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The Language-Dream Relationship in Multilinguals

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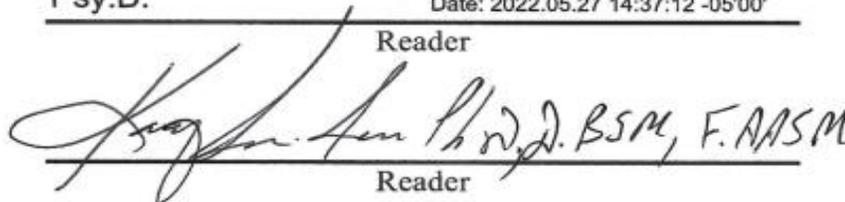with a major in Clinical Psychology

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The Language-Dream Relationship in Multilinguals

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A Clinical Research Project submitted to the faculty of The Illinois School of Professional Psychology at National Louis University in partial fulfillment of the requirements for the degree of Doctor of Psychology in Clinical Psychology.

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Abstract

According to the United States Census Bureau, the United States alone is host to around 350 languages. When it comes to investigating languages in dreams by multilinguals, some studies have focused heavily on only two languages—Spanish and English. The purpose of this study was to add to the understanding of how language use relates to the dream content of multilinguals. This study recruited the assistance of nine polylingual individuals. The participants were instructed to record their dreams in the languages in which they occurred for 2 weeks. After 2 weeks, the participants translated their dreams into English in order for them to be interpreted and analyzed for themes. The findings of this study indicated that multilinguals' daily life languages, whether their initial or later acquired languages, were replicated in their dreams. According to the findings, the frequency of language use appears to be more important than when it was first learnt, when it comes to the occurrences of language in dreams. The findings of this study indicate that multilingual dreams are capable of being examined and understood even when the therapist and client do not speak the same language.

Chapter 1: Introduction

Humans have been attempting to identify connections in their dreams since the beginning of time. Dreams, which were formerly regarded to be divine gifts, may now be investigated by therapists using technology. Numerous research on dreams and their relevance has been conducted. However, researchers have not reached a consensus on why people dream or on whether the content of dreams has any significance. In addition, there is no general agreement as to why multilinguals use or switch between languages in their dreams. While there are studies on the interaction of spoken languages in multilinguals' dreams, there is still room for additional research on this subject.

This study builds on previous research on dreams and languages and aims to expand the knowledge of how language affects dream content. Multilingualism is still largely studied in the literature in terms of Spanish and English at the moment. Consequently, this leaves out a large number of languages, as well as people who are fluent in more than two languages. As there is a linguistic diversity issue in previous studies, this research will be inclusive of diverse languages and include multilinguals who are fluent in two or more languages.

This study shall consider the literature about dreams in two strands. First, a general literature review on the development of dreams and the brain's functioning during dreaming will be provided, followed by a review of the significant literature relating to the theories about dreams and their purpose. Lastly, a summary of language development and its clinical implications will be discussed.

Chapter 2: Review of Literature

What exactly is dreaming? Even though most people know what dreams are, there is no universal definition for these mysterious events that occur while sleeping. A dream is a series of images or tales that the mind creates during sleep. It is also defined as a succession of involuntary thoughts, pictures, ideas, and emotions in the brain while sleeping (Merriam-Webster, 2020). For centuries, people have attempted to decipher the meaning of their dreams. Some theories have survived, while others have faded away along with the dreams on which they were founded. This chapter will examine the literature on dreams from a cultural standpoint, as well as scientific and psychological viewpoints on dreams. Because this study was centered on clinical psychology, psychological topics like dreamwork in treatment will be discussed in greater detail.

This chapter will also look at how people acquire their language skills. Additionally, multilingualism will be examined further, and there will be an exploration of the factors that help people learn several languages. Finally, there will be a discussion of the literature on the influence of language in therapy and dreamwork.

Physiology of Sleep and Dreams

Sleep Stages

Sleep is divided into four stages of nonrapid eye movement (NREM) deep sleep and a rapid eye movement (REM) stage. REM and NREM sleep alternate throughout the night, with each cycle lasting approximately 90 min. In 8 hr of sleep, the average person has five REM cycles (Freberg, 2019).

NREM stage 1 is when most people fall asleep. In Stage 1, it is difficult to distinguish from the waking electroencephalogram (EEG) of a drowsy person. At this

point, heart rate and muscle tension begin to decrease. A muscle jerk, commonly in an arm or leg, known as myoclonia, can disrupt this early stage of sleep. Sometimes this is associated with a visual image, such as that of stumbling (Freberg, 2019).

Stage 1 lasts 10–15 min before yielding to Stage 2 NREM, which accounts for around half of the night's sleep. Heart rate and muscle tension decrease further. The EEG shows sleep spindles, brief bursts of 12–14 cycle per second waves caused by thalamic-cortical interactions. Although spindles are prevalent in Stage 2, they appear in other phases of NREM. K-complexes appear in Stage 2 EEG recordings. These are single delta waveforms (Colrain et al., 2011). K-complexes are seen spontaneously as well as in response to unexpected stimuli like loud noises. Spindles and K-complexes may be the brain's attempt to keep people sleeping while monitoring the environment (Colrain et al., 2011). People normally sleep through known stimuli but start waking up to unexpected stimuli.

After 15 min in Stage 2, sleep shifts to slow wave sleep (formerly called Stages 3 and 4 NREM sleep). The parasympathetic nervous system is active during these periods, lowering body temperature, respiration, blood pressure, and heart rate. The brain uses between 11%–40% of the energy required by the waking brain (Hobson et al., 2003). Both Stages 3 and 4 exhibit delta wave activity. Delta wave activity is the sleeping state's largest, slowest (1–4 cycles per second), and most synchronized waveform. Stage 4 has a higher proportion of delta waves (about 50%) than Stage 3. Awakening from Stage 4 is difficult and could cause disorientation (Freberg, 2019, Chapter 11).

During slow wave sleep, the majority of human growth hormone is produced. Human growth hormone is primarily vital for physical growth in childhood, but it also

aids in the development of muscle and bone mass, as well as the maintenance of immune system function throughout life. The synthesis of growth hormone during NREM peaks around puberty and begins to drop by the age of 21. Sleep deprivation lowers both growth hormone levels and injury recovery (Freberg, 2019, Chapter 11).

Following around 90 min of NREM sleep, REM sleep begins. REM was discovered by Eugene Aserinsky in the early 1950s, while conducting research for his Ph.D. on electrical activity in the brain. Observing his 8-year-old son, Aserinsky noticed his son's eyes darting back and forth as he was sleeping. When Aserinsky examined his son's electroencephalogram, he discovered that his son's brain appeared to be active despite his sleeping state. Through his EEG study, Aserinsky was able to demonstrate a link between REM sleep and dreaming (Morrison, 2013).

REM sleep is often referred to as paradoxical sleep, as it combines waking-like brain activity with the impression of deep sleep. During REM, the EEG exhibits beta activity similar to that of waking (Gelisse & Crespel, 2008). The brain's energy consumption increases to a point where it may exceed that of normal wakefulness (Hobson et al., 2003). Some researchers believe that eye movements during REM represent dream scanning (Leclair-Visonneau et al., 2010).

When woken up during REM, people indeed often report dreams (Hill et al., 2013). Today, it is known that both REM and NREM sleep are capable of producing dreamlike experiences, although dreaming is reported less often after being woken up from slow wave sleep (Hobson et al., 2003). REM dreams are lengthy, detailed, vivid, and story-like, providing the dreamer a personal sense of experience with the events taking place. NREM dreams, on the other hand, are short, logical images that lack

emotional content (Morrison, 2013). When REM sleep is disrupted, dreams came sooner in the sleep cycle in rats and humans (Naiman, 2017). The sympathetic nervous system is activated, and heart rate, blood pressure, and respiration increase. Males could experience erections, and females have increased vaginal blood flow (Hirshkowitz & Moore, 1996). The physical sexual arousal that happens during REM sleep can be congruent with the sexual content of dreams (Freberg, 2019, p. 395).

While dreaming, major postural muscles are fully paralyzed, but smaller muscles, such as those in the fingers, might jerk or twitch. Muscle paralysis that occurs in the REM period can sometimes become conscious and incorporated into the dream and experienced as immobility connected to dangerous situations. Unusual vestibular system activity during REM sleep may be the cause of frequent dreams of flying or falling (Leclair-Visonneau et al., 2010).

Sleep, primarily NREM sleep, assists in restoring the body and conserving energy. Sleep deprivation has a number of detrimental physiologic implications, including decreased immune system function, and inhibition of neuronal function in the hippocampus (Mueller et al., 2008). Individuals who are deprived of NREM sleep will recover or attempt to compensate for this deficiency during their next opportunity to sleep. Muscle and joint discomfort are common complaints among those suffering from sleep deprivation. Increased physical demands throughout the day correspond with a need for more sleep the following night, emphasizing the relevance of NREM in bodily restoration (Demos, 2005, p. 118).

The Brain's Functioning While Dreaming

During dreaming, the brain inhibits input from the senses and blocks motor output, known as REM atonia. Norepinephrine, serotonin, and histamine are virtually completely suppressed during sleep, unlike in the awake brain. Dismdale (2018) defined norepinephrine as a hormone and neurotransmitter that mobilizes the brain and body for activity, serotonin as a monoamine neurotransmitter that controls mood and many physiological processes, and histamine as a neurotransmitter that promotes alertness. Blocking these three neurotransmitters allows the body to relax and the muscles to cease moving (Dismdale, 2018). The brain creates intensely relevant first-person experiences despite the lack of sensory touch and temporary paralysis (Goldin, 2018). In other words, even if a person does not acquire sensory input from the outside world and does not move much while they dream, they nonetheless act as an agentic self in the dream world (Friston & Hobson, 2012).

The limbic system, responsible for emotion, motivation, and memory, is active during the dream state. The hypothalamus, involved in motivated behavior, also influences sleep. Additionally, the amygdala functions during dreams, influencing emotional reactions and storing unconscious memories (Demos, 2005, p. 53). Consequently, dreams are more intense in REM sleep because the amygdala generates emotions and anxiety (D'Amato, 2010).

Types of Dreams

Dreams are not bound to a single form, which means that anything may happen in one. According to psychologists, the vast majority of dreams appear to be innocuous. Dreams could be realistic, such as going to work, or they can be fantasies set in a

mystical realm. A person can have superhuman skills such as flying or experience

random acts of falling from structures in a dream. Dreams are not confined to the people

seen daily. However, there is evidence that most people's dreams occur in places and

activities with which they are already familiar. In dreams, people can also be visited by

departed loved ones (Bulkeley, 2016). Strangers, both real and imagined, are more likely

to appear in their dreams than people they know. It is estimated that approximately 15%

of the time, people play characters in their own fantasies (Freberg, 2019, Chapter 11).

According to Hall and Van de Castle (1966), around 70% of dreams include

negative emotional content. In their dreams, men are more likely than women to report

feeling a sense of aggression (Scheredl et al., 2004). The risk of having a bad dream

increases when one is exposed to distressing media. Dreams may take many various

shapes and could be typical and atypical. Dreams are divided into four categories:

nightmares, bad dreams, recurrent dreams, and lucid dreams (Freberg, 2019, Chapter 11).

Nightmares are characterized as terrifying dreams that cause a strong emotional

response when a person wakes up, and can be triggered by stress, mental anguish, or

traumatic situations. They may also occur as a side effect of some medications due to

substance addiction or illness (Scheredl et al., 2019). Children first have nightmares

between the ages of 3 and 6, and the frequency of these episodes decreases as puberty

approaches. While adults have nightmares, they are frequently less troubled by them than

children are. However, disturbing nightmares happen in a lot of different types of

psychological disorders, like posttraumatic stress disorder (Freberg, 2019, p. 406).

Nightmares and sleep terrors are commonly confused, yet they are two distinct

occurrences. In REM sleep, one has nightmares, but in NREM sleep, one experiences

sleep terrors, which usually occur in the first 3 hr of sleep. Between the ages of 4 and 12, approximately 1%–4% of children report having had a sleep terror (Pagel, 2000). Screaming, sweating, and an increased heartbeat are all common symptoms of an episode. The sleeping person sits up in bed and stares at the wall but does not respond. If the person is awakened, they will display the typical symptoms of someone who has been disturbed while in a deep NREM sleep: disorientation and confusion. Sleep terrors rarely produce vivid mental imagery, and when they do, it is usually of the single-image sort that is typical of NREM dreams. The next day, most people have no recollection of the horrific experience. Sleep terrors may be caused in part by a hereditary susceptibility (American Psychiatric Association [APA], 2013). In addition, boys are more likely to suffer from night terrors than girls. Fortunately, the majority of children outgrow their sleep terrors with time. Anxiety and personality disorders are the two most common diagnoses for adults who suffer from sleep terrors (APA, 2013).

On the one hand, unlike nightmares, which wake the dreamer, bad dreams do not disrupt sleep. Bad dreams are often confused with nightmares, although they are less severe in nature, which is why they do not cause sleep interruption (Scheredl et al., 2019). A student, for example, could dream about leaving an important assignment at home on the day that it is due. Although the dream situation may be stressful, the student can continue engaging in the dream without being startled awake. Specifically, bad dreams are more prevalent than nightmares for most people. According to statistics, roughly 5% of the population suffers from weekly nightmares (Scheredl et al., 2019).

According to Weinstein et al. (2018), recurring dreams are dreams that repeat themselves in some form. The topic of these dreams is usually scarier than typical

dreams. These dreams do not have to be the same every time. Even so, they contain similar content, such as dying but in various ways. Recurring dreams might begin in childhood and continue until adulthood or begin at any age. According to research, psychological anguish may be the source of these dreams (Weinstein et al., 2018).

Finally, lucid dreams are extremely vivid dreams. In lucid dreams, the dreamer is aware that they are dreaming. The dreamer may frequently alter or control the dream as it occurs while in this dream state (Zink & Pietowsky, 2015). Lucid dreams appear to occur randomly and seldomly; nevertheless, people can learn to enhance the frequency with practice.

