |

| Being judged/under examination | -0.027 | -0.020 | 0.048 | 0.078 | **0.208\*** | 0.052 |
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