AN EMPIRICAL INVESTIGATION OF JUNG'S DREAM THEORY: A TEST OF COMPENSATORY VS. PARALLEL DREAMING

BY

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Abstract

The competing Jungian hypotheses of compensatory vs parallel dreaming were tested by assessing the prediction of dream content and dream quality by spiritual attitudes. Dream diaries were kept for 3 weeks by 101 undergraduate psychology students. Trained raters scored 1235 dreams for child content (a symbol of spirituality; Jung, 1969) and archetypal quality (high affect, bizarreness, and unlike everyday; Cann & Donderi, 1986). Spirituality was assessed with the Spiritual Orientation Inventory (SOI; Elkins, 1988). For child imagery, hierarchical multiple regressions provided no support for either model. For archetypal quality, the compensation model received partial support with a trend for spirituality as a negative predictor, an association which was significant with a subsample of archetypal dreamers. In addition, the master and continuity models of dream function were not supported by the data. The young age of this sample may have precluded significant findings and replication with older participants (40+ years) is needed.

An Empirical Investigation of Jung's Dream Theory:

A Test of Compensatory vs. Parallel Dreaming

Central to the classical school of Jungian psychology is Carl Jung's compensatory model of dreaming. According to the compensatory model, dream content and quality are the result of unconscious processes which occur when one holds an attitude that is inconsistent with the needs of the unconscious (Jung, 1990). In contrast, analysts in the post-Jungian school emphasize the parallel model which states that dreams reflect conscious attitudes when the attitude is consistent with unconscious needs (Mattoon, 1978). Very little research has been conducted to test the Jungian models of dreaming.

Current research models of dreaming, the mastery and continuity models, are similar to the Jungian compensatory and parallel models, respectively. According to the mastery model the function of dreams is to reprocess sources of stress and evaluate potential solutions to stressful situations as a means of encouraging adaptive behaviour (Koulack, 1991). This is similar to the compensatory model in that both models suggest the root of dreams lies in an unconscious drive to remedy some aspect of the dreamer's psychological experience. The difference between the models lies in the emphasis on conscious stress for the mastery model as compared to unrealized unconscious needs in the compensatory model as the motivating factor for the dream.

The continuity model suggests that waking experiences are randomly incorporated into dreams (Koulack, 1991). This is similar to the parallel model in that both models emphasize the likelihood of conscious events being reflected in dream content. The difference between the models lies in the emphasis on chance incorporation of conscious

events in the continuity model rather than unconscious goal directed selection of conscious events in the parallel model that end up as dream imagery.

This study is designed to assess which Jungian model of dreaming is most tenable and to test whether the Jungian models or the mainstream models of dreaming best explains dream content. To do this, we used conscious spirituality as the primary independent variable since it is emphasized in Jungian theory as the most fundamental unconscious drive (Jung, 1938). From Jung's writings we operationalized dream content (child imagery) and dream quality (archetypal characteristics) associated with spiritual matters. To test the Jungian parallel and compensatory models we compared subjects' conscious attitudes towards spirituality with their dream content and quality to determine if the specific spiritual dream content or quality was better predicted for subjects holding (the parallel model) or not holding (the compensatory model) a spiritual attitude. To assess whether the parallel or the continuity model better explained the relationship between conscious experience and dream content, the predictive value of spiritual attitudes as compared to religious experience was compared. To assess the tenability of the compensatory and mastery models, spiritual attitudes and conscious concerns surrounding spirituality were compared as predictors of dream content.

It is recognized that a complete test of the Jungian dream theories of compensation and parallel functions requires measurement of the unconscious need in question; in this case, spirituality. The present study is the first investigation into the relationship between conscious spirituality and dream content and will provide the necessary groundwork for

further studies in which unconscious needs for spirituality may also be assessed. At this point in time, there is no established measure of unconscious spiritual needs.

Jung's Theory of Dreams

Jungian dream theory is complex and requires an understanding of Jung's theory of personality to be understood.

Structure of the personality.

Jung believed that consciousness exists along side two levels of unconsciousness -- the personal and the collective unconscious. Consciousness is that which we are aware of or are metacognitive about. The personal unconscious is a repository for repressed or forgotten memories, or information insufficiently attended to from one's conscious experiences. The collective unconscious is a "psychic system of a collective, universal, and impersonal nature which is identical in all individuals" (Jung, 1959/1990, p.43). This level of unconsciousness is not rooted in personal or conscious experiences; it is inherited and composed of the archetypes. The archetypes are universal formative or guiding principles that shape and direct our perceptions, knowledge, and experiences (Jacobi, 1974; Samuels, 1994). They are archaic constructs, present in all of humanity across time, which shape our conscious understanding and unconscious functioning in fundamental ways. The universality of archetypes is inferred from recurring themes in the symbolism of art, mythology, and fairytales the world over.

Each component of the psyche constantly interacts with the others. The personal and collective unconscious will interact with each other, "the personal grows out of the collective psyche and is intimately bound up with it" (Jung, 1951/1990, p.102). Similarly,

both levels of the unconscious constantly influence our conscious experiences. Furthermore, our conscious experiences refine and add to our personal unconscious and may activate of the archetypes in the collective unconscious. Specific archetypes can influence our conscious experiences subtly or overwhelmingly, depending on the state of activation of the given archetype or the need to change a conscious attitude.

Jung believed that each individual has a fundamental drive to achieve a state of wholeness of the personality; he called this drive "individuation." Jung believed that the collective unconscious was responsible for this drive to individuate. Jungian theory states that holding a one-sided conscious attitude is not consistent with the drive to achieve balance and wholeness, and as such, one-sided conscious attitudes elicit an opposite reaction from the archetypes in order to redirect the conscious mind to a more balanced state heading towards individuation. One important dimension in which balance is sought is of the sacred and the secular. Jung wrote (Jung, 1938) that the recognition of the spiritual side of life is an important attitude to hold to approach individuation and, being universal, may be considered an unconscious need for many individuals.

Dream work.

Dreams provide an exceptional way of studying the psyche since all aspects of the psyche contribute to the formation of dreams. All dreams are rooted in both the personal and collective unconscious with varying degrees of influence from each. Also, dreams make use of conscious experiences as imagery as directed by the unconscious (to achieve the unconscious aim). We can distinguish between dreams rooted primarily in the personal as compared to the collective unconscious with the guidance of Jungian theory.

Marie-Louise von Franz, a close collaborator with Jung, describes the Jungian position on dreams well.

> The dream has two roots, one in conscious contents, impressions of the previous day, and so forth, the second in constellated contents of the unconscious. The latter consists of two categories: (1) constellations which have their source in conscious contents; (2) constellations arising from creative processes in the unconscious. (von Franz, 1998, pp.2-3)

The first type of dream described here is the everyday dream which is rooted in the personal unconscious and stems from conscious experiences. These dreams are often considered small dreams, can be mundane, and often reflect the daily concerns of the dreamer. The second type of dream described is the archetypal dream which is rooted in conscious material constellated in the collective unconscious or through creative forces of the autonomous archetypes. These dreams are often highly emotional and are also often unrealistic in that they may not follow the laws of physics and the real world. Jung referred to archetypal dreams as "big" dreams (Cann & Donderi, 1986; Jung, 1948/1974, p.76; Mattoon, 1978) due to their numinous quality (that is, they seem to be highly spiritual in nature). They are generally experienced as having a deeper significance then everyday dreams. Perhaps this is because, as Jung believed, archetypal dreams express the needs of the collective unconscious. Given the unavoidable interactions between levels of consciousness, we distinguish between more or less archetypal dreams and more or less everyday dreams, henceforth written as simply archetypal and everyday dreams.

The role of consciousness in the formation of these dreams is complex. In Jung's words, "many of these [archetypal] unconscious processes may be indirectly occasioned by consciousness, but never by conscious choice. Others appear to arise spontaneously, that is to say, from no discernable or demonstrable conscious cause" (Jung, 1959/1990, p.73). The everyday dream is rooted in the personal unconscious and, given the nature of the personal unconscious, is likely to be similar to conscious experiences if not reflecting actual experiences from the dream day. The archetypal dream is rooted in the collective unconscious which is autonomous from consciousness and therefore is not necessarily going to be similar to conscious experiences. Archetypal dreams, however, to be understood by the conscious mind, have to use the same "language" or relate to experience that the conscious mind can comprehend. As a result, archetypes will make use of conscious experiences and personal unconscious material to suit their purposes and communicate with the conscious mind. "Since the archetype is numinous, i.e., posses a specific energy, it will attract to itself the contents of consciousness - conscious ideas that render it perceptible and hence capable of conscious realization" (Jung, 1952/1990, p.294). Jung further states,

> The symbols [the soul] creates are always grounded in the unconscious archetype, but their manifest forms are moulded by the ideas acquired by the conscious mind. The archetypes are the numinous structural elements of the psyche and posses a certain autonomy and specific energy which enables them to attract, out of the conscious mind, those contents which are best suited to themselves (Jung, 1952/1990, p.232).

As might be expected then, this type of dream is often not like everyday experience, although will often reflect elements of the dream day's events none-the-less.

At this point we can distinguish between everyday and archetypal dreams and have an idea about the cause of each type of dream. The problem remaining is to determine the mechanism of dream formation, i.e., when and why would one have an archetypal rather than an everyday dream? Jung stated that conscious attitudes elicit reaction from the unconscious.

> I have always started from the view that the unconscious simply reacts to the conscious contents, albeit in a very significant way, but that it lacks initiative. It is, however, far from my intention to give the impression that the unconscious is merely reactive in all cases. (Jung, 1951/1990, p.134)

Jung observed that dreams provide meaningful commentary on conscious attitudes when these attitudes are related to unconscious needs. The commentary might reflect that an attitude is inconsistent with the needs of the unconscious, or it might support the conscious attitude as appropriate given the needs of the unconscious at a given time. Jung's observation was that a strongly held one-sided attitude often evokes salient commentary, a reaction often in proportion to the strength of the attitude[1].

Jung's work suggests that the archetypal dream may arise in a manner close to the following: (1) There is a natural drive to individuate and for self regulation to approach individuation. (2) A one-sided conscious attitude activates a certain archetype. (3) There is adequate conscious or personal unconscious material for the archetypal activation to be expressed in an image comprehensible to consciousness. (4) The dream will be

characterized by dream imagery relevant to the activated archetype and by archetypal dream qualities of vividness, bizarreness, and intensity. If an archetype is not activated, or there is a conscious attitude only mildly deviant from the unconscious needs, an everyday dream will result.

Researchers have considered the idea of archetypal and everyday dreams. Kluger (1975) developed a scale to measure dreams as "archetypal" or "everyday" based on Jungian theory. The criteria for scoring the dream is based on affect, rationality, everydayness, and mythological content. An archetypal dream is considered to be highly emotional, irrational, and bizarre, with a mythological parallel. Kluger felt that three of the four dimensions were needed to reach a critical level for the dream to be considered archetypal. Kluger found a bimodal distribution of dreams scored with his scale indicating that there may indeed be the two types of dreams: everyday and archetypal (Kluger, 1975). Kluger states that the everydayness scale may be the strongest scale to differentiate between archetypal and everyday dreams.

> In the absence of a comprehensive knowledge of mythology, folklore, and comparative religion the category of everydayness seems to be the most apt single criterion for differentiating archetypal dreams, which have been described as being "of a different dimension from everyday experience (Perry, 1961)." (Kluger, 1975, p.35)

Cann and Donderi (1986) replicated Kluger's study with a few modifications to the scale. They used a six-point rather than 4 point Likert 'affect' scale finding it more reliable. They also found greater reliability when the mythological parallel was not scored

because their raters did not have enough experience in this area to score this dimension accurately. Cann and Donderi projected scores for the mythological parallel scale, based on Kluger's data and found that 94% of the dreams classified by their three scale measure were classified the same as when the projected fourth scale was added. Despite their changes very similar results to Kluger's study were found. Kluger found that 20% of recent dreams were classified as archetypal while Cann and Donderi found 24% of recent dreams were archetypal. Despite the fact that many Jungians tend to emphasize the influence of the collective unconscious in their interpretations of dreams, as if all dreams are archetypal, this reported level of archetypal dreaming is consistent with Jung's writings. In the Collected Works Jung states that "the collective unconscious influences our dreams only occasionally" (CW17, par.288, as cited in Mattoon, 1978).

Jung's compensation hypothesis.

Classical Jungian psychology further specifies the nature of the interaction between dreams and consciousness. One fundamental belief of the classical Jungian perspective is that dreams are compensatory to the dreamer's one-sided conscious attitudes (Jung, 1990; 1952/1981; 1944/1990; 1935/1977; 1952/1990; Jung & Kerenyi, 1969). Jung says:

> The psyche is a self-regulating system that maintains itself in equilibrium as the body does. Every process that goes too far immediately and inevitably calls forth compensating activity. Without such adjustments a normal metabolism would not exist, nor would a normal psyche. We can take the idea of compensation, so understood, as a law of psychic happening. Too little on one side results in too

> much on the other. The relationship between consciousness and unconsciousness is compensatory. (Jung, 1938, p.99)

Jung believed that the archetypes are fundamentally involved in the process of individuation and that the process of individuation is autonomous and distinct from conscious experience. When an individual holds a conscious attitude inconsistent with the needs of the unconscious (i.e., inconsistent with individuation), this state will activate relevant archetypes in an effort to redirect the individual towards individuation. Dream content or quality will be effected by the activated archetypes and their regulatory purpose can be interpreted by a trained analyst.