Dream Theories

Dreams in Ancient Cultures

To gain a better understanding of the importance of dreams, human beings should also look at the relationship between their history and that of older civilizations. The significance of dreams differs from culture to culture, but almost every culture agrees that dreams should be documented and studied. Ancient cultures obtained dream interpretation in a variety of ways. Dreams in one culture could be seen as straightforward and unambiguous, containing a simple message from a dream character, whereas in another culture, dreams are seen as more complex, providing a gateway into a deeper understanding of oneself as well as one's connection to the universe. For example, Australia's Aboriginals believe that their ancestors dreamt up everything from the universe to the people. The Aboriginal name for this time of creation is "Dreamtime," or "The Dreaming" (Barber, 2001). For many indigenous Australian communities, the creation of the universe is not seen as a one-time event, but rather as an ongoing reality, a

distinct plane of existence that some individuals can visit in their "night dreams," a word anthropologists use to distinguish sleeping dreams from The Dreaming. They could meet and converse with ancestor spirits, or they could observe the process of creation as it took place in these extraordinary dreams (Barber, 2001). It was through dreaming that people were able to communicate with their ancestors, gain knowledge about the natural world, and keep the Dreamtime alive for future generations.

There is an amazing tradition amongst many cultures of interpreting and future forecasting based on the interpretation of dreams (Barber, 2001). As evident from historical texts, the interpretation of symbolic dreams was not done by the dreamer alone. Dream interpretations were conducted by trained diviners, seers, healers, priests, and priestesses (Hughes, 2000). For example, the ancient Egyptians believed that dreams were direct communications from the gods to the people, so many of their dreams were interpreted as messages from the gods to help the people in their future (El-Aswad, 2010). They believed their dreams were caused by a god named Bes, and while dreaming, their eyes were opened. The ancient Egyptians called a dream "rswt," which means "to be awake." Rswt is a derivation linked to the root meaning "to dream," and the symbol of an open eye was used to write it (El-Aswad, 2010). The ancient Egyptians believed that characters in their dreams represented something, and that this information was valuable; they developed a thinking process where they tried to understand the meaning of each character. Ancient Egyptian interpreters, known as "Masters of the Secret Things," were temple priests who were well-educated. It was through the ancient wisdom contained within the *Book of the Dead* that the Egyptian dream interpreters gained their knowledge (Simpson, 2003). The *Book of the Dead* gave much importance to death, and it was a

guide for the dead on how the living should build tombs to ensure that they would have a good afterlife. They believed that by recalling and working with dreams, they might enhance their memory, access information that belonged to them before they began their life journey, and reconnect with past life experiences (Chauveau, 2000).

In early civilizations, it was common for priests and other spiritual leaders to dream on behalf of the individual, obtaining a dream that served to interpret the original dream that another individual experienced. This practice was known as "dream incubation." Dream incubation entails practices and rituals designed to elicit a dream that illuminates a situation at hand, which frequently includes the need for healing as well as the desire for counsel or support (Hughes, 2000). The most common dream incubation practices include sleeping in sacred spaces, spending the night in a temple or cult center, bowing, and praying, as well as praying and meditating. The ancient Egyptians used dream incubation at temples and sacred areas for guidance and healing. The Ancient Greeks also participated in dream incubation. The affluent would seek out dream oracles for guidance. Oracles were usually women who were believed to have been given premonitions by the gods. The oracle may speak of a dream she already had, or the person seeking advice will sleep next to the oracle. She would then interpret their dreams together (Hughes, 2000).

The documentation and preservation of dreams are found in numerous cultures. One culture that put forth great effort to document their dreams was the ancient Egyptians. The ancient Egyptians started writing their dreams on papyrus when they realized similar themes kept reoccurring. The priests would write in detail, describing the dreams and any possible messages. After the papyrus was written, it was placed in jars

and buried to keep them sacred until they could be interpreted and translated later. The Chester Beatty III papyrus, also known as *The Dream Book,* which dates from around 1300–1200 BCE, is the first known account of dream interpretation (Shushan, 2006). Dream literary works were found from the late 3rd millennium BC Mesopotamian civilization. Some of these manuscripts include stories about dreams, particularly those of royals. The dream of Dumuzi of Uruk is the earliest writing in this collection, and thus is the first known recorded dream. This dream is embedded into the greater epic of the *Descent of Inanna*. Interestingly, not only is the dream text itself included, but so is Dumuzi's sister, Geshtin-Anna's interpretation of the dream (Hoffman, 2004).

With the progression of time, the need for dream interpretation changed. Common people wanted to learn about their dreams and felt that this information should not be limited to the wealthy. Seers began to substitute interpretation for a fee that was within the reach of the average layperson (Singer, 2004). In the 2nd century AD, a professional diviner, Artemidorus Daldianus, also known as Ephesius, wrote dream interpretation books that helped ordinary people to understand their dreams. He wrote *Oneiricritica*, a five-volume work explaining what individual dreams mean and providing comprehensive theoretical insights into dream interpretation. The books became the most popular of such works and remained so for more than 1,500 years (Price, 1986).

To sum up, in the era before modern psychology, the Egyptians and other ancient cultures acknowledged the significance of dreams and their ability to guide and teach. As illustrated, the ways of interpreting dreams have evolved along with the ages. What began with priests and spiritual leaders, who may have been considered the psychoanalysts of their time, was eventually superseded by interpretation books.

Interpretation books were eventually replaced by rational psychiatry, psychoanalysis, and other types of psychotherapy. Even though the methodologies have evolved, dream interpretation remains a form of art that psychologists research to this day.

Scientific Theories

The meaning of dreams has sparked various discussions in the scientific and psychiatric professions. The purpose of dreams is a source of debate. There are various hypotheses about why people dream, yet dreams are difficult to investigate. Dreams cannot be retained or delayed, and others cannot see them. There is also a short opportunity for remembrance upon awakening. According to studies, 95% of dreams are forgotten within 10 min of waking up (Wamsley & Stickgold, 2011).

Dreams are often dismissed as meaningless by some neuroscientists due to the great likelihood that people will forget about them when they wake up (Paulson et al., 2017). The notion that dreams are meaningless was supported by John Allan Hobson, an American psychiatrist and dream researcher known for his work on REM sleep. During his research, Hobson discovered that electrical activity in the brain stem caused people to enter the REM period while sleeping. Hobson concluded that the brain's activation during REM sleep results from the cortex reacting to signals produced by the brain stem, rendering dreams a by-product of the process with no true significance (Barrett, 2017). The theory became known as the "activation-synthesis hypothesis." There is some evidence that the brain prunes excessive synaptic connections as people sleep during REM sleep. The brain simplifies overly complicated content created during the day through the pruning process, making it more generalizable for future use (Goldin, 2018). Simply said, dreaming aids the brain in unlearning information that will be useless in the

future. The brain would become cluttered with meaningless connections if it was not pruned, and the awakened thoughts would be bombarded with information (Friston & Hobson, 2012). According to this theory, dreaming is only an automated screening and filing system with no further significance.

The secondary visual cortex is active during the waking stage to put images together from what is being viewed. It is also activated when something is imagined. REM sleep causes the prefrontal cortex to become hypoactive, and the secondary visual cortex is more active than at any other moment (Adams, 2000). As the prefrontal cortex handles logical reasoning and the censoring of unwanted information; this reduced activity might explain the limited self-awareness and control during dreaming. Irrational elements in a dream, such as a talking cat, appear normal during the dream state due to the secondary visual cortex's activation and the prefrontal cortex's suppression (Barrett, 2017). Unusual objects only appear so after awakening, when the dream is seen with a more realistic perspective.

Another theory proposes that dreams occur due to the mind simplifying the events of the day and processing emotional material for future use during REM sleep (Adams, 2000). Eichenlaub et al. (2018) found that recent events incorporated into REM dreams are linked to frontal theta activity and have higher emotional intensity than experiences that were not incorporated, lending support to the theory that dreaming is a reflection of memory consolidation processes. Their findings suggested that the presence of recent waking-life events in dreams could be due to the continued consolidation of these new emotional memories in REM sleep. Emotional experiences are more likely than less emotional experiences to be incorporated into REM dreams (Eichenlaub et al., 2018).

Psychoanalytical Theories

Even dreams that appear to be average may have altered features. The oddities may present as metaphors, symbols, and expressions through examining (Paulson et al., 2017). While dreaming, the brain thinks in another neurophysiologic state, an environment disconnected from the outside world. Dreams could be viewed as stories or images that the mind creates during sleep. They could be vivid and could cause an emotional reaction upon awakening.

In contrast to the neuroscientific views on dreaming, psychoanalysts, clinicians who specialize in the unconscious mind, believe that dreams serve different purposes. Reviewing past documentation from early cultures' depiction of dreams and noticing similarities, researchers have proposed that dreams must have meanings (Paulson et al., 2017). They believed that dreams somehow are connected to activities of the conscious mind. However, without formalized theories and dreams being depicted in languages that were lost (e.g., cave drawings), early theorists had to rely on their own dream experiences to build their theories.

Early Theories. Sigmund Freud, the founder of psychoanalysis, studied and analyzed his and children's dreams for many years. He proposed that dreams are a compilation of pictures from people's everyday lives whose meanings correspond to the subconscious mind's desires. Freud stated in his theory that understanding dreams is important in understanding the nature of the mind. While researching the complexities of dreams, he developed a theory that dreams represent one's unconscious needs based on suppressed infantile desires (Freud, 1900). Even before people could fully understand the world around them, it is said that dreams contain elements of one's surroundings. In their

sleep, babies are often times suckling and, at times, appear to be moving towards

something in their dreams. This observed behavior would be classified by Freud as the

baby dreaming about an object they desire and wanting that need met (Freud, 1900, p.

27).

Information about an individual's environment is simple in early childhood

development because there is little interaction with the outside world. Dreams, according

to Freud, are undistorted wish-fulfillment that can be read easily and without the need for

analytic methods from infancy until the age of 4 or 5. On the other hand, dream distortion

is increasingly common around the age of 5, when children's worlds become more

sophisticated, and their experiences are no longer restricted to their homes. Having stated

that, due to the complexity of these dreams, interpretations require a psychoanalytic

approach (Freud, 1904). Dreams acquire diurnal residues from daytime experiences as

people age, and these residues interact with memories from childhood (Freud, 1900). For

example, in a session, a young adult client claimed that he began experiencing dreams

about chasing a childhood friend who had moved away. Upon further examination, the

client revealed that a coworker with whom he had a strong bond chose to quit without

notice. The client's earlier experiences appeared to have been awakened by the

coworker's unexpected disappearance.

In addition to wish fulfillment, Freud believed that dreams represent suppressed

urges that are reinforced at night. He claimed that dreaming demonstrates a primary,

unbounded hallucinatory mode of thought (Freud, 1895). According to the Freudian

perspective, clients' subconscious desires can be brought to the surface, and they might

perhaps overcome blocked points in their progress by analyzing their dreams in session.

While Sigmund Freud adopted a developmental perspective to dreaming, his student, Alfred Adler, took a more cognitive and practical approach to identify dreams' meaning. Dreaming, according to Adler, is a necessary aspect of forward-thinking and solution-oriented thinking. He also believed that dreams foretell solutions to problems faced by the dreamer's lifeline. (Adler, 1929). Adler's dream theory is founded on the notion that dreams are an essential tool for mastering control over one's waking life. Dreaming, unlike conscious thought, has no bounds or aims to attain certain objectives. A person can think outside of the box and solve issues in unexpected ways in a dream. Adler claimed that dreams provide answers to issues without requiring the individual to do anything new. Researchers later corroborated this, claiming that one may present a problem, examine its components, and find a solution while dreaming (Slavic, 1994). As a result, the brain may overcome problems that the waking mind has been stuck on in dreams (Barrett, 2017).

Although there are books on dream symbols that have been written, no study has proven that the interpretations of these symbols are true or universal (Hall, 1982). Unlike Freud, Adler did not believe in universal symbolism in dreams. He believed that dreams aim to evoke feelings in preparation for action (Adler, 1929). No two people are exactly the same because of people's experiences and backgrounds; it is proposed that the same approach be applied to dream interpretation.

A dream is a hidden door in the soul's deepest recesses, according to Carl G. Jung, a Swiss psychiatrist who worked with Freud for many years. According to Jung (1967), dreams might represent communal or universal material in the form of archetypes and reflect personal content. Archetypes are primitive mental representations passed down

from humans' oldest ancestors and stored in the collective unconscious (Fordham, 1966).

Archetypes represent inherent information buried deep inside the unconscious that can

assist the dreamer in achieving completeness by providing insights (Jung, 1967).

In his theory, Jung divides dreams into two categories: little and big. Little dreams

are regarded as everyday dreams that have little to no excitement. On the other hand, big

dreams are more vivid and unforgettable but occur less often (Jung, 1974). Jung also

noted that dreams are a spontaneous self-portrait of the unconscious situation. He claims

that people have problems understanding dreams while awake because dreams talk to

them in their unconscious language, including images, metaphors, and symbols (Jung,

1967).

According to Jung (1967), dreams have two purposes. The first function of

dreams is to compensate for psychic imbalances by conveying unconscious material that

the dreamer has purposefully repressed, ignored, or disregarded. The second function of

dreams is to provide future perspective representations. This is not to suggest that dreams

predict the future; rather, they generate possibilities and expectations for the dreamer's

future. Finally, Jung claimed that the primary goal of dreams is to unite the conscious and

unconscious worlds in a healthy and harmonious manner (Jung, 1967).

Modern Psychoanalytical Theories. Dream analysis appears to have taken on a

more integrated approach in recent decades, integrating historical theories with current

concepts. Luigi Longhin's works, for example, reflect Sigmund Freud's belief that dreams

are symbolic. However, he added that reconstructing an individual's emotional past

results in symbolic images in dreams. In addition, he suggested that dreams transform

presymbolic and preverbal experiences into symbols by merging parts from Jung's and

Freud's theories. Longhin emphasized the importance of dream interpretation because dreams reveal the inner world of dreamers (Longhin, 2011).