Jung analysed thousands of dreams in his clinical practice, on the basis of which he developed his theory of compensation. Jung uses the dream of a theology student to illustrate a religious compensation in a dream. The student holds a one-sided attitude of religion and human nature as being only beneficent and positive. The dream compensates the attitude using dream content suggesting that a darker side exists and should not be ignored. In this dream the key characters are a white and black magician searching for the keys to paradise. The compensation lies in the fact that this theology student needs to become more aware of the dark, 'shadow' side, represented by the black magician, in order to individuate more fully (Jung, 1959/1990).

As an example of compensation through dream quality, Jung cites the recurring dream of a Protestant theologian. This theologian believes that spirit "was merely what he believes, what he makes himself, what is said in books, or what people talk about" (Jung, 1959/1990, p.17). The rationality of this attitude neglects the numinous feeling-side of

spirit. The theologian dreams he is approaching a dark lake. It is a very ominous dream which turns uncanny as he gets nearer to the lake. A gust of wind rushes over the lake, at which time the dreamer awakens seized with panic and fear. Jung interprets the gust of wind as a personal experience of spirit rushing over the water. Note that in Jungian psychology, water is a symbol of the unconscious. The dream compensates the theologian's attitude, his attitude being that which is spiritual is external, completely tangible, or merely a cognitive exercise by showing that the theologian has an uncanny spirit within himself that is other than himself. The emotional state the dreamer is left with, evoked by the dream, suggests that the dreamer should not consider spirituality solely as a cognitive exercise but that it has an emotional component to it.

When Jung states that dreams are compensatory to consciousness it is often misunderstood as meaning the opposite of conscious experience. Jung is careful to state that "the unconscious processes stand in a compensatory relation to the conscious mind. I expressly use the word 'compensatory' and not the word 'contrary'" (Jung, 1952/1990, p.126). Dreams do not merely contradict conscious attitudes, rather they augment or refine these attitudes as needed by the unconscious in order to facilitate the individuation process.

The idea that dreams compensate a conscious attitude has been studied empirically, though not as Jung conceived of compensation. Hauri (1970) found that people dreamt less of an activity in which they had been engaged in prior to going to sleep (relaxing, exercise, or mental activity). In a doctoral dissertation, Wood (1962, as cited by Koulack, 1975 and Hauri, 1970) found that volunteers kept in social isolation

had more social interactions in their dreams. Foulkes, Pivik, Steadman, Spear, and Symonds (1967) studied young boy's dreams after watching an aggressive Western movie or a relatively less aggressive baseball game. More aggressive dreams were found in the dreams of the children after watching the baseball game compared to the Western. These findings suggest a contrary relationship between conscious experience and dream content -- the dreams appear to contrast with the conscious situation. These studies however, provide only partial support for Jung's hypothesis. These studies show that dreams can be contrary to conscious experience, but there is no mention of the unconscious needs of the individual (i.e., there may be an unconscious drive to aggress but this drive was not assessed).

Bash (1952, as cited in Mattoon, 1978) conducted a study with a Rorschach image which suggests people are more likely to respond to the Rorschach card in a way contrary to their personality attitude when tested in a dream-like condition than an ordinary administration of the test. He interprets this finding as evidence that the attitude of the unconscious (presumably more prominent in the dream-like condition) is compensatory to that of the conscious mind. Furthermore, Dallett (1973) found compensation occurred in select cases when a person was denied sensory stimulation or social interaction, which Dallett viewed as a psychological need.

Aside from these studies very little research has been done to assess dream imagery in relation to unconscious needs and less still considering dream imagery in relation to conscious attitudes. The studies above suggest compensation may be occurring, but there have been other theories of dreaming proposed.

The parallel dream hypotheses.

In addition to compensation, other 'types' of dreaming have been postulated. In Dreams: A Portal to the Source, Whitmont and Perera (1989) state that it is not easy to support the classical Jungian position of dream compensation; they believe that other types of dreams seem to occur as well. They describe three other types of dreams: complementing, prospective, and parallel. Mattoon (1978) states, "although the preponderance of dreams are compensatory, some are not" (p.193).

It is believed that complementing dreams arise when one holds an attitude that is close to the needs of the unconscious but which needs some augmentation. For example, if an individual has an unconscious need for spirituality and regularly attends church, but the unconscious need for spirituality is not satisfied solely with church attendance, this person may dream of exploring parts of their church they have not been before. Symbolically, these areas will represent what is needed to augment the dreamer's current activities to realize the unconscious spiritual aim.

Parallel dreams, "dreams whose meaning coincides with or supports the conscious attitude" (Whitmont & Perera, 1989, p.56), indicates that one's conscious attitudes are congruous with one's unconscious needs[1] The symbolism in a parallel dream would represent unconscious "support" of the attitude. Using the example of an unconscious need for spirituality, a parallel dream might reflect particular activities in the dreamer's life that satisfy this need; perhaps teaching Sunday school. Post-Jungians have emphasized that this type of dreaming occurs frequently despite Jung's belief that this type of dreaming seems to occur as an exception to the rule.

Like Mattoon (1978) Whitmont and Perera have identified prospective dreams. The prospective dream looks to the future commenting on the person's state in relation to the environment. "Jung...viewed dreams as being purposive, adaptive, and prospective in nature, in that they anticipate unconscious probabilities that may be experienced some time in the future" (Gabel, 1991, p.431). An example of a prospective dream might be of crossing a boarder to another country when one is about to make a significant change or break-through in one's life and not realize it. This type of dreaming will not be considered in this study as they would require extensive interpretations and follow up.

Jung did not recognize these types of dreams as being very common. He states that "as a rule, the standpoint of the unconscious is complementary or compensatory to consciousness and thus unexpectedly 'different.' I would not deny the possibility of parallel dreams... but, in my experience at least, these are rather rare" (Jung, 1990, p.118, emphasis in original). Post-Jungians seem to recognize parallel and other types of dreaming as being more common than Jung supposed, however, they write of parallel dreams in addition to compensatory dreams rather than instead of compensatory dreams. This study will only be considering compensatory and parallel dreams.

Continuity and Mastery Models

Non-Jungian dream research recognizes that dream material is often rooted in the waking activities and experiences of the dreamer prior to going to sleep. "Factors such as who we are, what circumstances we've encountered, and how we perceive the world around us all seem to play a role in the nature of our dreams" (Koulack, 1991, p.81). One dream theory suggests that conscious experiences are incorporated into our dreams more-

or-less randomly; this theory is known as the continuity hypothesis. Beck (1969) provides two examples of studies that seem to support the continuity hypothesis. One study found that the dreams of convicted sex offenders had an increased amount of sexual activity than "comparable dreams of other kinds of convicts" (p.374). Another example is a study that showed increasingly depressed patients had increased numbers of dreams "in which they were 'losers' than did a matched group of non-depressed psychiatric patients" (p.374). The continuity hypothesis seems very similar to parallel dreaming on the surface since both theories suggest dreams will closely reflect one's daily activities. However, to be sure parallel dreaming is occurring we need to be convinced that the elements incorporated into the dreams from the waking day reflect satisfied unconscious needs. These theories suggest differences in the roots of dream images. Are they a random replay of the day's experience or symbols selected by the unconscious for their unconscious meaning? Some researchers, Greenberg and Pearlman (1975) for example, have come to the conclusion that residue from waking experiences that are incorporated in to dreams are meaningful.

Researchers have looked for patterns in the type of conscious experiences that are incorporated into dreams. It turns out that dreams regularly incorporate or reprocess elements of the day's activities that are particularly stressful (Koulack et al, 1975; Witkin & Lewis, 1965 as cited in Cohen, 1972) or that are of concern to the dreamer's conscious mind (Hoelscher, Klinger, & Barta, 1981). Koulack (1991) summarizes these studies concluding that "more stressful pre-sleep experiences are more likely to have an impact on both dream content and mood" (pp.71-72) of a dream. These findings are seen as

evidence for the other primary dream theory in the research literature, the mastery hypothesis. The function of dreams according to the mastery hypothesis is that dreams are designed to deal with stress or to work through cognitive problems during sleep in order to help the dreamer gain psychological mastery over their daytime environment. The mechanism is unclear, but the unconscious seems to reprocess disturbing events, presumably because it is adaptive for the individual.

From a Jungian perspective, it is interesting to consider the possible overlap and differences between the continuity and mastery hypothesis on one hand and Jung's parallel and compensatory dreams on the other.

The Continuity vs. Parallel Hypothesis

"The continuity theory is often contrasted with the compensation theory of dreams" (Gollnick, 1987, p.46). Is this division the most appropriate one to make however? It is perhaps not surprising given the similarities between the continuity and parallel hypotheses. However, the continuity model is not the opposite of compensation as Jung conceived it. The difference is that continuity hypothesis does not make reference to unconscious needs; it does not discriminate or specify what conscious experience might end up in the dream. In fact a compensation dream might have symbolism from recent conscious experience and would therefore be classifiable under the continuity hypothesis as well. Since a parallel dream supports a conscious attitude, a parallel dream would be more likely to be consistent with conscious experiences (and the continuity model) than a compensatory dream that is emphasizing inconsistencies with the conscious attitude. It is difficult to distinguish between parallel and continuity dreams for

this reason, but not impossible. If a theoretical unconscious need was identified and operationalized then it would be possible to suggest how much the waking environment contributes to a dream as compared to how much the attitude, which uses the same symbol from the environment, contributes to a dream. There are no empirical studies to this author's knowledge supporting or disconfirming the Jungian theory of parallel dreams.

The Mastery vs. Compensation Hypothesis

The mastery hypothesis states that dreams "serve the function of solving or attempting to solve, current emotional problems from waking life" (Beck, 1969, p.374). Implicit in the mastery hypothesis is that the dreams have some kind of guiding principle that leads people to consider different solutions to the real world problem through their dreams. This is consistent with the theoretical role of compensation, that is, an unconscious mechanism challenges 'less-than-ideal' conscious attitudes with alternatives in order to change an attitude. The challenge is particularly strong when the attitude is strongly held and highly inconsistent with the drive for individuation. In such a situation stress is the natural result and the higher the stress the greater the demands for adaptation.

Recall that research has found that identifiable stressors seem to be incorporated into dreams (Koulack, 1981) which seems to suggest the mastery hypothesis is correct. From a Jungian perspective a demand for adaptation might equate to an increased amount of unconscious (or archetypal) activity (Cann and Donderi, 1986). Research has also found that stress levels seem to influence the vividness and bizarreness of dreams (Cohen & Cox, 1975), which are two of the characteristics of archetypal dreams. Shulman (1969)

states that "it is possible that [the mastery hypothesis] idea grew out of the fact that vivid dreams are often found in the anxious or troubled person" (p.131). This evidence seems to suggest that compensation may be the more accurate interpretation.

The mastery model implies that the dreamer is consciously aware of the stressor contributing to the dream -- that the stress is a current problem the dreamer is struggling with. An unrealized unconscious need may also be a source of stress, but the root of the stress likely would not be recognized by the dreamer and thus not recognized in the dream as a current problem. This distinction makes it possible to differentiate between the most appropriate model when a dream reflects both an existential stressor and an unconscious need. Using Beck's definition above, a distinction can be made between stressors from "waking life" versus unrealized unconscious needs (which could be considered an unrecognized source of stress). Thus far, the literature has only studied consciously recognized stressors.

Spirituality

Jung's position on spirituality seems to have changed throughout his career. James Heisig (1979, as cited in Gollnick, 1987) has suggested three distinct stages of his views. From approximately 1900 to 1921 Jung seems to view religious experience as projection from emotional states. From 1921 to 1945 he seems to regard religious experience as projections of the numinous archetypes. Finally, from 1945 to 1961 in a more open view, he emphasizes that the meaning of the experience to the individual is what is most important (Gollnick, 1987). Jung did not comment on the metaphysical questions of spirituality, but instead stressed the importance of spirituality and its symbolism to

psychological health and individuation (e.g. Psychology of Religion, 1938). Jung did not believe that religious orientations, creeds, or faith in beliefs of organized religious denominations were necessarily a good measure of spirituality; he emphasized that personal experience of the divine was most important. He suggested that while religious creeds or texts may evoke personal experience with the spiritual, they may also block personal experiences of this sort. "To be the adherent of a creed, therefore, is not always a religious matter but more often a social one and, as such, it does nothing to give the individual any foundation" (CW10, p.257, as cited by Singer, 1972, p.149). For this reason, this study will focus on spirituality rather than religion and religious practices.

From a Jungian perspective, spirituality plays an important role in individuation and spiritual difficulties can often lead psychological problems. Jung is often cited as saying "behind every neuroses is a religious problem" (e.g., Lindorff, 1995, p.555). In Modern Man in Search of a Soul Jung observed that his patients who got better were "patients who recovered a spiritual orientation to life" (cited in Elkins, Hedstrom, Hughes, Leaf, & Saunders, 1988, p.6).

Reflecting on the existential human situation he asks, "could the longing for a god be a passion welling up from our darkest, instinctual nature, a passion unswayed by any outside influences, deeper and stronger perhaps than the love for a human person?" (Jung, 1935/1977, p.133, emphasis in original). He recognizes the human need for spirituality and suggests how this need may manifest. He clearly felt that experience with the energy of the archetypes is best understood as something spiritual. "Archetypes have, when they appear, a distinctly numinous character which can only be described as "spiritual"... It can

be healing or destructive but never indifferent... This aspect deserves the epithet "spiritual" above all else" (Jung, 1952/1981, p.205). His thoughts on religion show his belief in the innately unconscious roots of the spiritual. "Religion is a relation to the highest value, be it positive or negative. The relation is voluntary as well as involuntary, that is, you can accept, consciously, the value by which you are possessed unconsciously" (Jung, 1938, p.98). The distinction between religion and spirituality is that "'religion' on the primitive level means the regulatory system that is coordinated with dynamism of instinct" (Jung, 1956/1989, p.418), while what is spiritual is the specific numinosity of the archetypes.[3] Von Franz clearly believes that dreams are an important tool to understand one's personal spirituality and religion as a whole. She states that "In Jung's view, big dreams are the primal substance in which all religions have their origins" (von Franz, 1998, p.30).

As a society we often promote a singular belief in empiricism and excuse mystical ideas as childish and worthless. This may not be compatible with the needs of the unconscious for an individual or for a culture.

> There are psychological compensations that seem to be very remote from the problem on hand. ... What (humankind) has needed may eventually be needed by the individual too. It is therefore not surprising that religious compensations (emphasis added) play a great role in dreams. That this is increasingly so in our time is a natural consequence of the prevailing materialism of our outlook. (Jung, 1990, p.36).

Compensation and Parallel Spiritual Imagery.

If Jung's theory of compensation is correct, and his hypothesis that spirituality is necessary for individuation, then people low in conscious spirituality and with a high need for spiritual expression would report more spiritual symbolism in their dreams. People with high or at least an adequate level of conscious spirituality to satisfy their unconscious need, would report the least amount of spiritual imagery in their dreams. If parallel dreaming is the rule, then people low in conscious spirituality would have little spiritual symbolism in their dreams. People who hold a high or adequate level of spirituality to satisfy their unconscious need would report more spiritual imagery in their dreams.

Spiritual compensation through archetypal quality.

In The Relations Between the Ego and the Unconscious (Jung, 1935/1977) Jung infers that energy of the unconscious will find an outlet in the external world. The theory suggests that there is specific archetypal energy that can be understood as a need for spirituality and may be realized through spiritual beliefs and practices. The person who does not express this energy through spiritual beliefs and practices will need another outlet for this energy. One such outlet is very numinous dreams. Perhaps not surprising, von Franz states that many religions are founded on numinous dreams. "Ironically, today many people who dismiss dreams as meaningless accept and follow spiritual values, beliefs, and traditions which stem directly from the dreams of individuals who lived thousands of years ago" (von Franz quoted in Boa, 1994, p.57). It is also recognized that sometimes the numinous dreams seem to take over the function of spirituality for a person. "We recognize that the religious aspects of life are frequently represented in dreams and that,

for some people, dreams provide a kind of religious experience" (Gollnick 1987, p.137). For this reason, we might predict that the one-sided conscious attitude denying the spiritual might be compensated by an increase in archetypal dreams. Mattoon (1978) states

> Although any dream may be useful ...[in therapy], Jung found that if the situation is serious enough, or if the patient is not open to a needed religious orientation (emphasis added) he is likely to have some archetypal dreams that suggest a way of moving ahead... (p.68)

Archetypal dreams may compensate a number of unrealized unconscious needs which are not specific to spirituality, although the spiritual drive is singled out in the Jungian literature as a very important one. Archetypal dreams may result whenever any attitude indirectly activates a number of archetypes. Using spirituality as an important example, if Jung's hypothesis of compensation is correct, then people with stronger unconscious needs for spirituality and less conscious inclination towards spirituality, will have more archetypal dreams than others. People with an equal need for unconscious spirituality who express some of this energy through conscious spiritual beliefs and practices will not have as many archetypal dreams. If the parallel hypothesis is correct people holding spiritual beliefs proportional to their need for spirituality may find their dreams parallel this state through the numinous quality of the dream.

Spirituality and the Child Archetype

One spiritual symbol that might arise to comment on a spiritual attitude or need manifests from the child archetype.[4] The child as a symbol of spirituality is widespread and seen in many cultures across time. The child motif includes the spiritual divine child of

myths and religions around the world. From the birth of the Olympian gods of Greek mythology (e.g. Zeus, Athena, Cupid, Apollo), to the Christmas story of Christians, many myths and religions involve stories or beliefs in a divine child. The child is symbolically much closer to the "original state" (Jung & Kerenyi, 1969) of being, the foundation of our mental existence today. Jung believes this original state is tied to religious events and thus associated with the archetypal child.

> Religious observances, i.e., the retelling and ritual repetition of the mythical event, consequently serve the purpose of bringing the image of childhood, and everything connected with it, again and again before the eyes of the conscious mind so that the link with the original condition may not be broken (Jung & Kerenyi, 1969, p.81).

The result, in the case of dreams, is often child imagery and suggestions of childhood.

Jung believes the child archetype may express itself when there is an unconscious need for wholeness and for a return to the "original state" which the conscious mind may be neglecting by a one-sided point of view. As an archetype, the symbolism of the divine child is universal and will manifest regardless of a person's religious affiliation. Belief in a specific divine child is part of many religions, but the divine child archetype arises independently of these beliefs for an individual person. Jung (1969) described a number of characteristics of the child archetype. He wrote that the child archetype may express itself in a dream in the form of a child image, which like other archetypal expressions, is a metaphor. This child often has a divine parent and a mortal parent and the child is born into adversity; its very existence threatened by powerful forces which seek to destroy it.

The child archetype may also manifest as images other than a child. "It can be expressed by roundness, the circle or sphere, or else by the quaternity as another form of wholeness" (Jung & Kerenyi, 1969, p.83). As a motif, the child is often associated with abandonment and arises as a result of, or to encourage, psychical evolution directed at independence and individuation. It is also often associated with invincibility because it represents a vital undying unconscious force -- a very basic level of unconsciousness. The child motif functions to mediate between the sphere of consciousness and unconsciousness and is thus considered hermaphroditic. It is "a symbol which unites the opposites; a mediator, bringer of healing, that is, one who makes whole" (Jung & Kerenyi, 1969, p.83). This function is the reason why the child archetype is closely tied with the drive towards individuation and wholeness, and why a one-sided spiritual attitude might be reflected with this archetype. The child archetype links an individual with the past, "the child motif represents the preconscious aspect of the collective psyche" (Jung & Kerenyi, 1969, p.80), and also represents something that exists in the present which requires compensation. Bridging these dimensions, wholeness may be approached. In this regard the archetype also has the characteristic of futurity, that is it anticipates future developments. Specifically as a dream symbol, Jung says that its "purpose is to compensate or correct, in a meaningful manner, the inevitable one-sidedness and extravagances of the conscious mind" (Jung & Kerenyi, 1969, p.81). The child-symbol ties together the conscious attitude with the unconscious needs in a meaningful way to guide the individual to approach individuation, the notion of becoming psychically whole.

For this study we cannot account for all of the possible manifestations and characteristics of the child motif. We will focus on the archetype manifesting in dreams as a child image or imagery strongly suggestive of a child (e.g., pregnancy) and indirect references to childhood (e.g., toys). It may be that one's attitude is not so inconsistent with the unconscious needs that the child archetype is very active but only partially so. In such a case a mildly activated archetype may stimulate only an allusion to childhood in the dream. However, religious observances and spirituality are not the only factors that might elicit child symbolism in a dream.

Other sources of child imagery.

As mentioned, the child may be a symbol of wholeness and as such represent a person's need for individuation. The ultimate goal of the individual is self-realization which requires incorporation of all elements of the psyche: conscious and unconscious, spiritual and profane. Jung says that to achieve wholeness is "the strongest, (and) most ineluctable urge in every being" (Jung & Kerenyi, 1969, p.89). The new born child exists in a "pre-conscious state", a natural state that cannot be supplanted by, but needs to be augmented by, consciousness. The child motif may appear in a dream when a person has lost his or her roots and become very unchildlike or, on the other hand, childish.

> The archetype, because of its power to unite opposites, mediates between the unconscious substratum and the conscious mind. It throws a bridge between present-day consciousness, always in danger of losing its roots, and the natural, unconscious, instinctive wholeness of primeval times (Jung & Kerenyi, 1969, p.93).

The child symbol may also signify a new beginning, an understandably apt metaphor. As a symbol of new beginnings the child may represent a new aspect of one's life perhaps not adequately appreciated in the dreamer's conscious life. The child as a symbol may also represent more than one of these meanings.

It is impossible to control for all possible meanings of child symbolism when it appears in a dream in order to be able to consider child symbolism solely with spiritual roots. It is assumed that child symbolism of other-than-spiritual origins is equally likely in people with different levels of conscious spirituality. For example, there is no reason to expect that people low, as opposed to high, in conscious spirituality would experience more or less new beginnings in their lives and therefore have consistently more child symbolism in their dreams. Likewise the amount of child symbolism expressing wholeness is not expected to differ in people with different levels of conscious spirituality. One cannot be certain of the origin of the child symbol when it appears in a dream, "all (such) symbols are relatively fixed, but in no single case can we have the a priori certainty that in practice the symbol must be interpreted in (a certain) way" (Jung, 1934/1990, p.105, emphasis in original). Being "relatively fixed", one can have confidence that child imagery manifests in some cases for spiritual reasons. Though one cannot control for other origins of the child imagery, the rate of occurrence of these "other origin" child images is not likely to differ as a result of an individuals' conscious level of spirituality.

To illustrate the interpretation of child imagery in a dream with multifaceted meanings, one can study Jung's Seminar on Dream Analysis (1928-1930). In this seminar Jung describes a case study of dream analysis in which child imagery is central. The patient

is a 45 year-old businessman, whom Jung describes as sanctimonious but immoral in reality. He holds a one-sided attitude, i.e., that he is completely righteous and proper. Two years previously this man began reading and studying the occult and spiritualism but had given this interest up shortly before the dream. These interests reflected a side of the world he had not explored through his religion. Feeling these interests were not very appropriate, and could compromise his persona of righteousness, he pursued these topics solely as an academic pursuit. In Jung's psychology this man's pursuit of the occult is the result of his shadow side that needed exploring; a side of him that was hidden and ignored because it was inconsistent with his conscious beliefs. The man dreams of a two year-old child which, at first, Jung considers as a representation of the two year-old occult interests. Jung, however, is not content leaving it at this level of interpretation. The child is also ill in the dream, which Jung suggests is because of this man's "unsound occupation" (p.55) with the occult; this man's occult spiritual interests were not healthy for him. It appears as if the child archetype was activated in this man to compensate his one-sided conscious attitude of righteousness and to represent both his spiritual interests (which were also newly begun) and drive to approach wholeness (i.e., his drive for individuation, which includes the integration of shadow). Jung believes the child-symbol compensated this man's attitude that would not recognize his shadow side as he holds the belief that he is only virtuous and what is negative is outside of him.

The likelihood of child imagery elicited from the divine child archetype may change as a function of variables such as the age. According to Jungian theory, an individual is first concerned with establishing him/herself in the material world and then, after midlife,

becomes more concerned with spiritual issues. For this reason one might expect increased levels of child manifestations in the dreams of older subjects. In The Structure and Dynamics of the Psyche Jung states that, especially around mid-life, "archetypal products are no longer concerned with personal experiences but with general ideas, whose chief significance lies in their intrinsic meaning and not in any personal experience and its associations" (Jung, 1990, p.77). Among subjects younger than midlife age (which Jung defines as 36 - 40), spirituality will have a variable degree of intrinsic value. In contrast, non-Jungian research suggests that all age groups are likely concerned with spiritual issues. Silber and Reilly (1985) cite Kohlberg and Gilligen (1971) and Silber (1980, 1981) which suggest that adolescents are often concerned with spiritual issues since adolescence is an age for the "elaboration and testing of value systems" (p.217).

Child imagery is associated with other archetypes such as the archetype of the mother, father, and hero. It is an unfortunately difficult task to distinguish between child symbolism elicited from the divine child archetype and these other archetypes. For this reason it is important to assess and control for potential sources of child imagery and known covariates in a study concerned with child imagery. Hall and van de Castle (1966) completed normative data of many dream images which suggests approximately 5 percent of women's dreams contain child imagery (i.e., direct imagery of a child between one and twelve years old). Biological factors may also contribute to dreams with child content. Van de Castle (1969) found an increase in child symbolism in the dreams of pregnant and menstruating women. Van de Castle found 35% of dreams from 20 pregnant women in their last trimester made reference to a baby or child which is considerably more than the

5% of child dreams from women in Hall and Van de Castle's normative table. Further, he indicates that significantly more references to babies and children were found in the dreams of women during menstruation (Kramer, Whitman, Baldridge, & Ornstein, 1969, p.188). These manifestations are not surprising given the conscious concerns over delivery or menstruation as well as the mother (or father) archetypes which will be active at such times. A pregnant woman may be feeling many, often ambivalent, feelings about her impending delivery, and for this reason child imagery is especially high (von Franz, 1994). Gender differences have been found in Hall and Van de Castle's Content Analysis of Dreams (1969) where women tend to have a greater proportion of children-characters in their dreams than men. These differences might not have been as salient if pregnancy or menstruation was controlled for. Children accounted for 4.2% of characters and babies accounted for 1.1% of characters in women's dreams, compared to 1.8% and 0.3% respectively in men's dreams. Men had more references to certain indirect child symbolism however, such as toys. Toys appeared in one of the men's dreams and not in women's dreams sampled. This is the only biological variable in the literature, known to the author, related to child symbolism in dreams.

Exposure to children in waking life may increase incidence of child imagery in dreams. Indeed the continuity model would hold that contact with children in waking life is the most important factor predicting child content in dreams. Recall that continuity does not necessarily imply parallel dreaming unless the symbol is reflecting the acceptance of an unconscious need. Here-in-lies the primary difficulty in testing the Jungian hypotheses -- that we cannot, at this time, empirically assess the unconscious need for spirituality and

can only infer this need from the hypothesized relationship between the conscious attitude and dream content.