      According to Rubin Naiman (2017), a clinical psychologist specializing in integrative sleep and dream medicine, dreams should not be brought into the waking world. Instead, clinicians should be "willing to enter the dream world and look at the dream with dream eyes" (Paulson et al., 2017, p. 31). He further expanded by stating that "dreaming allows us to practice looking at the world with dream eyes. Then we can consciously use that kind of vision in the waking world, and things get weird" (Paulson et al., 2017, p. 31). To look at it another way, the meaning of dreams should not be taken too literally. While certain aspects of the waking world may appear in dreams, they should not be judged according to the same standards as real life. In addition, Naiman's former teacher had a distinct perspective on dreaming. He stated that his teacher believed "that life occurs primarily on the dream plane. When one returns to the waking world, they are experiencing the history of the dream. This can also serve to explain common déjà vu experiences as well as prophetic experiences" (Paulson, 2017, p. 39). As a result, people feel they are awake while they dream unless they are lucid. In dreams, the sensation of being awake creates intense emotional reactions, and déjà vu happens when something in the real world stimulates the same emotional response as in a dream.

      Dreams may have emotional content in addition to their visual information. In a 2010 article, psychoanalyst Barbara D'Amato stated that 45% of people's dreams involve aggressiveness, and 80% have negative emotions. Positive emotions, on the other hand, are uncommon in dreams. Anger, anxiety, and a sense of abandonment are common feelings in dreams. Nevertheless, these negative feelings have been shown to be

necessary for human survival. Dreaming is considered as a means of simulating escape

from dangerous situations under the threat simulation hypothesis (Revonsuo, 2000). An

animal's ability to "practice" dealing with dangerous situations in their dreams gives them

an advantage over other creatures. Aggression can be used to defend oneself or to

motivate. The brain replicates anxiety in dreams in order to better prepare individuals for

anxiety-related stressors in the waking world (D'Amato, 2010). In a dream, a person can

be experimenting with different options and exploring new approaches to survival-related

behaviors (Bulkeley, 2010).

      Aggression in dreams can be a means for the unconscious mind to communicate

with the conscious mind. Dream studies have shown that aggressive dreams tend to occur

during the REM sleep stage. Additionally, dreams are frequently more vivid and feature

more visual imagery during this stage of sleep. Consequently, it is hypothesized that

unconscious impulses are released when one is dreaming, but only in a tiny amount so as

not to disturb their sleep. According to D'Amato (2010), this increase in impulsion is

caused by one's defensive mechanisms diminishing while one sleeps.

      Barrett's (2017) dream research found that many non-Western cultures encourage

people to seek answers in their dreams. Problem-solving dreams are more commonly

seen within these cultures. Dreams are particularly beneficial for solving problems that

need abstract thinking. Brain studies have demonstrated that the same parts of the brain

that are active while learning a difficult task are active during dreaming, which supports

the idea that people may problem solve in their dreams. Sleep-dependent memory

consolidation is associated with dreaming of a learning task (Barrett, 2017).

In summary, most of the psychoanalytic literature on dreams contains elements of Freud's research. Because Freud was the pioneer of psychoanalytic theory, his theories were embraced, adopted, or wholly dismissed. Although theorists disagree on what purpose dreams serve, a review of the literature suggests that theorists agree that dreams are more than a random phenomenon that occurs while sleeping. Whatever method is used to analyze dreams, research has suggested that analyzing dreams could increase insight and personal growth (Zink, 2015). Dreams could connect the unconscious and aware states of consciousness, allowing unfulfilled wants or aspirations to be expressed. Dreams could also aid in solving problems the conscious mind cannot answer.

Dreamwork in Therapy

Most first-time clients perceive that therapy is like what they have seen in the media: someone lying on a sofa talking about their dreams and childhood memories. Although most therapists do not practice therapy in the same way that Sigmund Freud did, dreams are nevertheless discussed in sessions. Regardless of the clinician's theoretical approach, clients frequently describe their dreams without prompting. Hill et al. (2013) pointed out that even if a clinician is not trained in psychoanalysis, having a fundamental understanding of interpretation may benefit clients. Employing dream interpretations could help people shorten their time in therapy. A therapist might use dream analysis to get to the source of issues faster and promote behavioral change by focusing on dream messages. Furthermore, research has demonstrated that this intervention has no adverse consequences (Hill et al., 2013).

Dreamwork is used in sessions by psychoanalysts and other therapists because they believe it may help clients understand and integrate their everyday and past

experiences. Only 15% of therapists employ dreamwork (Hill et al., 2013).When looking at the content of the dreams, some clinicians believe that negative dreams represent the remains of poorly processed or unprocessed daily experiences (Goldin, 2018). As a result, an analysis might be established to assist customers by analyzing the dream out loud and examining the dreams not in the content of the dream world but in relation to historical or current events. Analysts and clients work together in a dream analysis session to piece together the actions and experiences in the client's dream. The therapist and client collaborate to provide an understandable interpretation. Additionally, dream analysis requires active participation from the clients, improving the therapeutic rapport and inspiring greater readiness for self-awareness and personal growth.

Hill et al. (2013) examined 46 psychodynamic psychotherapy cases. They observed that consumers were more likely to recall their dreams when they were invited to engage in dreamwork. These clients also reported having better sessions than those who were not encouraged to engage in dreamwork. It was recommended that all therapists integrate dream interpretation regardless of theoretical orientation and actively listen to their clients when they reveal their dreams.

Although psychanalysts believe that dreams have a deeper meaning and should be understood in the dream world, there is no universally accepted method for dream interpretation. Freud, for example, believed that clients are the experts of their lives and would best interpret their own dreams, and based dream interpretations on his clients' interpretations (Freud, 1900). Whereas psychoanalysts Spotnitz and Meadow (1976) believed that Freud's method takes the analyst away from the experience because the client's interpretation of their dreams is limited to their current insight. Spotnitz and

Meadow (1976) stated that the analyst is the expert on the unconscious mind and studied how to interpret dreams accurately. The analyst should take a more active role by first providing the interpretation and then asking the client for feedback (Spotnitz & Meadow, 1976).

While reviewing past sessions, Hobson (2008) noticed that the real meaning behind his clients' dreams was more in-depth than what was presented. He hypothesized that clients' dreams reflect the therapeutic relationship and should be analyzed during the dream interpretation. Associating dreams with therapy connections may reveal issues that the client is unaware of or does not know how to address within session. Hobson noted that a client's dream before the first session could be the most insightful and should be examined.

Though this study did not include therapy, the importance of dreamwork could not be ignored. Dream interpretation as a psychotherapeutic technique has demonstrated the importance of cultural context when interpreting dreams (Wagngpakran et al., 2014). In 2014, Wagngpakran et al. published their case study findings in which they used control-mastery theory (CMT) and Jungian dream theory to treat a young adult woman's culture-based nightmares disorder.

CMT, developed by Joseph Weiss, is an integrated form of psychotherapy that focuses on modifying a client's nonconscious and maladaptive beliefs formed as a result of failed attempts to achieve connection and safety in the client's family as a child (Pole et al., 2002). Weiss purposed that a client has an innate desire to be healthy, which leads to the client testing these ideas through transference and passive-into-active behaviors. When this testing is successful, the client can move on to more healthy goals. According

to the Jungian approach, unconscious tensions associated with life challenges manifest themselves in dreams, and dreams serve as a vehicle for people to express themselves (Wagngpakran et al., 2014).

After learning about the client's history, Wagngpakran et al. (2014) determined that CMT and the Jungian approach would be more effective for therapy. Through the use of extensive dream interpretation and making connections to the client's culture, she was able to resolve her subconscious cultural struggles, resulting in a cessation of nightmares (Wagngpakran et al., 2014).

Language and Multilingualism

People are exposed to spoken language as newborns even before they are able to talk. Language is a vital tool for people to communicate with one another. Language is described as a way for people to communicate with one another via spoken words, written symbols, or hand gestures. Language is sometimes described as a shared code that uses arbitrary symbols to express concepts. A shared code refers to the ability of speakers and listeners to communicate using a common or shared language (Levey, 2019). Parents and caregivers place much emphasis on verbal communication as a developmental milestone.

The universal process children learn to interpret and convey language is known as language development. Language development is a long, complex process that takes years to perfect, and follows a predictable sequence. Around 9 months of age, babbling infants can imitate adult speech; starting at the age of 12 months, they use single words that express a whole phrase and sentence. Children may form sentences with two or more words between 18 and 24 months. With the guidance of adults, children start to learn the

appropriate sentence form, that is, syntax, and how to use the proper past tense of words, that is, morphology (Levey, 2019).

Language is essential in development because once it is achieved, it becomes a significant step in accomplishing separation and individuation. The stronger the language skills become, the more children gradually separate from their family and learn to use language for communication with others (Bowker & Richards, 2004). Furthermore, language can express heritage, identity and pride, and emotional expression. For example, the Spanish language is often seen by the speaker as an agent for maintaining cultural traditions (Santiago-Rivera & Altarriba, 2002).

Multilingualism

Multilingualism refers to the simultaneous or sequential development of multiple languages and is more frequent than monolingualism in the world. Simultaneous development occurs when a child begins learning multiple languages simultaneously from birth. The child encodes in memory words and experiences that can be expressed in two or more languages. Conversely, in sequential development, an individual first learns one language and then another at any point in their life (Levey, 2019).

There are two main hypotheses on how multiple languages are processed in the brain. The single-system hypothesis suggests that multiple languages are represented in just one system or brain region. In contrast, the dual-system hypothesis suggests that multiple languages are represented in separate systems of the mind. Santiago-Rivera et al. (2009) reported that with multilinguals, people who speak more than two languages, language basics are stored for each language, with some overlap across specific characteristics. Research studies have shown that when a multilingual obtains words in a

language other than their original language, they are connected through lexical links to words stored in the first language. During the early stages of multiple language development in the sequential form, the first language is used as an aid as proficiency increases in the newly learned language(s). Subsequently, as an individual becomes more proficient in the other language(s), conceptual memories are formed (Santiago-Rivera et al., 2009).

Numerous research studies have indicated that the earlier a person learns a new language, the higher the chances for mastery. Early childhood is the optimum period for developing a second language because children's brains are more plastic and flexible, allowing new information to be retained. Furthermore, research suggests that learning a new language as an adult is more difficult because adults' linguistic connections in the brain are already deeply linked to their original language. The existing linguistic connections make it more difficult for newer connections to emerge with the new language. On the other hand, adults may still acquire a new language, but not at the same rate as children (Sternberg, 2011).

When a speaker switches between two or more languages in the same conversation, this is known as code-switching (Sternberg, 2011). When interacting with other multilinguals, they may employ components of many languages. When words or phrases exist in one language but not the other, switching between languages could occur. Code-switching may occur when the individual wants to speak about something; however, instead of using the extra energy to translate the thoughts from one language to another, they switch to the more natural language (Santiago-Rivera et al., 2009). Additionally, code-switching can happen both consciously and unconsciously. Switching

from one language to another could serve to maintain the multiple languages (Santiago-Rivera & Altarriba, 2002).

According to research, multilingual children integrate and or arrange information from two languages, and as a result, this provides cognitive advantages in terms of intelligence (Kormi et al., 2003). Learning a second language has been demonstrated to enhance rather than detract from an individual's abilities in cognitive studies. In other words, acquiring a second language really enhances one's abilities rather than detracting from them. People who speak multiple languages have access to unique opportunities and experiences that are not possible for a monolingual individual to have. Multilingualism has been found to improve intelligence, creativity, reasoning, classification skills, problem solving, learning methodologies, and flexibility in thinking (Bialystok, 1999). Kormi et al.'s (2003) study found that bilingualism had a good influence on children's long-term memory, which is consistent with previous research. Bilingual children have better episodic and semantic memory than monolingual children.

Language and Autobiographic Memory

As a result of recent breakthroughs in research on bilingual memory, researchers propose that bilingualism may have an impact on the formation and functioning of memory in general, as well as on certain memory processes or memory types in particular. Recalling childhood and adolescent memories in the native language is more frequent, more detailed, and emotionally marked than recalling them in the second language, according to research on bilingual autobiographical memory. Evidence suggests that memories from childhood and adolescence that were experienced in one's native language are emotionally richer when recalled in that language (Schrauf, 2000).

Findings indicate that language, in general, may have an impact on not only autobiographical memories but also memories that are rooted in specific situations and events.

During their research, Marian and Neisser (2000) discovered that autobiographical memories stored in a given language are more easily recalled when the retrieval cue's language matches the language used during encoding rather than when the languages of encoding and retrieval are dissimilar. Furthermore, bilinguals may be more likely than monolinguals to recall specific episodic experiences from their childhood and adolescence in the language in which they grew up. There does appear to be some indication that bilinguals may be more likely than monolinguals to have more language-dependent retrieval in some domains. Dual language and cultural knowledge, according to Santiago-Rivera and Altarriba (2002), is held by bilinguals in two sets of memory. The first language may contain information about experiences that occurred during early development, whereas the second language is more associated with events that occurred during adulthood. Observing that bilinguals engage in procedures that involve language coding, storage, and retrieval, she noted how it appears that engaging both languages when doing so yields more diverse information than using only one language. This suggests that speaking two languages could be more advantageous as it allows an individual to acquire access to a broader range of knowledge than they would otherwise be able to obtain.

Language in Therapy

Even though multilinguals outnumber monolinguals, in the United States, most therapy sessions are still performed in English, either because it is the therapist's only

language or the client's preference. Analyses were frequently undertaken in various languages in the earlier years of psychology. Clients were often treated in their preferred language by Freud, who was a multilingual. Despite employing multiple languages in therapy, records show that Freud made few references in his publications to clients' use of multiple languages in the analysis. Ralph Greenson, the first clinician to write about multiple languages in psychoanalysis, discovered that clients had distinct identities depending on their language in therapy in 1950 (Bowker & Richards, 2004). Subsequently, the literature on the use of language in therapy has noted that clients in a multilingual therapy may use different languages in the therapy as reflections of dynamics within the inner self (de Zulueta, 1995).