The fundamental difference between the continuity hypothesis and parallel hypothesis is that the continuity hypothesis emphasizes the importance of the spiritual experiences while the parallel hypothesis emphasizes the importance of the spiritual attitude. The continuity hypothesis would predict that child imagery would be associated with involvement in religious activities, regardless of one's spiritual attitudes, whereas the parallel model would predict that child imagery would be associated with spiritual attitudes and not necessarily religious activities. The necessary assumption is that those who are involved in religious activities will be exposed to the divine child symbol more often than those who do not have such religious involvement. As a very obvious example, consider that a Christian that goes to church around Christmas time will, almost inevitably, be exposed to the divine Christ child image some time in the service. As mentioned earlier, there are a number of other, and less obvious, divine child images that may arise in a spiritual activity. If the continuity hypothesis is true, then there would be more child dreams in the religiously involved individuals because the increased exposure to divine child symbolism will simply be incorporated into the dreams. According to continuity theory, subjects involved in religious functions should have similar levels of incorporation of child symbolism, regardless of spiritual beliefs, since exposure is the only important factor determining dream symbolism according to this model. In contrast, parallel hypothesis would suggest that recognizing spirituality in one's life should be the most important distinction determining child symbolism in dreams rather than mere exposure

such as those gained through religious activities. If the parallel hypothesis is correct one would hypothesize that religious involvement will not explain significant variability in child imagery in dreams, instead it would predict that the higher the level of non-denominational spiritual beliefs a person holds the higher the level of child symbolism. It is likely that religious involvement and holding spiritual beliefs will be positively correlated, however one variable may explain variability in child imagery better than the other. The compensation hypothesis would be supported by results opposite to the parallel hypothesis, that the lower the level of non-denominational spiritual beliefs a person holds the higher the level of child symbolism.

Summary of Argument

Jung believed that dreams play an important role in the process of individuation as they mediate between consciousness and unconsciousness. Specifically, Jung postulated that dream imagery arises to illustrate to the dreamer that s/he holds a conscious attitude that is inconsistent with the needs of the unconscious. This idea is known as the compensatory model of dreaming. Post-Jungians often support the idea that dreams arise to support a conscious attitude that is consistent with unconscious needs, a hypothesis known as the parallel model. The needs of the unconscious are more or less regulated by the autonomous energy of the archetypes, which are the innate formative principles composing the unconscious. Jung viewed spirituality as a central unconscious need. This study will test these hypotheses by examining the appearance of one spiritual symbol, the child (a manifestation of the divine child archetype), in people with different levels of conscious spirituality. It is impossible to assess one's level of unconscious need for

spirituality because of a lack of an established measure. If the compensatory hypothesis is correct, then people with lower levels of conscious spirituality will have higher levels of child symbolism in their dreams than people with higher levels of conscious spirituality. This is because the dreams will reflect the need for spirituality when individuals do not hold the needed spiritual attitudes. If the parallel hypothesis is correct people with strong spiritual attitudes will have more child symbolism in their dreams.

Dreams may also compensate or parallel conscious attitudes through their experiential quality, that is, through archetypal rather than everyday characteristics. Jung believed that the highly emotional and numinous quality of an archetypal dream is a way to get the attention of consciousness and compensate a one-sided attitude. People with low levels of conscious spirituality may report more archetypal dreams than people with higher levels of conscious spirituality, regardless of their specific dream content.

The Jungian parallel model of dreaming and the continuity hypothesis (a major model of the empirical dream literature) are similar in their emphasis on dream imagery being closely associated with conscious experiences. However, it is the compensatory hypothesis that is often, inappropriately, contrasted with the continuity hypothesis. The continuity hypothesis states that elements from waking experiences are incorporated into dreams, while the parallel hypothesis of dreams states that one's conscious attitudes that are consistent with one's unconscious needs are reflected in dreams. Parallel dreams are bound to be similar to continuity dreams since there is little distortion from waking life in a dream where attitudes are being supported.[5] This study will test whether spiritual activities

or one's spiritual attitude is a better predictor of child symbolism in dreams, supporting the continuity or the Jungian models of dreaming respectively.

This study will also compare the compensatory and mastery models which are similar in that both models suggest there is a self-righting function to dreams. The mastery hypothesis claims that the function of dreams is to work through stressful situations from waking experience. According to this model, dreams process stressful situations with the goal of reducing stress and to encourage psychological mastery of the environment. According to compensation hypothesis, dreams also function to encourage change, in this case change of one's attitude that is not consistent with an unconscious need (which may be understood as an unconscious source of stress). If the mastery hypothesis is the correct model, then self reported degree of satisfaction with one's spiritual beliefs would be negatively associated with child imagery (i.e., the dreamer is "stressed" with his/her spiritual life). The conscious dissatisfaction with one's spiritual life or practices should be associated with child symbolism according to this hypothesis. In contrast, if the compensatory hypothesis is correct, then one's spiritual attitude would be positively associated with child imagery and conscious stress would not be associated with the imagery.

Hypotheses

Hypothesis 1. Although Jung emphasized the compensatory function of dreams, there is not enough theoretical, clinical, or research evidence to predict whether the compensatory hypothesis is more likely than the parallel hypothesis. As a result, two competing hypotheses are made:

a) If the compensatory hypothesis is correct then the conscious spiritual attitude will be a negative predictor of child content in dreams.

b) If the parallel hypothesis is correct then the conscious spiritual attitude will be a positive predictor of child content in dreams.

Hypothesis 2. As with hypothesis 1, two competing hypotheses will be tested:

a) If the compensatory hypothesis is correct, conscious spirituality will be compensated by the archetypal quality of dreams. The conscious spiritual attitude will be a negative predictor of archetypal dreams.

b) If the parallel hypothesis is correct, subjects with higher levels of spirituality will have more archetypal dreams.

Hypothesis 3. The spiritual attitude will be a better predictor of child imagery than religious activity. This finding will support the parallel hypothesis over the continuity hypothesis.

Hypothesis 4. The spiritual attitude will be a better predictor of child imagery than spiritual dissatisfaction. This finding will support the compensatory hypothesis over the mastery hypothesis.

The tests of the above hypotheses will control for the effects of all applicable significant covariates. These potential covariates include demographic variables (age, gender, marital status), religious variables (religious affiliation, religious activities), child contact variables (parenthood, exposure to children, menstruation, pregnancy), and a stress variable.

Method

Subjects

One-hundred-twenty University of Manitoba students were recruited during summer session 1999 from three psychology classes: Introductory Psychology, Abnormal Psychology, and Transpersonal/ Humanistic Psychology. For their participation in this study, Introductory Psychology students were offered research credits for partial fulfilment of their class requirements, and Abnormal and Transpersonal/ Humanistic Psychology students were offered bonus marks in their respective course. Eighteen subjects dropped out of the study after dropping out of their course. Three subjects were excluded from the analyses as no demographic information was submitted with the dream journals and measures. The final sample was 101 subjects, 67 women and 34 men. Forty-five of the subjects came from the Introductory Psychology class, 24 from the Transpersonal/humanistic Psychology class, and 32 from the Abnormal Psychology class.

Tables 1, 2, and 3 provide descriptive information about the subjects and their responses to the research measures. The subjects were primarily young, with ages ranging from 18 to 46 (M = 23.66, SD = 6.53). Most subjects were single; 13 were parents, each having 1 to 3 children. Subjects, on average, had fairly regular contact with children (M = 4.61, SD = 1.80) and were moderately stressed (M = 4.36, SD = 1.51). Nearly all the subjects considered themselves Christian, attending an average of 24.74 services a year (range = 0 to 104, SD = 29.06). On average, subjects were slightly dissatisfied with their level of spiritual understanding. All but two subjects considered themselves humanistic.

Table 1

Descriptive Statistics of Continuous Variables

Continuous Variable	n	Range	Mean	SD	Skew	Kurtosis
1. # dreams	1233	0-29	8.13	5.44	.73	-.02
2. Age	101	18-46	23.66	6.53	1.97	3.09
3. Exposure	101	1-7	4.61	1.80	-.24	-.87
4. Stress	101	0-10	4.36	1.51	-.11	-.59
5. MCSDS	101	3-29	15.36	5.11	-.03	.22
6. SOI	101	224-573	402.77	78.21	.06	-.35
7. Spiritual[1]	101	1-7	4.22	1.60	-.18	-.51
8. Religious[1]	99	1-7	3.39	1.88	.28	-1.25
9. Humanist[1]	101	1-7	5.03	1.35	-.65	-1.25
10. Services	101	0-104	24.74	29.06	1.18	.74
11. Satisfaction	101	0-7	8.13	1.44	.15	-.63
12. Child dreams	101	0-100	13.62	16.51	2.19	7.45
13. Archetypal dream	99	0-100	25.08	24.16	1.00	.69

Note. # dreams = number of dreams, Exposure = exposure to children, MCSDS = Marlowe-Crowne Social Desirability Scale, Spiritual = How spiritual?, Religious = How religious?, Humanist = How humanistic?, Services = Number of services per year, Satisfaction = How satisfied with spiritual beliefs, Child dreams = percentage of child dreams, Arc. dream = percentage of archetypal dreams.

[1]Scored on a 7 point Likert scale, 1 = extremely to 7 = not at all, then rescored to have 7 = extremely to 1 = not at all.

*** $p <= .001$, ** $p <= .05$, * $p <= .10$

Table 2

Descriptive Statistics of Classificatory Variables

Classificatory Variable	Classification	n
Parent	Yes	13
	No	88
Marital Status	Single	87
	Married	5
	Divorced	4
	Common-law	4
	Other	1
Religious orientation	Christian	57
	Muslim	0
	Buddhist	2
	Hindu	1
	Other	5
Spiritual person	Yes	69
	No	32
Religious person	Yes	44
	No	57
Humanistic person	Yes	99
	No	2

Table 3
Correlation Matrix

Variable	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. # dreams																	
2. Age	-																
3. Exposure	.37**	-															
4. Stress	.00	-.11	-														
5. MCSDS	.09	.02	-.06	-													
6. SOI	-.02	.14	-.03	-.03	-												
7. Spiritual[1]	.13	.23*	.06	.29*	.61**	-											
8. Religious[1]	-.14	-.05	.19	.12	.27*	.52**	-										
9. Humanist[1]	-.28*	.16	-.04	.06	.15	.22*	-.10	-									
10. Services	-.24*	-.11	-.05	.18	.26*	.40**	.61*	-.20	-								
11. Satisfaction	-.08	-.28*	.08	-.11	.19*	-.3**	-.07	-.27*	-.27*	-							
12. Ch. dream	.27*	.23*	.11	.08	.03	.14	.07	.04	-.09	-.13	-						
13. Arc. dream	.06	-.15	.02	-.19	-20*	-.16	-.11	.02	-.09	.06	.11	-					
14. Parent	.78**	.49*	-.07	.08	.24*	.19	-.13	.21*	-.10	-.14	.32**	-.16	-				
15. Marital status	.51*	.23	-.14	-.03	.21*	.18	-.09	.26**	-.18	-.18	.23*	.08	.45**	-			
16. Spiritual (y/n)	.15	.09	-.02	.22*	.55**	.48**	.19	.00	.31**	-.17	.21*	.03	.14	.14	-		
17. Religious(y/n)	-.17	.00	.12	.21*	.25*	.32**	.65**	-.15	.45**	.03	.03	-.18	-.16	-.22*	.34**	-	
18.Humanistic(y/n)	-.03	-.12	.11	.17	.18	.15	.15	.21*	.10	.11	-.03	.15	-.16	-.04	.06	.13	-

Note. # dreams = number of dreams, Exposure = exposure to children, MCSDS = Marlowe-Crowne Social Desirability Scale, Spiritual = How spiritual?, Religious = How religious?, Humanist = How humanistic?, Services = Number of services per year, Satisfaction = How satisfied with spiritual beliefs, Ch. dream = percentage of child dreams, Arc. dream = percentage of archetypal dreams, Parent (0 = no, 1= yes),.Marital status (1= single, 2= married, 3 = divorced, 4 = common-law, 5 = other), Spiritual, Religious, and Humanistic (y/n) (0 = no, 1= yes).

[1]Scored on a 7 point Likert scale, 1 = extremely to 7 = not at all, then rescored to have 7 = extremely to 1 = not at all.

** $p <= .001$, * $p <= .05$

Procedure

Participation in the study included a) attending an initial meeting in which the study was introduced and dream booklets were distributed, b) keeping a dream diary by recording dreams each day for three weeks, and c) attending a final meeting to hand in the dream booklet, to complete the research measures and for debriefing. The initial and final meetings were done as group administrations. Subjects were introduced to the study by an experimentally blind assistant who followed a standardized procedure for introducing and running the study (Appendix A). Subjects were asked to read and sign informed consent for their participation (Appendix B). Subjects were given an information package with instructions on how to record their dreams (Appendix C), instructions to help increase dream recall for subjects who wished to try and improve their recall (Appendix D), and the blank dream journal (Appendix E). Subjects were contacted by phone or by email at the end of the first and second week of the study. This contact was to provide the subjects with an opportunity to ask questions about the procedures of the study and to confirm that the subjects were following the directions of the dream journal or, if not, remind them of the procedures. Upon handing in the dream journal, a research assistant following the experimental protocol (Appendix F) had the subjects complete a brief demographic information sheet (Appendix G), the Spiritual Orientation Inventory (Appendix H), and the Marlowe-Crowne Social Desirability Scale (Appendix I). These measures were administered after the journal was completed so that knowledge of the spiritual measure would not influence the subject's dream recording, and, potentially, dream experience.

Once the dreams and scales were handed in, the administrator handed out a debriefing form (Appendix J) and discussed the study with interested subjects.

Measures

Spiritual Orientation Inventory (SOI).

To measure spirituality in a way close to Jung's non-doctrinal understanding of spiritual experience, this study used the Spiritual Orientation Inventory (SOI; Elkins et al., 1988). This 85-item humanistic measure of spirituality was developed, in part, with Jung's perspective of spirituality in mind. Zainuddin (1993) found the SOI correlates with self-actualization needs, which is consistent with the idea of Jung's view of spirituality and individuation. The test is a non-denominational measure of spirituality which measures 9 dimensions of spirituality and yields a total score. Only the total score is considered for this study. Each item is rated on a 7-point Likert scale ranging from 1 = "intensely disagree" to 7 = "intensely agree". Missing scores were assigned a score of 4. Total scores ranged from 85 to 595; the higher the score, the higher the level of conscious spirituality. There are no norms published for comparison. Previous research has found the scale reliable (coefficient alphas ranging from .75 to .95 on the sub-scales), and criterion validity of the scale has been supported (Lauri & Elkins, 1988 as cited in Elkins et al., 1988).

Internal consistency for this scale in the present study, as a whole, was exceptionally high (coefficient alpha = .97).[6] Concurrent validity of the SOI was supported by self-report questions pertaining to spirituality (see Table 3). The SOI correlated significantly with subject's self-ratings of spirituality as assessed by the questions "Are you a spiritual person?" (r = .55, p < .001, two tailed), and "How spiritual?" (r = .61, p <

.001). The SOI also correlated significantly with self ratings of religiosity as assessed by the questions "Are you a religious person?" (r = .23, p <.05) and "How religious?" (r = .28, p < .001). These correlations indicate that the scores on the SOI are closely associated with self-reported levels of spirituality and religiosity. The SOI, on the other hand, did not correlate significantly with subjects' perception of themselves as humanistic as assessed with the questions "Are you a humanistic person?" (r = .17, p >.05) and "How humanistic?" (r = .16, p >.05). These correlations indicate that the scale does not measure self-reported humanistic beliefs, a construct it was not designed to measure. Interestingly, self-reported humanistic beliefs did correlate with self-reported spiritual beliefs (r = .22, p < .05).

Child Imagery Scoring Index.

Dreams were scored for child symbolism with the Child Imagery Scoring Index (CISI), a scale based in part on Hall and Van de Castle's (1966) system of content analysis. Details of the CISI are outlined in Appendix K. Child imagery is identified and weighted to reflect the salience of child imagery in the dreams (i.e., 2 points for each child image, 1 point for each indirect reference to childhood) and its prevalence (a total score for the dream). Any dream with a score of 1 or more was considered a child dream. For each subject, the number of child dreams divided by the number of dreams for each subject was calculated to control for the number of dreams submitted and expressed as a percentage. This percentage of child dreams was the primary CISI score for each subject.

Since this scale was developed for this study, the scoring criteria were initially screened by 4 experimentally blind undergraduate raters for clarity and revised based on

their feedback. The raters then practised with the revised version using sample dreams with a variety of child content. The raters signed a confidentiality agreement (Appendix L) after which half of the data were distributed to them for scoring, with 5 journals being scored by all 4 raters. Raters scored the journals for child content and archetypal quality at the same time. Using the journals that all raters had scored, inter-rater reliability for the CISI in the first half of the scoring was $\underline{r} = .78$. At a recalibration meeting, raters were given feedback on their scoring in an effort to make the scoring more reliable. The second half of the data were distributed and scored, again with 4 journals scored by all the raters. Inter-rater reliability for the second half of the data was .92. Overall the inter-rater reliability for the scale was $\underline{r} = .84$.

Archetypal Dreaming Scale.

The archetypal quality of the dreams was scored with Cann and Donderi's (1986) revised version of Kluger's (1975) scale to measure archetypal dreaming. Each dream was scored for affect, rationality, and everydayness to determine the archetypal quality. Details of the scoring are given in Appendix M. Dreams are categorized as archetypal if they meet 2 of the 3 criteria: high affect, irrationality, and unlike everyday life. If 1 or none of the criteria is met, then the dream is categorized as everyday. The percentage of archetypal dreams submitted by each subject was calculated to control for the number of dreams submitted.

Inter-rater reliability was $\underline{r} = .56$ for the first half of the data. Raters were given feedback regarding the inter-rater reliability with specific suggestions to improve the reliability given to raters deviating from the scoring criteria. Reliability of the second half

of the data improved to .82. Overall, the reliability was .61, lower than that reported by Cann and Donderi and by Kluger.

Marlowe-Crowne Social Desirability Scale.

The Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1964) was administered in order to be able to control for socially desirable response sets. Of particular concern for this study was that high SOI scores may be due to socially desirable responding for some subjects. This well established measure of social desirability has an internal consistency coefficient of .88 and test-retest correlation of .88 (Crowne & Marlowe, 1964). Subjects for this study scored very consistently with the normative sample of American university student volunteers for psychological experiments (this study: $\underline{M}$ = 15.36, SD 5.11; normative sample: (males) $\underline{M}$ = 13.88, SD = 4.95, (females) $\underline{M}$ = 16.04, SD = 4.44). The Marlowe-Crowne scores did not correlate significantly with the SOI scores.

Demographic Survey.

Subjects filled out a demographic survey measuring characteristics of the sample and potential covariates of the main measures. Stress levels and menstruation were measured on a daily basis, and therefore they were reported directly on the dream diary forms. A single stress score was calculated for each subject -- the sum of the daily stress ratings divided by the number of days with a stress rating provided.

Myers-Briggs Type Indicator.

The Myers-Briggs Type Indicator (MBTI) Form G was administered to the subjects as an exploratory part of this study (Appendix N). This measure was not a part of this thesis research.

Results

Descriptive Statistics

Dream diaries were kept for 2253 cumulative days and a total of 1235 dreams were reported on a total of 1083 days. Subjects reported up to 5 dreams in a night, and between 0 to 29 dreams in total. The mean number of dreams submitted was 8.13 (SD = 5.44). All analyses were done using SPSS 8.0 for Windows.

An ANOVA tested whether subjects from different classes scored differently on the main variables. The Transpersonal / Humanistic Psychology students had higher ($F = 4.63$, $p < .05$) SOI scores ($M = 444$, $SD = 79.71$) than the Introductory Psychology class ($M = 394$, $SD = 69.22$) and the Abnormal Psychology class ($M = 387$, $SD = 80.23$). Class was therefore considered a covariate of SOI scores. Classes did not differ on the variables Percent Child Dreams ($F(2,100) = .39$, $p = .68$) or Archetypal Dreams ($F(2,98) = 1.38$, $p = .26$). Consequently class was not a covariate in the tests of the main hypotheses for which these were the dependent variables.

Spiritual Orientation Inventory

SOI scores ranged from 224 to 573 with a mean of 402.77 (SD = 78.21). Scores were approximately normally distributed, linear, homoscedastic, and without major outliers. A stepwise regression tested which of the potential covariates explained

variability in SOI scores (see Table 4). Parenthood and the number of spiritual services attended explained significant variability (adjusted $R^2 = .16$) in SOI scores ($F = 7.05$, $p < .01$) and will be considered covariates. Compared to non-parents, parents reliably had higher SOI scores. Subjects who attended more spiritual services had higher SOI scores than those attending less services. Age, Gender, Contact With Children, Spiritual Satisfaction, Stress, and Social Desirability scores did not explain significant variability in the SOI. Subjects' spirituality scores did not differ on these variables, and as such they were not entered in to the regression equations. The influence of these variables should be kept in mind when interpreting the results.

Archetypal Dreaming Scale

Of the 1235 dreams, 310 were considered "Archetypal" (25.10%), 918 were "Everyday". This is very consistent with the reported prevalence of archetypal dreaming, 24% and 20%, reported by Cann and Donderi (1986) and Kluger (1975), respectively. Archetypal Dreaming scores were approximately normally distributed, linear, homoscedastic, and without major outliers. The Percent of Archetypal Dream scores ranged from 0 to 100% with a mean of 24.56% (SD = 24.11) archetypal dreams per subject. Unexpectedly, men had a significantly greater proportion of archetypal dreams than women (men: 32.39%, women: 19.46%; $F = 6.19$, $p = .02$).

A stepwise regression determined that, of the potential covariates, only gender predicts significant variability (adjusted $R^2 = .13$, $F = 11.383$, $p = .001$) in Archetypal Dreaming scores (see Table 5). The subject's percentage of archetypal dreams did not differ due to the subject's age, how many spiritual services they attend in a year, how

Table 4

Summary of Stepwise Regression Analysis for Potential Covariates of SOI (N = 101)

Variable	B	SE B	Beta	R^2 change	Adjusted R^2
Parenthood	85.72	31.41	.32**	.10**	.09**
Number of services	0.73	0.30	.28**	.08**	.16**
Marlowe-Crowne	3.77	2.02	.22*	.04*	.19***
Spiritual satisfaction	-8.17	6.37	-.16	.02	.20***
Age	3.47	2.78	.25	.02	.20**
Stress	7.74	5.83	-.15	.02	.21**
Gender	-13.40	18.79	-.08	.01	.20**
Contact with children	.51	5.91	.01	.00	.19**

***p <= .001, **p <= .05, *p <= .10

Table 5

Summary of Stepwise Regression Analysis for Potential Covariates of Archetypal Dreaming scores (N = 101)

Variable	B	SE B	Beta	R^2 change	Adjusted R^2
Gender	17.76	5.26	.37***	.14***	.13***
Spiritual satisfaction	3.12	1.67	-.02*	.04*	.16***
Stress	.47	1.65	-.05	.00	.15**
Age	4.43^{x10-2}	.46	.20	.00	.13**
Number of services	4.34^{x10-2}	.09	.03	.00	.12**

***p <= .001, **p <= .05, *p <= .10

satisfied the subject was with his/her spiritual understanding, or how stressed the subject was. As a result, gender was considered the only significant covariate of Archetypal Dreaming scores for the regression tests of these hypotheses. SOI scores correlated significantly with archetypal dreaming scores ($r = -.20$, $p < .05$).

Child Imagery Scoring Index

Of the 1235 dreams, 165 (13.36%) had child imagery. The child dreams were reported by 64 subjects; 46 women had 124 of the child dreams, 18 men had 41 child dreams. CISI scores were approximately normally distributed, linear, homoscedastic, and without major outliers. Men and women had similar levels of child dreaming ($F = 3.00$, $p = .09$).

Child imagery scores correlated with many variables including age ($r = .27$, $p < .05$), exposure to children ($r = .23$, $p < .05$), parenthood ($r = .32$, $p < .001$), marital status ($r = .23$, $p < .05$), and self-reported spirituality ($r = .21$, $p < .05$). A regression tested the covariates of the CISI scores (see Table 6). Parenthood was found to be the only variable to explain significant variability in CISI scores (adjusted $R^2 = .30$, $F = 29.32$, $p < .001$). The subject's age, gender, the number of services attended, and degree of contact with children did not influence the level of child imagery in dreams. A t-test comparing child imagery in menstrual days compared with non-menstrual days showed that females did not report significantly more child imagery when menstruating ($t(37) = -1.02$, $p = .32$). Parenthood, therefore, was considered the only significant covariate of CISI scores.

Table 6

Summary of Stepwise Regression Analysis for Potential Covariates of CISI (N = 101)

Variable	B	SE B	Beta	R^2 change	Adjusted R^2
Parenthood	33.62	6.21	.56***	.31***	.30***
Age	-.32	.57	-.10	.00	.29***
Gender	.94	3.97	.03	.00	.28***
Contact with children	-.27	1.14	-.03	.00	.27***
Number of services	-8.09^{x10-3}	.07	-.01	.00	.26***

***p <= .001, **p <= .05, *p <= .10

Hypothesis testing

Hierarchical multiple regressions tested each of the main hypotheses. In each case the covariate of the independent variable, determined from the above tests, was entered as step 1, followed by the dependent variables specified in the hypothesis as step 2, two-way interactions were entered as step 3, and finally any three-way interactions entered as step 4.

Hypothesis 1.

The compensatory and parallel models of dreaming were compared by testing if spirituality explained variability in child imagery in dreams, controlling for the effects of being a parent. Parenthood explained 9.5% (adjusted R^2; $F = 11.36$, $p = .001$) of the variability in CISI scores and, once this variability was accounted for, the SOI did not explain significant variability (see Table 7). Parents are more likely to have dreams with child imagery. Spiritual beliefs do not account for child imagery in dreams. The non-significant relationship between spirituality and child imagery was the same for parents and non-parents. Since both the compensatory and parallel models suggest spirituality is associated with levels of child imagery in dreams, neither hypothesis was supported.

Hypothesis 2.

The Jungian model predicts that levels of spirituality would explain variability in archetypal dreaming scores in a compensatory or parallel manner. The hierarchical multiple regression testing this hypothesis indicated a supportive trend for the compensatory model (see Table 8). The covariate, gender, explained significant variability in Archetypal Dreaming scores (adjusted $R^2 = .046$, $F = 4.92$, $p < .05$) due to higher levels

Table 7

Hierarchical Regression Analysis for Variables Predicting CISI Scores (N = 101)

Variable	B	SE B	Beta	R^2 change	Adjusted R^2
Step 1					
Parenthood	15.76	4.67	.32***	.10***	.10***
Step 2					
SOI	1.08^{x10-2}	.02	-.05	.00	.09**
Step 3					
SOIXParent	-2.82^{x10-2}	.06	-.27	.00	.08**

Note. SOI = Spiritual Orientation Inventory.
***p <= .001, **p <= .05

Table 8

Hierarchical Regression Analysis for Variables Predicting Archetypal Dreaming Scores (N = 101)

Variable	B	SE B	Beta	R^2 change	Adjusted R^2
Step 1					
Gender	11.29	5.09	.22**	.05**	.04**
Step 2					
SOI	-5.87^{x10-2}	.03	-.19*	.04*	.06**
Step 3					
SOIXGender	-5.22^{x10-2}	.06	.50	.01	.06**

Note. SOI = Spiritual Orientation Inventory.
***p <= .001, **p <= .05, *p <= .10

of archetypal dreaming for the men in the sample. Variability explained by the SOI neared significance (R^2 change = .04, $p <= .10$). This finding suggests that, controlling for subject gender, the higher the reported spirituality of the person, the fewer the archetypal dreams, and vice versa. This finding provides some support for the compensatory hypothesis.