It is possible that confining the conversation to English (for multilinguals) could lead important components of the client's conscious and unconscious to be neglected in therapy. It is theorized that when people acquire emotional words in their first language, they are remembered at a deeper level of representation than their equivalents in other languages. According to research, emotional words in the second language have a substantially smaller variety of feelings and associations on various dimensions than those in the first language (Santiago-Rivera & Altarriba, 2002). As a result, speaking in a language different than one's native language may not have the same therapeutic effect. Contrarily, some people could refuse to speak in their native language because it triggers painful memories. A person who has experienced prior trauma may use a later learned language as an unconscious barrier against repressed memories resurfacing. For instance, while working with bilingual clients, Dr. Felicity de Zulueta had a client that refused to speak her native German language. The client expressed that she dreaded speaking

German because she thought it would make her remember events she did not want to remember (de Zulueta, 1995).

A monolingual therapist dealing with a multilingual client might worry if the client's English will allow them to progress further in treatment. To answer this concern, Bowker and Richards (2004) interviewed monolingual therapists of bilingual clients to explore any challenges they may have faced while working with clients whom they could not speak their native tongue. Bowker and Richards discovered from their interviews that therapists frequently put more effort into paying more attention to their clients' communications on all levels. The therapists justified their attentiveness as a means of filling in any gaps. As a result, the data revealed that the increased attention aided in forming good working alliances.

It is typical for psychotherapists to notice code-switching with their polylingual clients during a session. Lum and Wade (2016) noted that emotionally charged content, especially associated with suppressed and early memories, tends to be more available to clients when using their first language. The use of a second language might be a protective strategy, allowing for more distance from emotionally charged material. Lum and Wade advocated that monolingual and polylingual therapists pay attention to code-switching and use it as a therapeutic tool to assist clients in expressing themselves and dealing with specific difficulties. In addition, allowing clients to articulate specific emotional phrases in their first language and translating them into the second language could help both the client and the therapist identify areas of concerns and options for resolutions (Lum & Wade, 2016).

The Influence of Language on Dreams

As previously stated, there is little research on the topic of exploring language in dreams. However, a study connected language and cultural significance in dreams. Lum and Wade (2016) investigated the significance of the first and second languages in the bilingual dreams of immigrant participants. In their study, they came across a theme they labeled ambicultural self, a person who accepted both their native and new cultural identities. A person with an ambicultural self has the ability to bridge conflict between the first- and second-language cultures by using both languages. In contrast, individuals who lack an ambicultural self tend to have conflicts that leave them feeling trapped or helpless in the second-language environment, which causes them to go back to their first language environment.

Lum and Wade (2016) noticed this same behavior in their participants' dreams. Ambicultural participants could bridge the gap between their two cultures by dreaming in both languages. However, the participants that lack an ambicultural self, tended to dream mostly in their native language, no matter how proficient they were in the second language. They concluded that multilingual dreams might help the therapist and client gain greater appreciation for the second language experiences. Additionally, they noted that multilingual dreams could reveal repressed early life experiences and traumas associated with leaving the original culture.

Purpose and Rationale for the Current Study

Despite the fact that not all of Freud's techniques are used today, dreams are still mentioned in the literature and utilized as case conceptualization aids in clinical settings. Numerous case studies exist in which dream analysis assisted in the resolution of sleep

disorders as well as the release of suppressed desires and unfulfilled needs from childhood (Anderson, 2016).

Dreams happen outside of therapy and are considered to be able to reveal important emotional content. Dreamwork is used in sessions by psychoanalysts and other therapists because they believe it may help clients understand and integrate their everyday and past experiences. According to studies, employing dream interpretations can assist a therapist get to the core of a problem faster and promote behavioral change by focusing on the dream messages (Blass, 2002).

In the United States, most therapies are conducted in English, even when the client's native language is not English. This can be problematic because the recovery of autobiographical memories appears to be linked to the language employed at the time of the occurrence. Some scholars claim that early memories imprinted in the first language cannot be relived in the words of a later learned language with the same effect (Santiago-Rivera & Altarriba, 2002). Consequently, important memories might not arise or be disregarded if only English is used in therapy. Theoretically, therapy could set in motion a chain of events that will eventually lead to vivid dream experiences.

Research investigations have indicated that the language used by clients might also reveal their comfort level in the therapy setting or their surroundings (Lum & Wade, 2016). Code-switching throughout the session may provide some protection. However, no research has been done to see if code switching is connected to the content of dreams. In a session, code-switching is done intentionally, but what happens when multilinguals dream, and their conscious actions are not available?

Even though multilingual clients may have dreams in different languages, therapists may still be able to understand and help them identify meanings or patterns. A psychoanalytic therapist could help their polylingual clients uncover what is blocking them from becoming more completely competent and emotionally robust individuals in their cultures by investigating the linguistic content of their dreams. The findings of this study are significant as they have the potential to be applied in future therapeutic environments.

Many questions remain about the relationship between language and content in dreams. This study aimed to fill a gap in the literature and expand on the knowledge of the relationship between language and dream content in persons who speak several languages. Currently, most multilingual research focuses on two languages: Spanish and English, leaving many languages excluded and people who speak more than two languages underrepresented. To address this oversight, this study aimed to be inclusive of diverse languages and include multilingual individuals.

The aim of this exploratory research was to determine the languages multilinguals use when dreaming, the frequency of each language used in dreams, and the connection between the language and content of dreams. This study examined and compared the languages that were used in dreams that involved everyday life activities, problem-solving, past events, and recurring dreams to real life uses of the languages. Additionally, changes between simultaneous and sequential multilinguals' dreams were investigated.

Chapter 3: Method

Participants

Nine individuals between the ages of 18 and 35 participated in the present study. All individuals met one of the following three criteria:

1. Grew up in a family that used a language other than English and learned English later in life to be able to communicate with others outside of their culture.

2. Grew up in a family that used English but learned other language(s) later in life for the purpose of being able to communicate with others outside of their culture.

3. Grew up in a family that used both English and another language simultaneously.

Individuals had to be 18 years old or older to participate in this study. Because prior research studies have indicated that adults are more reliable in recalling their dreams, the target age was 18 or older. Participants were multilingual and fluent in speaking and writing multiple languages in addition to satisfying one of the three requirements. English was included because English was the only language that I spoke fluently.

Participants were required to have a history of being able to remember dreams and experience weekly dreams in order to take part in this study. In addition, only people whose dreams included spoken languages were allowed to take part. This research required that participants obtain at least 8 hr of sleep every night. The 8 hr threshold enhances the likelihood of REM sleep and having dreams that can be recorded (Paulson, 2017).

Participants were not allowed to participate in this study if they had been diagnosed with a sleep disorder or fulfilled the criteria for one, or used any REM sleep-

suppressing medicines—either prescription or over-the-counter—such as antidepressants, antianxiety medications, and sleeping drugs.

Recruitment

For this study, a convenience sample was employed. A local university and social media (Facebook and Reddit) networks were used to recruit participants, by using an outreach email (see Appendix A) that was preapproved and issued by the program's dean or sharing a social media ad with the same information.

When a participant indicated an interest in the study by contacting me, I gave the participant an informed consent form (see Appendix B) with the opportunity to ask me any questions about the study ahead of time. Participants could win one of four $50 Amazon e-gift cards in a drawing following the final interviews to compensate for their time.

After signing the consent form, individuals were provided a link to a preinterview screening questionnaire (see Appendix C). In the screening survey, demographic information, language history, sleep disturbances, and dream recall questions were included. To preserve potential participants' privacy, their questionnaires were kept in a locked cabinet.

Data Collection

Intake Interview

Individuals who satisfied the requirements of the screener survey were invited to participate in the intake interview. I asked individuals chosen as participants to schedule a Zoom interview at a time and date that was convenient for them. Each participant had an hour-long semistructured interview in a comfortable place mutually agreed upon which

ensured the interviewee's confidentiality. The interviews were conducted in a nonclinical,

private setting that enabled both the interviewee and the interviewer to concentrate on the

conversation. At the start of each session, I checked the digital recording device to record

the interview, gave a quick introduction to the participants, and expressed thanks for their

time in the study. The interviewees were informed that I would reorder and transcribe the

session after it took place. Participants were informed that their personal information

would be de-identified and that all materials would be maintained in a secure area.

The interview covered the survey questions on the participant's background (see

Appendix D), including age, gender, ethnicity, and culture. The protentional participants

were also asked follow-up questions from the linguistic history questionnaire (see

Appendix F). Interviewees were asked about their feelings, views, and experiences with

dreams. They were also asked when they utilize particular languages and how frequently

they communicate in them.

Dream log

The participants were asked to maintain a dream journal for 2 weeks after the

initial interviews. I created and adjusted the logs (see Appendix G) to meet the study's

criteria. It was explained to the participants that they only needed to record spoken

dreams in the language(s) spoken. The participants could either use the provided dream

log or write in a notebook and then transfer the information to the log. The participants

were told to provide the logs to me by encrypting them and emailing them. Participants

had the option of submitting their logs daily or waiting until the conclusion of the 2

weeks. Before wrapping up the session, I showed each participant their screen and

walked them through the steps for filling out and encrypting the log. The participants

received their dream logs and instructions for encrypting documents through email (see Appendix H).

Follow-up Session

Idouble-checked the log after 2 weeks to confirm that everything was completed accurately. If there was any missing information in their logs, participants were notified via email and given the opportunity to fix it.

The nine participants were contacted through email, and follow-up sessions were set up. The follow-up meetings lasted 1– 2 hr and were audio-recorded so that I could transcribe them afterward. The participants' dreams were recorded in both the original languages and in English if English was not used. Participants were asked to have their logs ready on their screens prior to the start of the session. The participants were asked to examine their account of the day preceding each dream during the follow-up sessions. The participants were then asked to tell me about their dreams in the original language. The participants' dreams were read aloud, which helped explain some of the terminologies in the logs. After then, the participants were asked to translate their dreams into English so that I could comprehend them.

After each dream, the participants were asked what might have caused their dreams. Following this question, participants were free to make any connections between their cognitive and unconscious worlds. In addition, I asked clarifying questions about the dreams in order to better identify any underlying relationships, such as childhood events or ongoing external concerns.

Following the final reported dream, each participant was asked to recall what they had noticed in regard to their dreams during the preceding 2 weeks. Before the session

ended, the participants were given a debriefing. The study's purpose was explained to the participants and how their dreams would be used, and all of their questions were answered. After all the participants were debriefed, the raffle winners were contacted by email with an e-gift card attached.

Data Analysis

This research used a modified constructivist grounded theory for coding. The constructivist grounded theory examines the participants' data, and themes are developed from shared experiences and connections (Charmaz, 2006, p. 130). Participants were asked to recount their dreams and provide their interpretations in this study. Finding common patterns throughout the dreams was used to code them. The three main pattern characteristics that were used during coding the participants' dreams were (a) similarities (things that happen the same way); (b) frequency (how often or seldom); and (c) correspondent (relation to other activities or events; Saldana, 2015, p. 5). There was also a look at the cognitive features and meanings of multilinguals' dreams to see whether there were any common language-based dream themes.

Chapter 4: Results

As a result of the outreach letter and social media posting, I received 20 inquiries. Only 18 of the 20 scheduled interviews were conducted as a result of two participants failing to appear for their scheduled appointments. Ten of the 18 respondents met all of the study's eligibility requirements and were subsequently invited to take part in the study. One of the participants was contacted prior to the final follow-up interview in order to make modifications to the submitted logs (writing the dreams in the language spoken). This was done to ensure that the logs were accurate. The participant did not make any attempt to make the necessary changes, and as a result, was removed from the study for failing to adhere to the dream log guidelines. A final total of nine people were recruited for this research. The participants included four women and five men, between the ages of 23 and 39. Table 1 summarizes the age, gender, and ethnicity of the participants.

Table 1

Characteristics of the Participants

Characteristics	*n*
Gender	
Female: 4	4
Male:5	5
Age	
18–19: 0	0
20–29: 4	4
30–39: 5	5
40+: 0	0
Native Country	
Albania: 2	2
India: 4	4
Kenya: 1	1
Portugal: 1	1
Serbia: 1	1
Current Residing Country	
United States: 6	6

Characteristics	n
India: 2	2
Greece: 1	1

One of the study's primary objectives was to include a varied range of ethnic origins and languages. The nine participants identified the following ethnic backgrounds: Indian (4), Portuguese (1), African (1), Albanian (1), Greek (1), and South Slavic (1). At the time of the study, six participants resided in the United States, two participants lived in India, and one participant lived in Greece. All of the participants were born outside of the United States (see Table 1). The age of immigrating to the United States ranged from 5 to mid-20s. Participant 1 moved from Albania to Greece when he was 12 years old.

In the study, participants indicated that they were fluent in a total of 17 languages, with English being the most frequently mentioned language (see Table 2). One participant could communicate in two languages, five participants could communicate in three languages, and three participants could communicate in four languages. Two participants had studied English with their native language. The majority of those who took part in the study acquired English as well as another language before they reached the fifth grade. Two individuals, on the other hand, began learning a third language when they were 14 years old. Eight of the nine participants used English as their primary language at work or school, whereas one participant from Greece used Greek as her primary language the majority of the time. While at home, three individuals stated that they alternated between English and their native tongue.

Table 2

Daily Life Languages Reported by Participants

Languages	Participants
Albanian	2
Arabic	1
Croatian	1
English	9
German	1
Greek	1
Gujarati	1
Hindi	4
Italian	1
Kannada	1
Marathi	1
Portuguese	1
Serbian	1
Spanish	1
Swahili	1
Tamil	1
Telugu	1

All of the participants stated that they utilized code-switching on a regular basis in their real life, and that it was most frequently employed when interacting with friends, family members, and significant others. Although participants were fluent in more than two languages, only about two languages would be used in interactions in daily life.