Hypothesis 3.

The Jungian model of dreaming predicts that spiritual attitudes will be a better predictor of child imagery than the number of spiritual services a person attends, whereas the continuity model of dreaming predicts the opposite. In this regression, Parenthood, the covariate of the CISI, explained 19% (adjusted R^2; $F = 8.36$, $p < .001$) of the variability in the CISI scores. After this variability was controlled for, neither the SOI nor Number of Services explained significant variability in CISI scores (see Table 9). Again, parenthood is a good predictor of child imagery, and when controlled for, prevalence of child imagery was not predicted by subject's levels of spirituality or by the number of spiritual services the subjects attended; thus neither the Jungian or continuity model is supported by the data.

The significant Parenthood by SOI interaction ($t = -3.17$, $p = .002$) suggests the pattern of SOI and child imagery scores is different for parents and non-parents. Graphical representation of the data suggests the parents' SOI scores inversely relate to archetypal dreaming levels, consistent with the compensation hypothesis, more so than non-parents. Note, however, that this sample only contains 13 parents, as compared to 88 single participants, and it was felt that further analysis using such an unequal sample was not appropriate.

Table 9

Hierarchical Regression Analysis for Variables Predicting CISI Scores (N = 101)

Variable	B	SE B	Beta	R^2 change	Adjusted R^2
Step 1					
Parenthood	27.41	6.40	.45***	.20***	.19***
Step 2					
SOI	-2.65^{x10-2}	.03	-.12		
Services	-1.02^{x10-2}	.07	-.02	.01	.18***
Step 3					
ParentXServices	.37	.29	.17		
SOIXServices	-1.07^{x10-3}	.00	-.79		
SOIXParent	-.29	.09	-2.40**	.15**	.31***
Step 4					
SOIXParentXServices	-1.16^{x10-2}	.00	-2.54**	.08**	.39***

Note. SOI = Spiritual Orientation Inventory.
***p <= .001, **p <= .05

Hypothesis 4.

The Jungian model of dreaming predicts that spiritual attitudes will be a better predictor of child imagery than spiritual satisfaction. The mastery model of dreaming predicts that spiritual dissatisfaction will predict child imagery better than spiritual attitudes. To determine if the Jungian model or the mastery model of dreaming best accounts for child imagery in dreams these variables were entered into a regression. Parenthood again explained 9.5% (adjusted R^2; $F = 11.36$, $p = .001$) of the variability in the CISI scores. After controlling for this, neither the SOI nor Spiritual Satisfaction explained significant variability in CISI scores (see Table 10). Once the variance accounted for by parental satisfaction was controlled for, neither how spiritual the subject was nor how satisfied the subject was with his/her spiritual understanding explained the presence or absence of child imagery. As a result, neither the Jungian nor Mastery model was supported.

Supplemental Analyses

Exploratory analyses followed up the trend indicating that, controlling for the effects of gender, SOI scores predict archetypal dreams in a compensatory manner, i.e., that lower spirituality scores tend to be associated with more archetypal dreams and vice versa. Visual examination of the SOI scores, dividing the sample into those with archetypal dreams and those with none, indicated that subjects who had no archetypal dreams had a representative variety of SOI scores which approximated a normal distribution, skew, and kurtosis. Subjects reporting archetypal dreams on the other hand showed a negative correlation with SOI scores. Consequently, hypothesis 1 was tested

Table 10

Hierarchical Regression Analysis for Variables Predicting CISI Scores (N = 101)

Variable	B	SE B	Beta	R^2 change	Adjusted R^2
Step 1					
Parenthood	15.76	4.68	.32***	.10***	.10***
Step 2					
SOI	-1.38^{x10-2}	.02	-.07		
Satisfied	-.99	1.14	-.09	.01	.09**
Step 3					
SOIXSatisfied	-1.10^{x10-2}	.01	-.38		
ParentXSatisfied	-7.40	4.38	-.45*		
ParentXSOI	-.12	.08	-1.08	.04	.10**
Step 4					
SOIXParentXSatisfied	-2.96^{x10-2}	.07	-.75	.00	.09**

Note. SOI = Spiritual Orientation Inventory, Satisfied = Satisfied with spiritual understanding.
***p <= .001, **p <= .05, *p <= .10

again, this time only with participants who reported at least one archetypal dream (n= 75). This sample consisted of 47 women and 28 men (20 women and 6 men with exclusively everyday dreams were not included in these analyses), and with the exception of the change in proportion of each gender, the sample appeared consistent with the original sample on all the demographic variables. As shown in table 11, with this sample, gender was no longer a significant covariate of archetypal dreaming and SOI scores explained significant variability in archetypal dreaming scores in a compensatory manner ($F(1, 74) = 5.44$, $p = .02$). The Compensatory hypothesis -- that lower levels of spirituality would be associated with more archetypal dreaming, and vice versa -- was supported for both men and women in this sub-sample of archetypal dreamers.

Limitation of Analyses

There is an unfortunately high number of analyses on this data leading to a higher than desired probability that some of the findings may be due to chance. ANOVAs were used to test for differences in SOI scores from the different classes and to test if men and women differed in the amounts of child imagery and archetypal dreams. Three regressions were used to test for variables associated with each of the main measures. Regressions were also used to test each of the 4 main hypotheses, and 1 regression was used to re-test hypothesis 1 with the archetypal dreamers only. A t-test was used to test if there was a difference in child imagery scores for women when menstruating and when not. These 12 tests used 95% confidence intervals in each case. Child imagery was the dependent variable for 7 tests (5 regressions, an ANOVA, and a t-test), archetypal dreaming scores was the dependent variable in 3 tests (2 regressions and 1 ANOVA), and the SOI was the

Table 11

Hierarchical Regression Analysis for Variables Predicting Archetypal Dreaming Scores in Archetypal Dreamers (n = 75)

Variable	B	SE B	Beta	R^2 change	Adjusted R^2
Step 1					
Gender	6.84	5.33	.15	.02	.01
Step 2					
SOI	-7.27^{x10-2}	.03	-.25*	.06**	.06**
Step 3					
SOIXGender	4.39^{x10-2}	.07	.47	.01	.05*

Note. SOI = Spiritual Orientation Inventory.
**p <= .05, *p <= .10

dependent variable in 2 tests (1 regression and 1 ANOVA). Particularly with the child imagery variable there is a cumulative (7 X .05) 35% chance that one of these findings is due to chance or that a significant difference was not found. Thus, these results warrant caution and would benefit from replication.

Discussion

Overview

This is the first study to test rigorously the Jungian hypotheses of dream function and to compare the Jungian models to the major models of dream function in the research literature. The classical school of Jungian psychology believes that dreams compensate the conscious attitudes of the dreamer that are inconsistent with the dreamer's unconscious needs; this model is called the compensatory model. Many post-Jungians believe that dreams parallel conscious attitudes when the dreamer holds an attitude that is consistent with an unconscious need; this model is called the parallel model. Dreams may compensate or parallel an attitude through dream content (i.e., specific imagery) or through the dream's archetypal quality. According to the Jungian models, the dream tries to get the attention of the dreamer, through the dream imagery or archetypal quality, to stress that something is not as it should be.

Jung stressed that spirituality is an extremely important, universal, unconscious need, and thus it was used as the primary independent variable for comparing the dream models. Unconscious needs for spirituality were not assessed for this study, because, at this time, there is no measure to assess unconscious needs for spirituality. Instead, for this first exploration of the Jungian dream hypotheses, we studied how conscious spiritual

attitudes were associated with dream content and archetypal quality. There are many different archetypal symbols that may represent spiritual needs, so for this study we focussed on the most frequently mentioned spiritual symbol in Jung's writings, child imagery. Since archetypal dreams are high in affect, vividness, and bizarreness, they are perhaps especially adept at grabbing the attention of the dreamer. The compensation model would be supported if spirituality was a negative predictor of child imagery and archetypal quality. On the other hand, if the parallel hypothesis of dream function is correct, then spirituality would be a positive predictor of child imagery and archetypal quality in dreams.

There is considerable research on the function of dreams which, to date, has not been linked with the Jungian hypotheses. There are two primary models of dreaming stemming from this dream research called the continuity and mastery models. These models are similar to the Jungian parallel and compensatory models respectively. The continuity model suggests that dream content is randomly generated from the dreamer's recent conscious experiences. Thus, both the continuity and parallel model emphasize the similarity of dream content to conscious experience. The mastery model suggests that dream content is selected to process conscious problems of the dreamer to approach psychological mastery over the environment. The mastery and compensatory model are similar in that they stress that dreams are "self-righting," in that dream content will reflect an area of one's life that needs to be altered. A second component of this study was to see which of the respectively similar models, Jungian or mainstream, was best supported by the data. The parallel model would predict that spiritual (i.e., child) imagery would be best

accounted for by spiritual experiences, as the greater exposure to these experiences, the greater the chance of this imagery randomly finding its way into dreams. The mastery model would be supported if one's distress around spiritual issues was a positive predictor of child imagery. As noted above, the parallel and compensatory models of dreaming would be supported is the dreamer's spiritual attitude was a positive or negative predictor of child imagery respectively.

The dreams were collected from undergraduate volunteers, who were primarily young, single, and Christian. These subjects kept dream diaries for 3 weeks, after which they filled out the Spiritual Orientation Inventory, a demographic questionnaire, and the Marlowe-Crowne Social Desirability Scale. Their dreams were scored by trained raters for child imagery based on a protocol designed specifically for this study called the Child Imagery Scoring Index. Dreams were also scored for archetypal quality based on the procedure outlined by H. Y. Kluger (1975) and revised by Cann and Donderi (1986).

Child imagery has other meanings than spirituality when it arises in dreams and these meanings needed to be controlled for in this study. Consequently, pregnancy, parenthood, and exposure to children were assessed. The research literature has also indicated that menstruation may influence frequency of child imagery and so, for this study, women record menstrual days. These variables were examined for their association with child imagery to see which, if any, explained variability. Though a number of factors correlated with child imagery, these factors explained overlapping variability, and only parenthood explained significant variability in a multiple regression with all variables. As a result, the effects of parenthood was always controlled for in the main analyses involving

child imagery (Hypotheses 1, 3, and 4). Similarly, research has found that dream-affect is associated with stress levels, and since affect is a key quality of archetypal dreaming, we tested for the influence of stress and other variables that might explain variability in the archetypal dreaming scores. A multiple regression with these variables indicated that only gender was significantly associated with archetypal quality. Men had more archetypal dreams than women. Gender was therefore controlled for in the main analysis (Hypothesis 2) which involved archetypal dreaming scores.

Surprisingly, no significant findings were found in any of the analyses involving the child imagery variable and thus none of the models was supported using this criterion variable. Using the variable of archetypal quality of dreams, a trend supporting the compensatory hypothesis was found in that conscious spirituality was a negative predictor of archetypal dreaming. Visual examination of the data suggested that subjects who reported at least one archetypal dream had a different pattern of SOI scores than those without archetypal dreams, therefore analyses were redone using only subjects who had at least one archetypal dream. With these subjects, gender was no longer a significant variable because most of the subjects dropped from the analyses were women and the remaining women scored consistently with the men. Spirituality was a significant negative predictor of archetypal dreams, thus supporting the compensation hypothesis of dreaming for archetypal dreamers.

The Jungian models were compared to the mainstream models of dreaming using the child imagery variable. As mentioned, no results were found with this variable and therefore none of these models was supported. None of the variables, including the

number of religious services the subject attends, how satisfied the subject is with his/her spiritual life, or the subject's spiritual attitude predicted child imagery in dreams.

Detailed Findings

In considering the surprising lack of findings each of the main variables in the study and each hypothesis will be discussed in more detail. Also discussed will be the partial support for the compensation hypothesis when using the archetypal quality of dreams, and the finding that compensation hypothesis is supported when considering only archetypal dreamers.

Spirituality.

As mentioned earlier, conscious spirituality and not unconscious spirituality was assessed using the Spiritual Orientation Inventory (SOI). This study found excellent internal consistency and predictive validity for this promising new measure of spirituality. Predictive validity was supported by the SOI's high correlation with self-report questions assessing subject's degree of spirituality and religiosity. Curiously, though spirituality is often considered an important part of humanistic psychology, the SOI did not correlate with the self-reported humanistic question on the demographic questionnaire. Also curious is that self-reported levels of humanistic beliefs did not correlate with the SOI but did correlate with the self-reported degree of spirituality. Though there is a very strong correlation between self-reported level of spirituality and SOI scores, there seems to be a humanistic component to self-reported spirituality not picked up by the SOI. These findings may, however, be the result of the particular sample used for this study, since all but two of the subjects reported being humanistic.

The SOI functioned very well as a measure of conscious spirituality and addresses spirituality as Jung talked about it. That is, the measure is not religiously based and does not involve assessment of affiliation with any particular creed or belief system. Instead, the SOI emphasizes personal experience with the spiritual which Jung stresses is the most important factor for a genuine spiritual attitude. Again, though Jung stresses the importance of spirituality to the individuation process, it is only one of many conscious attitudes that might be compensated or parallelled in a dream.

Archetypal quality.

Experimental assistants were trained with H. Y. Kluger's modified scale to differentiate archetypal and everyday dreams. These assistants rated all the dreams for affect, irrationality, and bizarreness, and classified the dream as archetypal if it met the criteria of two or more of the three archetypal characteristics (i.e., high affect, irrationality, and being unlike everyday life). Dreams not meeting the criteria for two of the characteristics were considered everyday dreams. Inter-rater reliability was low after the first half of the data was scored, but with further training the reliability became very good. It is reassuring that the proportion of archetypal dreams in this study was very consistent with previous research indicating that approximately 20 to 24% of dreams are archetypal (Cann & Donderi, 1986; Kluger, 1975). Overall, these findings support this scale as a reliable means of measuring archetypal dreams.

Stress has been reported in the research to be associated with higher emotionality in dreams (Cohen & Cox, 1975), which is one of the characteristics of archetypal dreams. This study ruled out stress as a factor contributing to the archetypal dreaming scores as

there was no significant association between stress and archetypal dreaming scores. This finding suggests that archetypal dreams are qualitatively different than high affect dreams. This further emphasizes the value of the three characteristic scoring criteria of Cann and Donderi to measure archetypal dreams, and that one criterion alone (e.g., affect) is not a sufficient means of assessing archetypal quality.

Looking at the total sample, surprisingly, males reported more archetypal dreams than females. Therefore, to test hypothesis 2, the effect due to gender was controlled for. The compensation hypothesis is suggested by a significant negative correlation between spirituality and archetypal dreaming ($r = -.20$, $p <= .50$). When spirituality was entered into the multiple regression, controlling for gender, spirituality predicted archetypal dreaming scores at a $p = .06$ (trend) level supporting the compensation model. The compensation model was supported at a significant level when data from subjects who had at least one archetypal dream were analysed and in this case the effect of gender was non-significant. There are two main possibilities for the surprising gender effect and then disappearance of the gender effect in the latter analyses. One, there may be something different about the exclusively everyday dreamers, of which there is a greater proportion of females. Two, compensation of spirituality by archetypal dream quality is more likely to exclusively occur in male subjects than females. It is not clear from the variables assessed how the everyday dreamers differed from the archetypal dreamers. It is possible that the everyday dreamers are highly aware of their unconscious needs or live in such a way, or in an environment, that makes compensation unnecessary for them at the present time. It may also be that these subjects, for whatever reason, did not feel comfortable writing out their bizarre

dreams or modified these dreams to be more realistic. Further research may examine how those who report archetypal dreams are different from those who do not. It may be that the collective unconscious of the archetypal dreamer is in a greater state of activation in general. If gender effects play a role in compensation of the qualities associated with archetypal dreams (affect, irrationality, and unlike the everyday), then psychology of gender studies might suggest some answers. Research has found that the socialization of males and females is such that males have been socialized to repress feelings other than anger whereas women more often work with their emotions (Rider, 2000). Thus compensation of affect, a key component in archetypal dreaming, may take place more often in men. It may be that men are socialized to feel a greater need to define themselves in concrete and worldly ways, such as by their profession or possessions (e.g, Buss, 1986 in Rider, 2000), and thus compensations of irrationality or everydayness might be more common for men.

Child Imagery.

The Child Imagery Scoring Index (CISI), developed for this study, proved to be a reliable scale to measure child imagery with clear scoring criteria and a high inter-rater reliability. Despite findings in the literature (Hall & Van de Castle, 1965), gender and menstruation were not significant predictors of child imagery and we were able to rule out the effect of these variables. We recognize that the inclusion of indirect allusions to childhood (e.g., toys, pregnancy etc.) in this study may account for some of the discrepancy with the literature that looked at child imagery only. Child imagery correlated with many factors including, age, exposure to children, parenthood, marital status, and

self-reported spirituality. However, when all these variables were entered into a regression, parenthood was the only variable significantly associated with child imagery. As a result, when the CISI was the criterion variable, parenthood was always controlled for as a covariate (i.e., hypotheses 1, 3, and 4). As mentioned, each test with the CISI as the criterion variable was not significant.

This lack of results is perhaps especially surprising given the predominance of Christian subjects who are likely exposed to the spiritual aspect of the child symbol more so than other religions. For these subjects, child imagery may not have been incorporated into dreams as a spiritual symbol, but with a different meaning, due to their developmental level. One possibility is that for a sample of undergraduate psychology students, with an average age of 24 years, child imagery has other symbolic value than spirituality. At this developmental stage of life marriage and child rearing, as well as education and career, are of more significance than spiritual development. Evidence for this comes from the fact that parenthood was strongly associated with child imagery, even though the sample only had 13 parents. This suggests that child imagery may reflect parent-related needs rather than spiritually related needs. Contact with children also correlated significantly with child imagery, again suggesting that child imagery in these subject's dreams has much more to do with the everyday realities of having or being around children. This is perhaps not surprising since biological and social pressures, arguably the strongest drives at this stage of life for many, are also represented by the child symbol. When Jung talked about the importance of spirituality, his focus was on older subjects.

Clearly the child symbol is multifaceted and may be a good symbol of reproductive drives for these subjects where as it may be a spiritual symbol for others. In general, one of the difficulties in researching Jungian constructs is that archetypal symbols are multifaceted and mean different things for different people. While the study needs to be replicated with an older sample, this undergraduate sample was used since spiritual needs are also very important for them (Silber & Reilly, 1985). However, it seems that child imagery is not a good image to represent spirituality in dreams at this developmental stage. To determine which imagery differentiates between high and low spiritual scorers at this level, post-hoc analysis of the dream data bank established by this research can determine the prevalence of different images in the dreams of the high and low spiritual scorers.

The Mainstream Models

The multiple regressions testing hypothesis 3 and 4 found no support for the continuity or mastery model of dreaming as none of the variables (those who would support the Jungian or the mainstream models) accounted for child imagery in dreams. Contact with children correlated significantly with child imagery, which might be seen as support for the continuity model, however, it is important to point out that each model (both Jungian and mainstream models) recognizes that dream imagery is rooted in conscious experiences, and as such, it is not surprising that exposure to children correlates with child imagery. The difference between the models lies in the process by which images are brought into dreams. The continuity model suggests that conscious experiences, including experiences with children, ought to be incorporated randomly into dreams. Given that being a parent was a better predictor of child imagery than exposure to children

alone, and when parenthood was controlled for contact with children did not explain significant variability in child imagery, it would seem that the process is not random and that some people are more prone to child imagery than others. It is important to note that previous research has not tested the mainstream models the way this study has. The research literature on the continuity model of dreaming has examined aspects of the dreamer's life other than spiritual activities, such as themes in one's life (e.g., depression; Beck, 1969). Furthermore, the literature on the continuity model has not suggested that a dream image might represent something other than the existential image whereas this study focussed on child imagery in the context of representing spirituality. The data of this study indicates that child imagery is rooted in the dreamer's conscious experiences (i.e., the correlation between child imagery and exposure to children) but that the child image does not seem to be incorporated into dreams in a random fashion.

This study found no support for the mastery model, but like the continuity model, previous research has not examined this model the way this study has. Previous research on the mastery model has focussed on themes such as social interaction (Beck, 1969; Wood, 1962) or aggression (Foulkes et al., 1967) and not one's satisfaction with their spiritual life. Furthermore, previous mastery model research has not considered that specific dream content, such as child imagery, might represent an idea greater than the image's existential meaning, such as spirituality. These data would be explained if the mastery model was not tenable, or if child imagery does not represent spiritual matters for these subjects. It may be that other spiritual imagery is more prevalent in the dreams of those less-satisfied with their spiritual lives, and it may be that child imagery would be

more prevalent in less-satisfied dreamers with an older sample. Likewise, the Jungian model might be supported if child imagery is not the ideal spiritual symbol for this sample.

Limitations

The limitations discussed earlier will be briefly summarized. First, the generalizability of the results is limited because the sample was predominantly young, single, well educated, and Christian. Due to their developmental level, the meaning of the child image may be different than for an older sample. Future research with an older sample may be a better test of the Jungian hypothesis given Jung's focus on an older population. Second, the sample size for this study was smaller than ideal given the number of analyses performed.

Another possible limitation is that we have assumed a direct positive relationship between the subject's spirituality scores and their unconscious needs for spirituality. It may be that holding too strong of a spiritual attitude would elicit compensation as much as not holding a strong enough spiritual attitude. Visual examination of the data suggests that assuming the linear relationship was appropriate with these subjects. This limitation would be addressed if we were able to measure unconscious needs for spirituality in which case we would be able to directly compare the compatibility of the conscious attitude to the unconscious need.

Perhaps the biggest limitation of this study was that unconscious needs for spirituality could not be assessed. A measure to assess this construct is essential to test Jungian dream theory more accurately, however such a measure has not been established. Possibilities for future research in this area are described below.

The focus on child imagery as the spiritual symbol of interest was well justified because of its centrality in Jung's writing. Clearly, other images may also be considered, particularly for this age group. The dream bank established from this study can be re-analysed in an effort to determine which images differentiate between high and low spiritual levels with this age group. This study may be replicated examining spiritual imagery more appropriate for this age group.

Implications

We found that the relationship between spiritual attitudes and the archetypal quality of dreams partially supports Jung's compensation model, and that compensation of spiritual attitudes through the archetypal quality of dreams is supported with archetypal dreamers. It appears that archetypal dreamers may differ from exclusively everyday dreamers and future related research may specifically explore this finding. We also found, contrary to our hypothesis, that child imagery does not differentiate subjects with high and low spirituality for this age group. Instead, child imagery had more to do with having children and interacting with them for this age group. The child image may be more spiritually related for subjects of a different developmental level such as after mid-life.

Previous research testing the compensatory model of dreaming has often tested contrariness to conscious experiences and not compensation as Jung conceived of it. In this sense, this study examined Jung's dream theory more accurately as it did not assess contrariness to the dreamer's conscious experiences but predicted specific imagery would arise as the result of a conscious attitude.

This study is the first to compare the Jungian models to the mainstream models of dreaming in the research literature. No support for either model was found (hypotheses 3 and 4) considering the child image as a spiritual symbol for this age group. Future research may consider a different spiritual image and replicate the study to better compare and contrast these models.

This study has provided further evidence that the SOI is a psychometrically sound measure with which to assess conscious spirituality. Our finding that average SOI scores fluctuated depending on the class sampled (i.e., Transpersonal/Humanistic Psychology students compared to Introductory or Abnormal Psychology students) emphasizes the importance of standardizing SOI scores with different populations, and until this is completed, researchers need to be cognizant of their sample's characteristics and interpret results with this in mind.

This research has provided further support for the reliability and validity of Kluger's (1975) modified (Cann & Donderi, 1986) scale to differentiate archetypal and everyday dreams. This scale seems to be a reliable way to score dreams evidenced by the consistent level of archetypal dreaming found in each study having used this scale thus far. Consistent with the work of Kluger (1975) who demonstrated a bimodal distribution of dreams based on his scoring criteria, this study has found meaningful differences between everyday or archetypal dreaming considering this variable as a criterion variable. Furthermore, the findings of this study, using this variable, are consistent with Jung's writings which further supports the theoretical validity of this scale.

Future Research

This study may be replicated with a sample closer to the population Jung had in mind when he wrote about the importance of spirituality and symbols of spirituality. Though spirituality is an important factor for everyone, Jung's focus was on individuals of mid-life and beyond (i.e., approximately 40 years and older) a group for which he felt spirituality is especially important. With such a sample, child imagery may be a promising variable with which to gauge spiritual dream content, however, for the sample in this study, child imagery seemed less of a spiritual image and more of an image representing reproductive drives. As mentioned, future research may consider the dreams of individuals of this age and developmental level and determine what imagery differentiates high and low levels of spirituality. Furthermore, similar research might identify spiritual imagery for many age groups and developmental levels. This study (testing the Jungian models and comparing the Jungian to the mainstream models, i.e., hypotheses 1, 3, and 4) could be replicated using the imagery associated with spirituality for the given age group.

To more accurately test the Jungian models of dreaming it is essential to develop a measure to assess unconscious needs. Through the use of projective tests, future research may design a measure of unconscious spiritual needs with the following procedure. First, two groups would be identified that represent optimal and impoverished spiritual lives. These groups may be determined based on self-reported spiritual levels, self-reported satisfaction with one's intrinsic spiritual life, scores on a developed scale of self-actualization needs, and demographics and attitudes representing the areas of life intricately involved with spiritual health, such as those identified by Elkins (1988). Second, the projective-test profiles of these groups can be contrasted to determine distinguishing

features between these groups. Third, predictive trials would be needed to ensure the profile features are able distinguish subjects in these groups. Once such a measure is established, concurrent validity may be supported if the profiles predict spiritual imagery in dreams in a compensatory manner as archetypal quality has in this study. The interesting finding in this study, that levels of archetypal dreaming are negatively associated with levels of conscious spirituality, may be pursued further. Future research could examine whether the archetypal quality of dreams is a factor that compensates many unrealised unconscious needs or if it is a factor related specifically to spirituality. The latter hypothesis is possible since Jung conceptualized the archetypes as numinous elements of the psyche and believed that these archetypal processes may be best understood as spiritual experiences (Jung, 1952/1981). The characteristics of archetypal dreams (i.e., high affect, irrationality, and being unlike everyday life) are often qualities associated with spiritual experiences, so how we conceive of spirituality and how we understand archetypal dreams may overlap. In this study, spirituality was the only variable to correlate with archetypal quality. Dreams have been experienced as spiritual in nature (Jung, 1952/1981) or divinely inspired (Van de Castle, 1994) throughout history, and as Marie-Louise von Franz (1998) has pointed out, dreams are often the source of major religions and spiritual beliefs that follow from these. She has indicated that dreams can take the role of spirituality for some people, a not surprising idea given the support for the compensation model in this study. Dreams may become very numinous and powerful for people who do not perceive spirituality in their daily lives or do not feel connected to anything that might be considered spiritual. If further research shows that spirituality and

archetypal quality of dreams are intimately associated with each other, the implication may be that certain unconscious processes, or unconscious processes in general, may be perceived as spiritual experiences for many people, or perhaps we will once again consider that dreams are, at least in part, spiritual in nature.