Languages in Dreams

At the end of the 2 week period, 58 verbal dreams and seven nonverbal dreams were submitted for examination. The dreams dreamt by the participants varied in quantity, ranging from as few as three to as many as 10 in number per individual. The dreams that were reported in the log tended to be brief, about one or two paragraphs, with few interpersonal conversations. The conversations ranged from one set of back-and-forth dialogue to five. However, Participant 1, who had the most dreams, 10 in total, had

the most comprehensive and lengthy dreams. His dreams were one to two pages in length, with numerous detailed conversations. Overall, the participants' logs included entries for native languages as well as languages learnt later in life. Regardless of the fact that English was not any of the participants' native language, it was the language in which they most frequently dreamed. It can be seen in Figure 1 that English was used in 51% of the 58 dreams that were reported.

Figure 1

Each Language's Dream Percentage
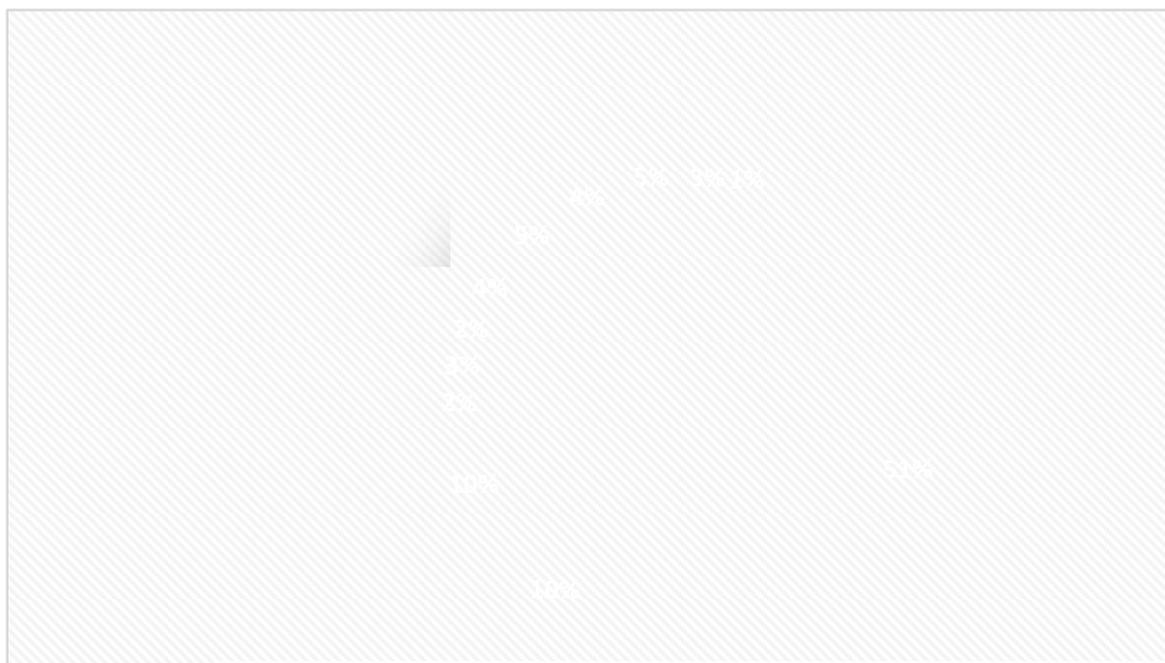
Even though 17 spoken languages reported, not all were employed in the dreams. Only three of the participants were able to dream in all of the languages they are proficient in. In his dreams, Participant 1 left out his native tongue, Albanian. Participant 5 did not experience any German dreams despite learning it at age 10. Despite being competent in Marathi since the fourth grade, Participant 8's dreams had no usage of this

language. Likewise, Participant 9 was fluent in Italian, yet it was not used in her reported dreams.

Switching Between Languages

During the initial interview, six participants reported that they are aware of code-switching in their dreams. Two participants reported that code-switching does not occur in their dreams and one participant was not sure. For those who reported being aware that code-switching occurs in dreams, they stated that it happens when their dreams involve family, friends, and peers. The analysis of the dream logs revealed that the participants' dreams reflected the same usage of languages as they did in their regular lives. Dreams containing only one language and code-switching are documented in each participant's dreams. Figure 2 shows how often single-use languages occurred and in what language.

Figure 2

The Frequency of Dreams in a Single Language
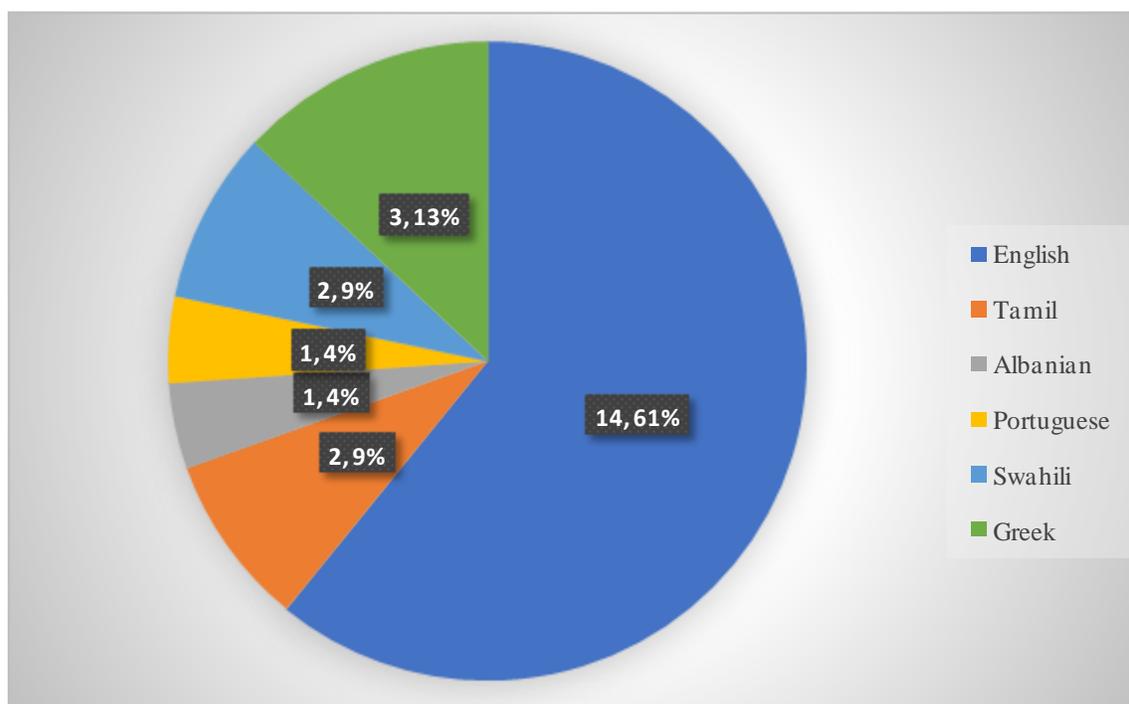
The frequency of code-switching in dreams reported by all participants ranged from 20%–100% of dreams, with an average of 66% of reported dreams. The bulk of the code-switching dreams had English mixed with another language(s). Most of the described code-switching dreams only contained switches between two languages (See Figure 3). Even though eight of the nine individuals are polylingual, code-switching between only two languages happened more frequently.

Figure 3

The Occurrences of Languages in Code-Switching Dreams
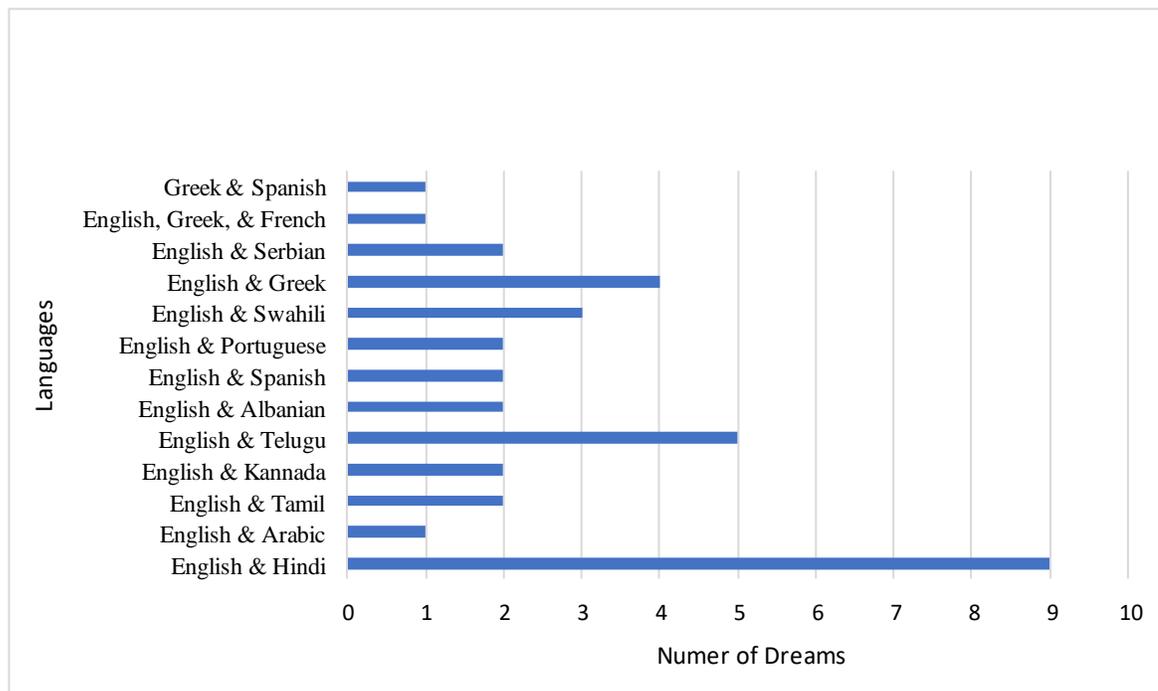
Notably, Participant 1 was the only one who dreamt in three languages in one dream. Surprisingly, one of the three languages utilized in Participant 1's three-language dream was not one of his knowledgeable languages. He claimed that in his dream, he was attempting to get the attention of an unfamiliar female by utilizing several welcome words in different languages. In this dream, he began with the languages he was already

fluent in, but he was unsuccessful. Participant 1 stated that he attempted to use French, which he is not fluent in, because he was familiar with a greeting phrase. He expressed amazement at how well it worked, and the individual in his dream responded. Even though he does not speak French, he knew that the individual in his dream was conversing in French. Participant 1 was able to create a French dialogue for the unknown women despite not knowing the language. However, it is impossible to establish if the woman was speaking French or uttering words that may be understood in that language.

In addition to the dream that Participant 1 previously recounted, he experienced another dream in which he spoke in a language he was not proficient in. He and another were speaking Greek when he spontaneously exclaimed "Feliz Navidad," which is Merry Christmas in Spanish. The dream did not occur around Christmas, nor was it that time in real life.

Dream Content Themes and language

Daily life, pandemic/Covid-19, interpersonal conflict, previous events, painful experiences, future events, problem-solving, morals/values, abstract with underlining meaning, phobias, and repetitive nightmares were the themes found in the participants' dream logs. Some dreams fit into multiple categories in this study. This section will go deeper into these themes and their connections to language. Figure 4 outlines the language types and the usage in each theme.

Figure 4

Dream Themes Compared to Language Use
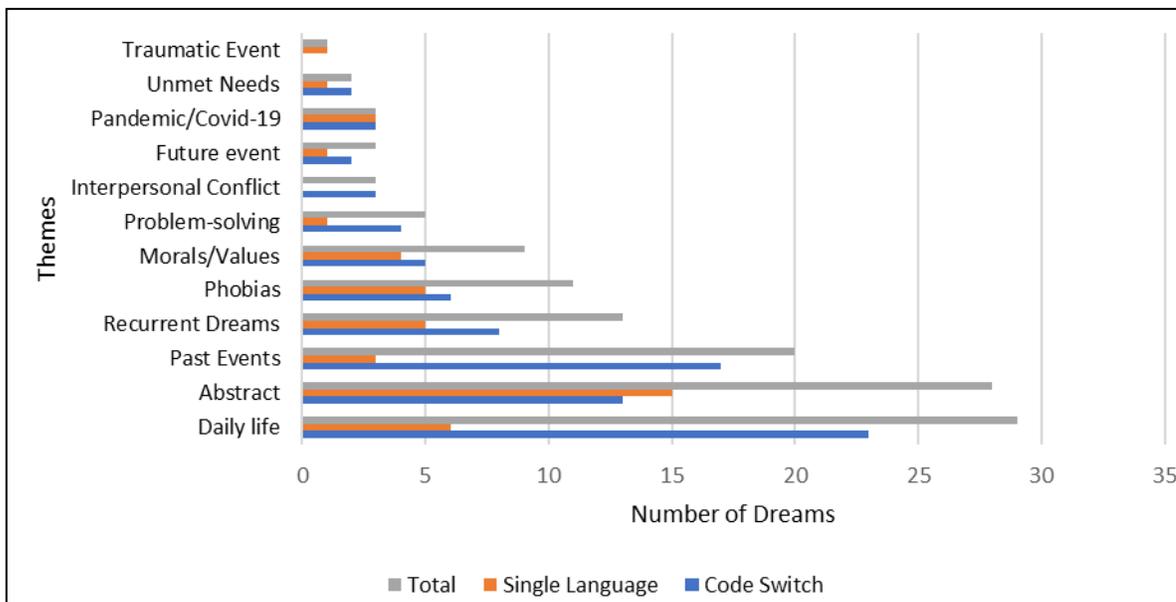
Daily life dreams contained current work or school events and daily stressors. Twenty-nine out if the 58 recorded dreams contained daily life content, which was the most commonly dreamt theme. Often, the dreams contained daily events ranging from the same day to a week prior to the dream. During the follow-up interviews, participants reported that when their daily lives had strong emotional events, they dreamt about those situations. For instance, Participant 8 noted that she was feeling the stress of having important assignments due soon during the study. All her dreams that were recorded contained content about school or those assignments. She even dreamt that her parents came into her room during her online class, ruining her important assignment.

The abstract and metaphoric dreams were the second most prevalently dreamt subject with 28 recorded dreams. These dreams featured real-life situations, but they were not based on any specific incident. Furthermore, these dreams may include a fictional

storyline, such as scenes from a television show. When Participant 1 reported a dream in the log, it was a national holiday, and a folk song was playing on the radio continuously. He had a dream that he was the knight from the song. He attempted to retrieve an unknown and unseen lady in his dream while battling guards and a king. Apart from portraying the song, Participant 1 stated that the dream reflects his desire to protect others. He further mentioned that the dream might indicate his yearning for a partner and inability to find one. The majority of abstract and metaphoric dreams were dreamt in English, even though the participants' first language was not English. When asked, most participants said they used English to express more complex thoughts and feelings.

The third most frequently dreamed theme was past events, 20 dreams, with code-switching, 17 dreams, being the predominant form of communication. Past events dreams could include experiences as late as childhood or as recently as a year ago. Some dreams took place in the current time but had circumstances that occurred in the past. For example, Participant 4 had a dream that he was back at home, waiting for the bus like he did when he was a youngster, but he was an adult this time. Like she did in the past, his mother stood near and watched him board the bus. When Participant 4 boarded the bus, it was empty, which was not the case when he was a child. He believed that the current pandemic and travel limitations were why the bus was empty.

Early childhood dreams tended to be dreamt in the same languages that the individuals used when the events took place. However, Participant 9 experienced an out-of-the-ordinary childhood-related dream. She dreamt about a tragic childhood occurrence in which she nearly drowned in a body of water outside her house. Participant 9 could not yell for help in the real event because she was battling to keep afloat. However, in her

dream, Participant 9 was shouting for help in English. Participant 9 stated that shouting

for assistance in English was not the appropriate language because, at that time, she

only spoke Albanian. The participant stated that she was unsure why she spoke English in

this dream.

Regardless of the fact that the global epidemic of Covid-19 was taking place at

the time of this study, only two people reported having Covid-related dreams, with a total

of 6 dreams. As a result of the lockdowns and other Covid-19-related material, many of

the dreams depicted venues that were normally crowded, such as movie theaters and

sports stadiums, being devoid of patrons. Also, people in the dream were wearing masks.

For example, Participant 3 dreamt about forgetting his mask at home. He frantically went

from store to store in the dream, trying to buy a new mask with little success. Participant

3 noted that he has this type of dream often. Additionally, four people reported having

anxiety-inducing dreams the following night as a result of the morning occurrences

associated with Covid, such as learning that someone they know contracted Covid or

feeling the stress of being away from family and friends as a result of the mandated

restrictions. It was discovered from the logs that both single-use language and code-

switching occurred equally frequently in the Covid-19 category. The use of language(s)

in the dream appeared to be indicative of the characteristics of the people involved. An

individual's home language tends to be the primary source of their single-use language

dream, in this case.

The prevalence of dreams with code-switching versus single language usage

slightly differed for the themes containing morals and values, phobias, and future

occurrences. In each category, switching between languages in dreams happened just

once more than single language dreams, as shown in Figure 4. According to the data, there was no difference in the importance of language use across these categories. The findings could be explained by the fact that these dreams occurred less frequently in this study.

In the interviews, all participants reported that they use code-switching regularly in conversations with friends, significant others, and family members. Correspondingly, code-switching was employed in dreams that contained interpersonal interactions and conflict. The languages used in the dreams corresponded with languages spoken by the participants with their friends, family, and others, in real-life. For example, in a dream reported by Participant 3, he was conversing in Spanish with a Spanish-speaking companion. When his English-speaking friend entered the room, Participant 3 switched from Spanish to English. Notably, participants who often mix English and another language in their regular conversations in real-life experienced dreams reflecting this same language usage pattern. The dream logs showed that code-switching was more prevalent in recurring and problem-solving dreams, 4 out of 5 dreams. Furthermore, the dreams with singular language often appeared to be in the participant's native language.

Simultaneous and Sequential Comparison

The findings from the dream logs do indicate that there was a noticeable difference between dreams in which the languages were learnt simultaneously and those in which they were learned sequentially. The number of occurrences of the languages that were taught simultaneously was 35 in the study group. Whereas the total number of occurrences for sequentially learned languages was 46, the most commonly utilized sequentially learned language was English, which had 40 occurrences overall. Along with

the use of simultaneous and sequential languages, a number of these languages were

absent. During the course of the study, three native languages that were learnt through

simulation with another language did not occur. In addition, there were no instances of

three languages that were acquired in a sequential manner.

Chapter 5: Discussion

The overall goal of this study was to add further research to the field of multilingualism dreamwork study. More than 350 languages are spoken in the United States, according to the United States Census Bureau (2015). The languages spoken by Americans are not uniformly dispersed around the country. English is the only language spoken by more than 95% of the population; in other areas, more than half of the population speaks a language other than English as their primary language (United States Census Bureau, 2015).

In the United States, most past dreamwork research has focused on bilingual persons who spoke both Spanish and English. A review of previous dreamwork studies shows the need for further research diversity in languages and for people who can speak more than two languages. This study included diverse languages, with no limit on the number of languages that a single individual may speak. Including an individual's other language(s) may assist bridge the gap between content and expression in dreams. Multilinguals in this study used singular language and multilingual dreams to communicate their present conscious thoughts to the unconscious mind.

The study's main goals were to add to the literature and broaden the understanding of the connection of language and the content of dreams in multilinguals. This study concluded that multilinguals' daily life languages, whether their first or later learned language(s), were mirrored in their dreams. Despite English not being the native language for most participants, it was the most commonly dreamt language. By adapting English into daily means of communication and often using it more frequently for work and sschool, the English language influenced dreams more. The use of English, according to

Santiago-Rivera and Altarriba (2002), would be the participants using their second for of memory that involves later learned or more frequently use language related with adulthood events.

It was observed that multilinguals tended to have specific languages they use outside of their homes, generally one, but when they are with friends or family, they switch to a different language or utilize code-switching. According to this study, multilinguals appeared to adjust their language use to the target audience in their dreams. The records revealed continual code-switching and linguistic matching with whomever they dream about. Even though there are no constraints in dreams, multilinguals tend to stick to the linguistic systems they have formed with certain people or situations in real life. For example, a multilingual relocates outside of her own country and utilized English in the majority of her everyday conversation for years. When she dreams about her native-speaking grandma, she and her grandmother will more than likely converse in their native language rather than English. Furthermore, Marian and Neisser's (2000) findings, which are referenced in the literature review, corroborate this research's conclusion that the language in which the information was encoded will almost certainly be employed in dreams.

On the other hand, multilinguals appear to have fewer constraints on their language use in their dreams. In dreams, individuals tend to have less control over their activities, leading them to engage in unusual behaviors. This concept appears to be the case for languages in dreams. Language may expand beyond the dreamer's known languages if they have the freedom to converse with no restrictions, such as no known person or familiar surroundings. In this study, a participant utilized two languages in

which he was not proficient but had minimal exposure. Participant 1 hypothesized that he used Spanish, even though he only knows a few phrases, as a way to cope in a stressful dream. Participant 1 stated that he might have said Feliz Navidad to relieve the stress he was feeling during the dream. He commented that Christmas is his favorite holiday and thinking about it makes him happy. It appears that Participant 1 used another language as a coping mechanism. Interestingly it appears that even if a person is not proficient in a language, frequent exposure to the language or hearing phases may lead the unlearned language to be employed in dreams when the content requires it.

However, being proficient in a language does not guarantee that it will appear in dreams. The study's dream logs revealed that a person's native or learned languages are not always dreamt. Only three of the nine individuals experienced dreams in which all of their spoken languages were present. In contrast to the other subjects, Participant 6 frequently speaks in his native Gujarati; however, it did not occur in any of his dreams throughout this study. Similarly, Participant 1's dreams did not contain his native language, Albanian. Contrary to Participant 6, Participant 1 rarely uses Albanian. He noted that because he has a strong connection and pride in his Greek heritage, he prefers to speak Greek in daily life than his other learned languages. Participant 1's strong moral conviction regarding his everyday use of language might explain why his preferred language occurred more in his dreams and the language he has the least connection with was absence.

An analysis from the dream logs indicate that multilinguals are more likely to experience bilingual dreams. The majority of the described code-switching dreams involved only two languages. Despite the fact that eight of the nine participants are

multilingual, code switching between only two languages occurred more frequently. The results from this study seem to imply that multilinguals' daily code-switching between two languages explains their restricted language use in their dreams. Nevertheless, it appears that it is impossible to predict when a certain language would emerge in a dream. Even though English was acquired sequentially with a native or supplementary language, it was commonly mentioned in dreams. Furthermore, both native and sequential learned languages did not appear in the reported dreams. Three native languages that were learned concurrently with another language did not occur during the duration of the study. Additionally, three languages acquired sequentially did not appear in the reported dreams. However, there could have been a possibility of more languages appearing in the dreams if the study had been longer.

Daily life dreams were the most prevalent theme uncovered in this study. Seventy-nine percent of the participants' everyday life dreams involved code-switching. The participants were typically conversing with at least one other individual during the code-switching dreams. The participants in the singular language dreams were either alone or with well-known individuals who speak only one language in real life. According to the records, the languages used in the dreams appeared to be identical to those used in real-world settings. The findings point to the fact that space and social awareness affect the participants' language choice in dreams.

Abstract metaphoric dreams were found to be the second most common type of dream in this study. Interestingly, this theme made the most extensive use of monolingualism. Participants reported in their interviews that they frequently switched from English to their native tongue for creativity and complicated expressions in real-

world interactions. This may explain why the individuals had more dreams in which they employed English as a means of expression. The complexity of the content of abstract and metaphoric dreams appears to have kept participants from deviating from the strategies they use in ordinary life to comprehend difficult material more successfully. Thus, recorded dreams support the notion that whatever language a person uses in a certain context or in everyday life is more likely to be employed in similar scenario dreams.

Past events were the third most commonly dreamed about theme. The majority of dreams with previous content featured code-switching, which reflected the way the events were processed. Likewise, this evidence corroborates Marian and Neisser's (2000) theory that multilinguals will retrieve memories in the language it was encoded. However, one participant's dream did not follow this pattern. Although no language was utilized during the actual real-life occurrence, a language was employed throughout the dream version. Additionally, the language employed was not authentic to that era but rather the participant's present second language, English. Interestingly, introducing languages into a dream of a real-life past circumstance devoid of verbal content appears to be more flexible than a previous occurrence with a pre-established verbal dialogue. In other words, if the event's language script is not generated during the event, the event may be modified and altered by current events, such as current language usage.

Over the 2 weeks of this study, participants' dreams had a variety of themes consistent with what the early theorists anticipated. Participants dreamed about current problems, consistent with the Adlerian idea (Adler, 1929) that dreams are intended to

resolve interpersonal conflicts. According to a review of dream logs, dreams involving problem-solving and interpersonal conflict were more likely to contain code-switching.

Additionally, the logs provided information about future events that was compatible with Jung's premise. He proposed that dreams serve as representations of the future and generate possibilities and expectations for the dreamer's future (Jung, 1967). The language used in future-oriented dreams does not appear to be consistent with the content of daily life dreams. In future dreams, code-switching and single-use language usage are practically identical; however, in everyday life dreams, code-switching was more prominent. It is interesting that despite Jung's belief that one of the purposes of dreams is to reveal future perspectives, this was one of the least dreamed about themes. Perhaps this explains why there were no significant differences in the language used across this theme in this study.

According to Freud's research, dreams are based on unfulfilled needs and desires. However, this was the least dreamt content in this study. In this theme, code-switch language was used twice, while single-use language was used once. The outcomes of this study suggest that the unconscious mind may be able to communicate unmet needs and desires through many forms of language.

Conclusion

Previous research, as well as this study, has demonstrated that investigating the usage of languages in dreams can help in psychotherapy. Having multilingual clients keep dream journals might help researchers discover trends in abnormal conscious behavior. For example, a client who has difficulty asking for help can dream they are in a crisis and shout out for help in a language not understood by others around her. In this

case, the client's issues with asking for help, putting forth the effort into

being understood, and having her needs fulfilled are shown by her calling out in a

language foreign to others around her.

Above all, allowing clients to record their dreams in their native tongues may

help bridge the language and diversity divide in therapy. Recognizing that clients speak

in languages other than those spoken in the session might help build rapport. After all,

clients would not feel forced to confine their exploration to a single language. Because

there were no communication gaps, Hispanic clients felt more at ease with Spanish-

speaking therapists (Santiago-Rivera & Altarriba, 2002).

This study has shown that multilingual dreams can be studied and understood

even when the therapist and client do not speak the same language. Lum and Wade's

(2016) study backs up the idea that delving into multilingual dreams might help therapists

better understand their clients' cultures and any cultural issues they may be facing.

Furthermore, having people record in the same languages they dreamt in may assist them

to recall the conversation and decrease the stress of quickly translating the dream into

English after waking up.

Limitations of the Study

The goal of this study was to find 20 people of various races and ages. However,

the number of participants was reduced due to the study's time constraints and the fact

that I conducted the study independently. I was able to make the study more manageable

by reducing the number of participants. On the other hand, the smaller sample size

limited the generalizability of the findings. Even though this study included participants

from countries other than my own, most of the participants lived in or were native to

India. Because of the limited sample size and cultural differences, the results may have been biased unintentionally to favor a more widespread pattern in one culture but not in others.

Because just one participant was a simultaneous language learner, it was difficult to compare simultaneous and sequential language learners in this study. In early childhood, four individuals learned two languages simultaneously and then another. The other four individuals began with one language and added others as they grew older. All participants became multilinguals during childhood, which was demonstrated in earlier research to be the optimal period for language acquisition. There were no participants in this research who solely spoke their native language and were required to acquire a new language to adapt to the country's new language. This study could not determine if acquiring a language later in life or as a necessity for entering a foreign country impacts language use in dreams. Another restriction is that one participant stated that a dream relived a traumatic event. Because of its limited experience, this study cannot solidify the link between trauma and how it shows in dreams through language.

Directions for Future Research

It is common for studies involving multilinguals to have English as the required language because it is the researcher's language. However, having English be one of the required languages might have impacted the findings of this study. Further studies should include multilinguals who are not English speakers and compare the results to this and other studies. Having a study without a required language would make the data less biased and favor one language.

As previously noted, the sample size was small, and the study only ran for 2 weeks, which restricted the findings. A larger sample size with numerous researchers might be beneficial in future studies. Improving on these factors, future studies will have a more balanced sample. In addition, with these changes, future results may be more generalizable than this study. A bigger sample size with a more diversified population could reduce the possibility of biased conclusions. A longer duration may also aid in a more in-depth examination of language usage. According to this research, the majority of dreams occurred in the present. More people with childhood dreams and repeated trauma nightmares should be included in future research. Further investigation of the languages in these categories may reveal if the narrative language changes because of time or external influences, that is, language suppression.

References

Adams, P. (2000). To sleep, perchance to dream. *Science Spectra*, *23*, 46.

Adler, A. (1929). Dreams and dream-interpretation. In *The practice and theory of individual psycholog*y (pp. 214–226). Blue Ribbon Books

American Psychiatric Association (APA). (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.).

Anderson, S. (2016). Avoiding premature conclusions: The use of dreams to inform the analyst's unfolding understanding. *Psychoanalytic Inquiry*, *36*(3), 255–265.

Barber, J. E. (2001). *Gadi mirrabooka: Australian Aboriginal tales from the dreaming*. Libraries Unlimited.

Barrett, D. (2001). The committee of sleep*:* How artists, scientists, and athletes use their dreams for creative problem solving—and how you can too. Random House.

Barrett, D. (2010). Hypnosis and hypnotherapy. *Neuroscience, Personality, and Cultural Factors.* Praeger.

Barrett, D. (2017). Dreams and creative problem-solving. *Annals of the New York Academy of Sciences*, *1406*(1), 64–67.

https://doi-org.nl.idm.oclc.org/10.1111/nyas.13412

Bialystok, E. (1999). Cognitive complexity and attentional control in the bilingual mind. *Child Development, 70*, 636–644.

Blass, R. B. (2002). *The meaning of the dream in psychoanalysis*. State University of New York Press.

Bowker, P., & Richards, B. (2004). Speaking the same language? A qualitative study of therapists' experiences of working in English with proficient bilingual clients. *Psychodynamic Practice*, *10*(4), 459–478. https://doi-org.nl.idm.oclc.org/10.1080/14753630412331313695

Bulkeley, K. (2016). *Big dreams: The science of dreaming and the origins of religion*. Oxford University Press.

Bulkeley, K. (2017). The future of dream science. *Annals of the New York Academy of Sciences*, *1406*(1), 68–70. https://doi-org.nl.idm.oclc.org/10.1111/nyas.13415

Chauveau, M. (2000). *Egypt in the age of Cleopatra*. Cornell University Press.

Colrain, I. M., Sullivan, E. V., Rohlfing, T., Baker, F.C., Nicholas, C. L., Padilla, M. L., Chanraud, S., Pitel, A. L., & Pfefferbaum, A. (2011). Independent contributions of cortical gray matter, aging, sex and alcoholism to K-complex amplitude evoked during sleep. *Sleep, 34*(6), 787–795.

D'Amato, B. (2010). Aggression in dreams—intersecting theories: Freud, modern psychoanalysis, threat simulation theory. *Modern Psychoanalysis*, *35*(2), 182–204.

De Monchaux, C. (1993). Dreaming and the organizing function of the ego. In S. Flanders (Ed.), *The dream discourse today* (pp. 195–212). Routledge.

Demos, J. N. (2005). *Getting started with neurofeedback*. W.W. Norton & Company, Inc.

de Zulueta, F. (1995) Bilingualism, culture and identity, *Group Analysis*, *28*, 179–190.

Dimsdale J. E. (2008). Psychological stress and cardiovascular disease. *Journal of the American College of Cardiology*, *51*(13), 1237–1246.

Dixon, M. R., & Hayes, L. J. (1999). A behavioral analysis of dreaming. *Psychological Record*, *49*(4), 613. https://doi-org.nl.idm.oclc.org/10.1007/BF03395331

Eichenlaub, J. B., Rijn, E., van Gaskell, M. G., Lewis, P. A., Maby, E., Malinowski, J. E., Walker, M. P., Boy, F., & Blagrove, M. (2018). Incorporation of recent waking-life experiences in dreams correlates with frontal theta activity in REM sleep. *Social Cognitive & Affective Neuroscience*, *13*(6), 637–647. https://doi-org.nl.idm.oclc.org/10.1093/scan/nsy041

El-Aswad, E. (2010). Dreams and the construction of reality: Symbolic transformations of the seen and the unseen in the Egyptian imagination. *Anthropos, 105*(2), 441–453. Retrieved May 21, 2020, from www.jstor.org/stable/25734814

Fox, K. C., Nijeboer, S., Solomonova, E., Domhoff, G. W., & Christoff, K. (2013). Dreaming as mind wandering: Evidence from functional neuroimaging and first-person content reports. *Frontiers in Human Neuroscience*, *7*, 412.

Freberg, L. (2018). *Discovering behavioral neuroscience: An introduction to biological psychology*. Cengage Learning.

Freud, S. (1900) *The interpretation of dreams.* Basic Books.

Goldin, D. (2018). Dreams as fictional remembering. *Psychoanalytic Inquiry*, *38*(3), 222–233. https://doi-org.nl.idm.oclc.org/10.1080/07351690.2018.1430968

Hall, C., & Van de Castle, R. (1966). The content analysis of dreams. Appleton-Century-Crofts.

Hall, C. S. (1951). What people dream about. *Scientific American, 184,* 60–63.

Hill, C., Gelso, C., Gerstenblith, J., Chui, H., Pudasaini, S., Burgard, J., Bauman, E., &
Huang, T. (2013). The dreamscape of psychodynamic psychotherapy: Dreams,
dreamers, dream work, consequences, and case studies. *Dreaming*, *23*(1), 1–45.
https://doi.org/10.1037/a0032207

Hirshkowitz, M., & Moore, C. A. (1996). Sleep related erectile activity. *Neurologic
Clinics, 14*(4), 721–737.

Hobson, J. A., & Friston, K. J. (2012). Waking and dreaming consciousness:
Neurobiological and functional considerations. *Progress in Neurobiology*, *98*(1),
82–98. https://doi-org.nl.idm.oclc.org/10.1016/j.pneurobio.2012.05.003

Hobson, J. A., & McCarley, R. W. (1997). The brain as a dream state generator: An
activation-synthesis hypothesis of the dream process. *American Journal of
Psychiatry, 134*, 1335–1348.

Hobson, J. A., Pace-Schott, E. F., & Stickgold, R. (2003). Dreaming and the brain:
Toward a cognitive neuroscience of conscious states. In E. F. Pace-Schott, M.
Solms, M. Blagrove & S. Harnad (Eds.), *Sleep and dreaming: Scientific advances
and reconsiderations* (Vol. 23, pp. 793–842). Cambridge University Press.

Hobson, R. (2008). Self-representing dreams. *Psychoanalytic Psychotherapy*, *22*(1), 20–
30.

Hoffman, C. (2004). Dumuzi's dream: Dream analysis in ancient Mesopotamia.
Dreaming, *14*(4), 240–251.
https://doi-org.nl.idm.oclc.org/10.1037/1053-0797.14.4.240

Hughes, J. D. (2000). Dream interpretation in ancient civilizations. *Dreaming*, *10*, 7–18.
https://doi.org/10.1023/A:1009447606158.

Kormi, N. R., Moniri, S., & Nilsson, L. (2003). Episodic and semantic memory in

    bilingual and monolingual children. *Scandinavian Journal of Psychology*, *44*(1),

    47–54. https://doi-org.nl.idm.oclc.org/10.1111/1467-9450.00320

Jung, C. (1974). *Dreams*. Princeton Press. Jung, C. G. (1967). *The Collected Works of*

    C.G. Jung: Volume 8. Princeton University Press.

Leclair-Visonneau, L., Oudiette, D., Gaymard, B., Leu-Semenescu, S., & Arnulf, I.

    (2010). Do the eyes scan dream images during rapid eye movement sleep?

    Evidence from the rapid eye movement sleep behaviour disorder model. *Brain,*

    133(6), 1737–1746. https://doi.org/10.1093/brain/awq110

Levey, S. (2019). *Introduction to language development* (2nd ed.). Plural Publishing, Inc.

Longhin, L. (2011). Eight: Symbolism and dreams in psychoanalysis. *Contemporary*

    Psychoanalytic Studies, *13*, 203–215.

Lum, W. K., & Wade, J. (2016). Dreaming in two worlds and two languages: Bilingual

    dreams and acculturation challenges. *International Journal of Transpersonal*

    Studies, *35*(2), 1–16.

    http://search.ebscohost.com.nl.idm.oclc.org/login.aspx?direct=true&db=psyh&A

    N=2017-17477-001&site=ehost-live&scope=site

Marian,V., & Neisser, U. (2000). Language-dependent recall of autobiographical

    memories. *Journal of Experimental Psychology: General*, *129*, 361–368.

Merriam-Webster. (n.d.). Dream. In *Merriam-Webster.com dictionary*. Retrieved May

    20, 2020, from https://www.merriam-webster.com/dictionary/dream

Morrison, A. (2013). Coming to grips with a "new" state of consciousness: The study of rapid-eye-movement sleep in the 1960s. *Journal of the History of the Neurosciences*, *22*(4), 392–407. https://doi-org.nl.idm.oclc.org/10.1080/0964704X.2013.777230

Naiman, R. (2017). Dreamless: the silent epidemic of REM sleep loss. *Annals of the New York Academy of Sciences*, *1406*(1), 77–85. https://doi-org.nl.idm.oclc.org/10.1111/nyas.13447

Pagel, J. (2000). Nightmares and disorders of dreaming. *American Family Physician, 61*(7), 2037–2042, 2044.

Paulson, S., Barrett, D., Bulkeley, K., & Naiman, R. (2017). Dreaming: A gateway to the unconscious? *Annals of the New York Academy of Sciences*, *1406*(1), 28–45. https://doi-org.nl.idm.oclc.org/10.1111/nyas.13389

Pole, N., Ablon, J. S., O'Connor, L., & Weiss, J. (2002). Ideal control mastery technique correlates with change in a single case. *Psychotherapy: Theory, Research, Practice, Training, 39*(1), 88–96. https://doi.org/10.1037/0033-3204.39.1.88

Price, S. R. F. (1986). The future of dreams: From Freud to Artemidorus. *Past & Present*, *113*, 3–37. http://www.jstor.org/stable/650978

Revonsuo, A. (2000). The reinterpretation of dreams: An evolutionary hypothesis of the function of dreaming. *The Behavioral and Brain Sciences, 23*(6), 877–901.

Roesler, C. (2018). Structural dream analysis: A narrative research method for investigating the meaning of dream series in analytical psychotherapies. *International Journal of Dream Research*, *11*(1), 21–29.

Saldaña, J. (2015). *The coding manual for qualitative researchers*. Sage.

Santiago-Rivera, A. L., & Altarriba, J. (2002). The role of language in therapy with the Spanish-English bilingual client. *Professional Psychology: Research and Practice*, *33*(1), 30–38. https://doi-org.nl.idm.oclc.org/10.1037/0735-7028.33.1.30

Santiago-Rivera, A. L., Altarriba, J., Poll, N., Gonzalez-Miller, N., & Cragun, C. (2009). Therapists' views on working with bilingual Spanish–English speaking clients: A qualitative investigation. *Professional Psychology: Research and Practice*, *40*(5), 436–443. https://doi-org.nl.idm.oclc.org/10.1037/a0015933

Schrauf, R. W. (2000). Bilingual autobiographical memory: Experimental studies and clinical cases. *Culture & Psychology*, *6*, 387–417.

Schredl, M., Ciric, P., Götz, S., & Wittmann, L. (2004). Typical dreams: stability and gender differences. *The journal of psychology*, *138*(6), 485-494.

Schredl, M., Holyba, L., Köllmer, T., Körfer, J., & Proß, A. (2019). Nightmare distress, nightmare frequency, and beliefs about nightmares. *International Journal of Dream Research*, *12*(2), 60–66.

Shushan, G. (2006). Greek and Egyptian dreams in two Ptolemaic archives: Individual and cultural layers of meaning. *Dreaming*, *16*(2), 129–142. https://doi-org.nl.idm.oclc.org/10.1037/1053-0797.16.2.129

Simpson, W. K. (Ed.). (2003). *The literature of ancient Egypt: An anthology of stories, instructions, and poetry*. Yale University Press.

Slavik, S. (1994). A practical use of dreams. *Individual Psychology: The Journal of Adlerian Theory, Research & Practice*, *50*(3), 279.

Spotnitz, H., & P. W. Meadow (1976), Dreams: The royal road to preoedipal conflicts. *Treatment of the Narcissistic Neuroses.* Manhattan Center for Advanced Psychoanalytic Studies.

Sternberg, R., & Sternberg, K. (2011). Chapter 10: Language in context. In *Cognitive psychology* (6th ed., pp. 401–441). Wadsworth, Cengage Learning.

United States Census Bureau (2015). *Census bureau reports at least 350 languages spoken in U.S. homes*. https://www.census.gov/newsroom/archives/2015-pr/cb15-185.html

Wamsley, E. J., & Stickgold, R. (2011). Memory, sleep, and dreaming: Experiencing consolidation. *Sleep Medicine Clinics, 6*, 97–108.

Wamsley, E. J., Tucker, M., Payne, J. D., Benavides, J. A., & Stickgold, R. (2010). Dreaming of a learning task is associated with enhanced sleep-dependent memory consolidation. *Current Biology*, *20*(9), 850–855. https://doi.org/10.1016/j.cub.2010.03.027

Weinstein, N., Campbell, R., & Vansteenkiste, M. (2018). Linking psychological need experiences to daily and recurring dreams. *Motivation & Emotion*, *42*(1), 50–63. https://doi-org.nl.idm.oclc.org/10.1007/s11031-017-9656-0

Winson, J. (1990). The meaning of dreams. *Scientific American, 263*(5), 86–96.

Wongpakaran, T., Elsegood, K., Nahathai, W., Kamonporn, W., & Pimporn, P. (2014). Using control-mastery and Jungian theories to treat nightmare disorder: A case from Thailand. *Journal of Mental Health Counseling*, *36*(3), 189–207.

Zink, N., & Pietrowsky, R. (2015). Theories of dreaming and lucid dreaming: An

    integrative review towards sleep, dreaming and consciousness. *International*

    Journal of Dream Research, *8*(1), 35–53.

Appendix A

Outreach Letter

Hello, my name is **Brittany Burkes**, and I am a Clinical Psychology Graduate Student at National Louis University working on my Clinical Research Project (CRP). I am recruiting individuals for my study, **"The Relationship Between Languages and Dreams in Polygots,"** occurring from **10/2020 to 03/2021**. For this study, a polyglot is defined as a person who is fluent in more than one language. The purpose of this study is to understand the connections between the languages used in dreams. In addition, the goal of the study is to help multilingual individuals become more attentive to which language holds their unconscious desires or internal problems.

To qualify for this study, you or a multilingual person you know must meet one of the three following language criteria:
1. Grew up in a family that used a language other than English and learned English later in life.
2. Grew up in a family that used English but learned other languages later in life.
3. Grew up in a family that used both English and another language simultaneously.

In addition to the language criteria, you must be able to remember and document your dreams in a log for two weeks. Dreams must contain spoken languages. Participants will undergo an in-person or phone 60-minute intake interview and, after two weeks, a 90-minute follow-up session (in person or via zoom) to review the dream logs.

Exclusions from the study are the following:
1. You have been diagnosed or meet criteria for a sleep disorder.
2. You use any medications, both prescription and over-the-counter, that suppress REM sleep.
    a. This includes, but is not limited to, antidepressants, antianxiety medication, and sleeping pills.
3. You only have nonverbal dreams
4. You only dream in one language.

Each participant who qualifies and is selected to participate in this study will be entered into winning a drawing at the end of the study. Participants will have a chance to win one of four **$50 Amazon e-gift cards**.

If you or a multilingual person you know is interested in participating, please review and sign the attached informed consent form. E-mail the signed consent form to ▮▮▮▮▮▮▮▮▮▮, and a link to the screening survey will be provided. Qualified participants will be contacted by email.

Participation in this study is optional. There are no consequences for declining or withdrawing from the study at any time.

Thank you for your interest and time.

Sincerely,

Brittany Burkes, M.A.

Clinical Psychology Graduate Student
Illinois School of Professional Psychology
at National Louis University- Chicago

Appendix B

Informed Consent Interview

My name is **Brittany Burkes**, and I am a Clinical Psychology Graduate Student at National Louis University, working on my Clinical Research Project (CRP). I am asking you to participate in this study, **"The Relationship Between Languages and Dreams in Polyglots**,**"** occurring from **10/2020 to 03/2021**. The purpose of this study is to understand the connections between the languages used in dreams. This study may help multilingual individuals become more attentive to their unconscious desires or internal problems. This form will outline the purpose of the study and provide a description of your involvement and rights as a participant.

Please understand that the purpose of the study is to explore languages in dreams and not evaluate participants' behaviors in therapy. To qualify for this study, participants must meet **one** of the three criteria.

1. You grew up in a family that used a language **other than English,** and you learned English later in life.
2. You grew up in a family that used English, but you **learned other languages later in life**.
3. You grew up in a family that **used both English and another language simultaneously**.

In addition to the language criteria, you must be able to remember and document your dreams. Dreams must contain spoken languages.

Exclusions from the study are the following:
1. Has been diagnosed or meets the criteria for a sleep disorder.
2. Uses any medications, both prescription and over the counter, that suppress REM sleep.
   a. This includes, but is not limited to, antidepressants, antianxiety medication, and sleeping pills.
3. You only have nonverbal dreams
4. Only dream in one language.

Participation in this study will include:

- Sessions recorded (audio only) by the researcher
- One individual interview (in person or via phone/Zoom) is scheduled at your convenience.
  - The interview will last up to 60 minutes and include questions about your background, e.g., age, gender, race, culture.
- Completion of a language history questionnaire.
- Recording dreams in the notebook for 2-weeks

- Follow-up session(s) to review the dream notebook
  - The follow-up meeting will be 90 minutes (in person or via phone/Zoom) and will occur two weeks after the initial interview.

Interviews will be audio-recorded and transcribed by the researcher.
Your participation is voluntary, and you can discontinue at any time without penalty or bias. The
results of this study may be published or otherwise reported at conferences. Still, your identity will in no way be revealed (data will be reported anonymously and bear no identifiers that could connect data to individual participants). To ensure confidentiality, the researcher will secure recordings, transcripts, and clinical notes in a locked cabinet. The records will be destroyed after five years.

There are no anticipated risks or benefits more significant than those encountered in daily life. The information gained from this study could be useful to the other clinical setting looking to better understand how languages may be an essential aspect of dreams. You have the potential of winning one of four $50 Amazon gift e-cards.

In the event that you have questions or require additional information, please contact the researcher, Brittany Burkes, by email at ███████████████.

If you have any concerns or questions before or during participation that has not been addressed
by the researcher, you may contact the research chair: Dr. Emese Vitalis; ████████████, the co- Revised July 2019 chairs of NLU's Institutional Research Board: Dr. Shaunti Knauth; email: █████████████████; phone: ██████████; or Dr. Kathleen Cornett; email: ██████████; phone: ████████████.

The researcher and research chair are located at National Louis University, ████████ ██████████████████████████.

Thank you for your consideration.

I understand that by signing below, I am agreeing to participate in the study **The Relationship Between Languages and Dreams in Polyglots**. My participation will consist of the activities below for *four weeks*:

- Initial meeting with the researcher, approximately 60 minutes.
- Two weeks of dreams logs.
- A follow-up meeting(s) with the researcher, approximately 90 minutes

_____ _____
Participant's Signature   Date

_____ _____
Researcher's Signature   Date

Support Referrals

In an Emergency
If you or a loved one is in immediate danger calling 911 and talking with police may be necessary. It is important to notify the operator that it is a psychiatric emergency and ask for an officer trained in crisis intervention or trained to assist people experiencing a psychiatric emergency.

National Suicide Prevention Lifeline
1-800-273-8255 [24 hours, 7 days a week]
The Lifeline provides 24/7, free, and confidential support for people in distress, prevention and crisis resources for you or your loved ones, and best practices for professionals.

National Alliance on Mental Illness (NAMI)
https://www.nami.org/
info@nami.org

NAMI Crisis Text Line
Text NAMI to 741741 [24 hours, 7 days a week]
Connect with a trained crisis counselor to receive free, 24/7 crisis support via text message.

NAMI HelpLine
1-800-950-NAMI (6264) [M-F 10am – 6pm ET]
The NAMI HelpLine can be reached Monday through Friday, 10 am–6 pm, ET. The NAMI HelpLine is a free service that provides information, referrals and support to people living with a mental health condition, family members and caregivers, mental health providers, and the public.

Appendix C

Survey Link

Hello _____,

Thank you for your interest in my research study and for signing the informed consent. Below is the link to the screener questionnaire.

Participation in this study is optional. There are no consequences for declining or withdrawing from the study at any time.

https://www.surveymonkey.com/r/VLC882Z

Thank you for your interest and time.

Sincerely,

Brittany Burkes, M.A.

Clinical Psychology Graduate Student
Illinois School of Professional Psychology
at National Louis University- Chicago

Appendix D

Questionnaire

"The Relationship Between Languages and Dreams in Polyglots"
Questionnaire

1. What is your first and last name?

2. What is your age?

3. What languages do you speak fluently?

☐ Arabic

☐ Armenian

☐ Chinese

☐ English

☐ French

☐ French Creole

☐ German

☐ Greek

☐ Gujarati

☐ Hindi

☐ Italian

☐ Japanese

☐ Korean

☐ Persian

☐ Polish

☐ Portuguese

☐ Russian

☐ Spanish

☐ Tagalog

☐ Urdu

☐ Vietnamese

☐ Other (please specify)

4. What languages can you write in fluently?

☐ Arabic

☐ Armenian

☐ Chinese

☐ English

☐ French

☐ French Creole

☐ German

☐ Greek

☐ Gujarati

☐ Hindi

☐ Italian

☐ Japanese

☐ Korean

☐ Persian

☐ Polish

☐ Portuguese

☐ Russian

☐ Spanish

☐ Tagalog

☐ Urdu

☐ Vietnamese

☐ Other (please specify)

5. How many hours do you sleep each night?

    ◯ 4 or fewer hours

    ◯ About 5-6 hours

    ◯ About 7-8 hours

    ◯ 9 or more hours

6. Are you taking any prescription or over the counter medication? If so, please list below

7. Have you ever been diagnosed with a sleeping disorder? If so, what and when.

8. How often do you remember your dreams?

◯ Always

◯ Usually

◯ Sometimes

◯ Rarely

◯ Never

9. Is language used in your dreams? You and/or others in your dreams speak.

○ Yes

○ No

10. At what email address would you like to be contacted?

[ ]

Done

Powered by
SurveyMonkey

See how easy it is to create a survey.

Privacy & Cookie Policy

Appendix E

Study Invitation Email

Greetings _____,

I am writing to you because you showed interest in my research study titled "The Relationship Between Languages and Dreams in Polyglots." At this time, I would like to thank you for completing the recruitment survey. After reviewing your responses, you do qualify to participate in this study, and I would like to extend an offer. If you have changed your mind and do not wish to participate, do not reply and/or reply to let me know, and I will remove your name from the list. Though, if you are still interested, please respond with your availability so that we could schedule a time and date for your initial meeting. Once again, thank you for your interest, and I look forward to hearing from you.

Sincerely,

Brittany Burkes, M.A.

Clinical Psychology Graduate Student
Illinois School of Professional Psychology
at National Louis University- Chicago

Appendix F

Background Interview

Language History Questionnaire

Name:

DOB: Age:

Intake Date:

Gender: Preferred Pronouns:

What is your ethnicity?

_____

Father's side:

_____

Mother's side:

_____

Where were you born? (Country, region, and city)

_____

_____

What is your native and dialects language? What other language(s) do you speak and at

what age did you learn them.

_____

_____

_____

What languages & dialects did your mother learn to speak?

_____

Your father?

_____

Siblings?

_____

What language(s) or dialect(s) do you use at home?

_____

Outside of the household, e.g., school or work?

_____

What factors do you think most influenced the way you speak your native language and

other languages (s)?

_____

_____

_____

Sleep/Dream Questionnaire

Sleep Apnea?

Quality of sleep:

How many hours of sleep per night?

What languages do you use while you dream?

How often does each language occur?

Are there any shifts between languages?

Are your dreams connected to life events/past events? Examples

Are your dreams connected to problem-solving? Examples

Do you have reoccurring dreams? If yes, describe them (past recurring dreams, too). What language are these dreams occur/occurred in? What are some possible meanings behind these dreams? What life events are they connected to?

Which language do you use in high/low emotional dreams? Examples

Appendix G

Dream Log Sheet Template

*Please use the back or other sheets if you need more space to write

Date	
A Brief summary of your day	
Description of the dream* (written in the present tense and in the language(s) spoken and only verbal dreams) **For example,** *I am walking in the woods*	
Language(s) used in the dream	

Any switching to another language during the dream **Yes or no** **If yes, what were the languages**	
Was this a recurring dream? (if so, how do you have this dream often?)	
Emotional response upon awakening, e.g., sadness, happiness, or anxiety	
Rating of emotion 1 to 10 **1- No Reaction to 10-** **Intense**	

Appendix H

Encryption Walkthrough

Windows

Protect a document with a password

Word for Microsoft 365, Word for Microsoft 365 for Mac, Word for the web, Word 2019, More...

Passwords are case-sensitive and can be a maximum of 15 characters long.

If you lose or f ___ ___ ___ ___ ___ ___ ___
the password in a safe place or create a strong password that you'll remember.

Windows   macOS - newer   **Word for Mac 2011**   **Web**

1. Go to **File** > **Info** > **Protect Document** > **Encrypt with Password**.

2. Type a password, then type it again to confirm it.

3. Save the file to make sure the password takes effect.

Mac

Protect a document with a password

Word for Microsoft 365, Word for Microsoft 365 for Mac, Word for the web, Word 2019, More...

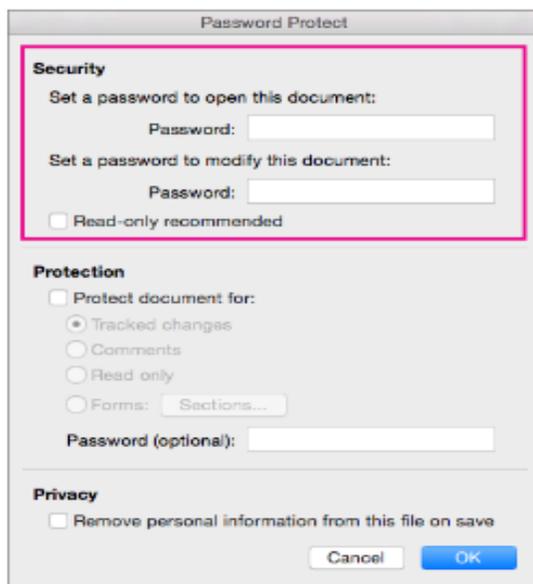Passwords are case-sensitive and can be a maximum of 15 characters long.

If you lose or forget your password, Word won't be able to recover it for you. Be sure to keep the a copy of the password in a safe place or create a strong password that you'll remember.

Windows

1. Go to **Review** > **Protect Document**.

2. Under **Security**, you can select whether to enter a password to open the document, modify the document, or both. Enter each password again to confirm.

3. Click **OK**.