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Footnotes

1. The hypothesized dynamic interaction between consciousness and dreams is not unique to Jung. For instance, Freud conceived of a similar relationship between conscious elements and their incorporation into dream images. He states "day-residues have to receive reinforcement from unconscious instinctual impulses if they are to act as shapers of dreams" (Freud, 1959, p.140). Freud's "instinctual impulses" are less specific than Jung's archetypes and presumably less goal directed, yet still significant in constructing manifest dream content. Freud believed that conscious material is used to express the latent wish in a manner analogous to how Jung believed conscious material gives shape to an archetype. Freud states "the preconscious dream-wish is formed, which expresses the unconscious impulse in the material of the preconscious day-residues" (Ibid, p.141)

   Furthermore, Freud also distinguishes two types of dreams, which seem consistent with Jung's conception of archetypal and everyday dreams.

   It is possible to distinguish dreams from above and dreams from below, provided the distinction is not made too sharply. Dreams from below are those which are provoked by the strength of an unconscious (repressed) wish which has found a means of being represented in some of the day's residues. They may be regarded as inroads of the repressed into waking life. Dreams from above correspond to thoughts or intentions of the day before which have contrived during the night to obtain reinforcement from repressed material which is debarred from the ego. When this is so, analysis as a rule disregards this unconscious ally and succeeds in inserting the latent dream-thoughts into the complex of waking thought. (Freud, 1959b, p.138, emphasis in original)

   Dreams "from below" have their roots in apparently autonomous unconscious forces (wishes), while dreams "from above" work with repressed material, which Jung would consider the level of the personal unconscious. Much like how Jung viewed the nature of everyday and archetypal dreams respectively, Freud's dreams from above and below seem to have different roots.

   Although Freud is most well known for his interpretation of dreams as a reflection of unconscious wishes in the personal unconscious, some of his work recognizes the universal elements in dreams. In Interpretation of Dreams (Freud, 1900, paragraph added 1919) Freud begins by quoting Nietzsche:

   > in dreams "some primeval relic of humanity is at work which we can now scarcely reach any longer by a direct path"; and we may expect the analysis of dreams will lead us to a knowledge of man's archaic heritage, of what is psychically innate in him. (p.170)

   This statement is remarkably consistent with the universality of Jung's hypothesis of archetypal dreams.

2. Note that extrasensory dreams where two or more people have the same dream is sometimes referred to as a parallel dream (Mattoon, 1978). This is not the meaning that will be used in this study.

3. It is interesting to note, despite Freud's emphasis on ontogenetic development, he has also suggested that religion and morality are phylogenetically based (Freud, 1923). This is in a somewhat different way than Jung might suggest (i.e., Jung believes the archetypes are phylogenetic in origin).

4.Note that the child is not the only motif that might represent spiritual issues in dreams. Other spiritual symbols include the lotus flower, alchemical gold, mandala, a bird, salt, or water (Jung, 1956/89), but for practical reasons, this study will focus only on the child motif.

5. The test is presented as parallel versus continuity to emphasize the distinction between the two which seem very similar. In fact, compensation might also score as continuity. The fundamental test is attitude versus exposure.

6. Principle components factor analysis on the SOI yielded a one-factor solution accounting for 37% of the total variance. Particularly distinctive questions appear to focus on personal experience of the spiritual (e.g., "I have had transcendent, spiritual experiences in which I felt deeply and intimately loved by something greater than I"; question 46), which is very consistent with Jung's conception of the spiritual.

Appendix A

Instructions for Administration of Part 1

a) Hand out information packages

b) Read script #1

c) Collect consent forms and give out packages

d) record package numbers on consent forms as handed out

Script #1a: Transpersonal and Abnormal classes

Hello. I am here today to introduce you to the study "Calgary". Through special arrangement with (Prof. Hladkeyj/ Dr. Durup) you may participate in this study to add an additional 5% bonus marks to your grade in this class. I will briefly describe what will be required of you and distribute packages to all those interested in participating to receive the 5% bonus.

The research involves the study of dreams. You will simply be asked to record your dreams, at home, for a period of three weeks, the length of this course. You will also be asked to record a brief summary of the main events of your day throughout. Recording the summary of the day's events will take a few minutes each night before you go to bed and if you recall a dream in the morning it will take another few minutes to record it. You will be contacted at the end of the first and second week to asses your progress and give you an opportunity to ask questions. After the three weeks of recording is finished you will be asked to fill out a few measures, including a demographic survey, which will take approximately 50 to 60 minutes. Following this you will receive a debriefing form describing the study in more detail and will be given references if you would like to follow up on this type of research.

If you wish to participate you will receive a consent form and a package including guidelines to record your dreams. You will also receive suggestions to improve your dream recall as this may be a concern for some people. All the dreams in this study will be kept strictly confidential, matched to the measures you would fill out only be a code number. You are free to drop out of the study at any point.

Today you will be asked to read and sign a consent form which will give you more information on this study. For those that wish to participate please take a few minutes to review the consent form. If you do not have any questions, please sign it and return it to me. Thank you for your time.

Any questions? Who would like a consent form?

Script #1b: Intro. psych. Classes

Hello. I am here today to introduce you to the study "Calgary". You have the option to complete this study to fulfil the experimental credits component of your introductory psychology course. If you chose not to participate you may fulfil these requirements by taking an extra test. Unlike most years you will not have to participate in many studies to fulfil the experimental credit requirements; you will fulfil all of your experimental credits with this one study. I will briefly describe it to you today and distribute packages to those interested in participating.

The research involves the study of dreams. You will simply be asked to record your dreams, at home, for a period of three weeks. You will also be asked to record a brief summary of the main events of your day throughout. Recording the summary of the day's events will take a few minutes each night before you go to bed and if you recall a dream in the morning it will take another few minutes to record it. You will be contacted at the end of the first and second week to asses your progress and give you an opportunity to ask questions. After the three weeks of recording is finished you will be asked to fill out a few measures, including a demographic survey, which will take approximately 50 to 60 minutes. Following this you will receive a debriefing form describing the study in more detail and will be given references if you would like to follow up on this type of research.

If you wish to participate you will receive a consent form and a package including guidelines to record your dreams. You will also receive suggestions to improve your dream recall as this may be a concern for some people. All the dreams in this study will be kept strictly confidential, matched to the measures you would fill out only be a code number. You are free to drop out of the study at any point.

Today you will be asked to read and sign a consent form which will give you more information on this study. For those that wish to participate please take a few minutes to review the consent form. If you do not have any questions, please sign it and return it to me. Thank you for your time.

Any questions? Who would like a consent form?

Appendix B

Informed Consent for Research Participation:
1998 Dream Study "Calgary"

The study you have been introduced to is Gary Hotson's masters thesis research. It is being supervised by Dr. Marianne Johnson from the Department of Psychology at the University of Manitoba. The purpose of this research is to test the relationship between certain attitudes and dream content as predicted by Jungian theory. This research has been approved by the Human Ethical Review Committee of the Department of Psychology.

You will be asked to keep a dream journal for a three week period, for which you will be asked to summarize the main events of your day and record your nightly dreams following a standardized procedure. You will be contacted at the end of the first and second week by email or phone to answer any questions you may have. After three weeks you will meet again to hand in your dream journal and to fill out 4 measures to assess your background, personality factors, and select attitudes. These measures will take approximately 50 to 60 minutes in total to complete. Your dreams will be kept anonymous and confidential, with only Gary Hotson, his supervisor, and trained raters reviewing them. The measures will also be kept anonymous and confidential, identified and matched to the dreams only by a code number. Only the experimenter and his supervisor will have access to the measures. The results of the study will be reported as a group, using the data from 100 - 150 participants expected to complete the study. In this way, no individual will be identified.

Future research will require sample dreams for training of raters and developing dream scales. You may consent to allow your anonymous dreams for such future research, and you may consent to allow your dreams to be included as examples in publications related to this research. This consent is completely separate from the consent to participate in the study "Calgary". Only with your consent will any of your dreams be used for future research or used as an example in publications. If you do not wish to volunteer your dreams for these purposes they will be destroyed on completion of the study.

Participation in this study is voluntary, and you may withdraw at any point without academic penalty. You will need to provide your name in order to receive participation credits for class and because the experimenter is required to be able to prove informed consent has been given. You will be asked for your email address or phone number only in order to contact you during the dream collection stage to give you the opportunity to ask questions. Your code number, and not your name, will match your dreams to the measures you will complete at the end of the study. It is expected that this study will be completed by October 1999 at which time a summary of the results will be available through Gary Hotson (umhotso0@cc.umanitoba.ca). The thesis will be also accessible through the Psychology Department's thesis library and be on reserve at the Dafoe library. If you have any questions or concerns about this study, you can contact the experimenter, Gary Hotson (umhotso0@cc.umanitoba.ca), interim supervisor Dr. Marvin Brodsky (474-9626), or the Chair of the Human Ethical Review Committee, Dr. Bob Altemeyer (474-9276).

This research will provide original research on Jungian dream theory, and your participation will contribute to understanding the relationship between conscious attitudes and dream content. There is the possibility that disturbing dreams will cause you some distress and you may wish to talk to somebody about this. In this case you may wish to consider contacting an agency such as the University of Manitoba Counselling Service, or Klinic (784-4090).

Very little empirical research has been done on Jungian dream theory. This research promises to lay the groundwork for further, more complete understanding of dreams, and will consider the value of Jungian theory to empirical dream research.

Consent:

I agree to allow my (anonymous) dreams to be used as training examples for future research, or for pilot testing dream scoring measures. --------------- YES NO (circle one)

I agree to allow my (anonymous) dreams to be used as examples in publications related to this research. ------------------------------------YES NO (circle one)

By signing below I agree to participate in the study "Calgary",

______________________________, ______________________________,

please sign name Witness

______________________________, ______________________________,

please print name Date

Email address or phone number (email preferable; this will be used to contact you at the end of first and second week): ____

The code number on your information package (the number on envelope and first page of dream booklet): ______________

Appendix C

Dream Journal Guidelines

Thank you for your participation in this study. The aim of this study is to compare the dream reports of many different people. In order to compare the dreams it is important to have a relatively consistent 'style' of dream reports from all participants in this study. These general instructions will help ensure all the dreams collected will be reported in roughly the same way.

Each night before you go to bed, please record a summary of the main events of your day in your dream journal. Please record this each day even if you do not seem to be recall many of your dreams. Each morning record any dreams you may have had in the night. If you cannot remember any dreams indicate this in your dream journal. If you have more than one dream in a night, please number them. Please record the date and your code number on each page.

Recording your dreams:

Upon waking from a dream, try to record as many details as possible on the journal dated with the previous day's date. Try to write it in such a way that someone reading the dream would be able to get a good sense of the dream, as if he/she had dreamt the dream him/herself. To ensure the confidentiality of these dreams do not record any names or anything else that might be considered identifying information. After recording the dream as it comes to you, please see if the following are described:

- Describe the setting and its relation to you (e.g., 'your' house, 'a friend's' house, an 'unknown' house etc.)

- Describe the characters including their rough age and any relationship to you (e.g., brother,

aunt, etc.). Use initials or make up names to keep dreams anonymous.

- The visual imagery and action are described as best possible, indicate if your recall was unclear or ambiguous.

- Describe your emotions in the dream and any emotions of the characters.

Please record your dream immediately after waking, and please ensure your writing is legible. Please record as much detail as you can recall. You will become more efficient at recording your dreams, with the above elements, with practice.

Please respond daily to the questions assessing:

1) your level of stress the day of the dream. Use a scale of 1 to 10 (1 = very little stress, 5 to 6 = moderately stressed, 10 = highly stressed), please do not indicate 'half numbers'.

2) Women, please indicate if you were menstruating the day of the dream.

You will be required to fill out a few measures after the dream collection to receive credit for this study. If you choose not to fill out these measures you will be required to meet with the subject pool coordinator, Paul Freeman, to arrange for partial credits. You will receive credits equivalent to an 8 hour study, as such you should be spending approximately 15 - 20 minutes per day on average recording your dreams. Thank you again for participating in this study, and thank you in advance for your conscientious dream recording.

Appendix D

Suggestions to Improve Dream Recall (Johnson, 1998)

1. Have a pen or pencil, some paper, and a flashlight or lamp, beside your bed before sleeping.

2. Before going to bed, encourage yourself to remember a dream. Tell yourself something like, 'I want to remember a dream tonight' or 'I will pay attention to my dreams tonight'.

3. As soon as you wake up with a dream, write it down. You can forget a dream in a few moments even if you consciously intend on recording it 'in just a few minutes'.

4. Some people find waking up to an alarm or buzzer better for dream recall than waking up to the radio.

5. Wake up a bit earlier than usual to record your dreams.

6. Record your dream in the present tense.

Appendix E

Dream Journal for study "Calgary"

Date _____ Code number:_____

Please provide a summary of the main events of your day:

Please record any dreams following the dream journal guidelines.
(Please write legibly. You may continue on the back of page.)

Daily Stress Rating (1 - 10)_____, (Women:) menstruating Yes _____, No _____
Please ensure date and code number are correctly recorded on each page.

Appendix F

Instructions for administration part 2

a) Hand out surveys

b) Read script #2

c) Collect envelopes, ensure both sides of surveys are completed, and code numbers are recorded on each page

d) Seal envelopes with dream journal and all measures

Script #2

Hello, my name is _____. Everyone here today should have completed the first stage of the study "Calgary" and have their dream journal with them. You should have in front of you double-sided surveys including a background information sheet. Please answer the first survey on the attached bubble sheet (which you may detach for convenience), and respond to the other surveys directly on the respective sheets. Please make sure you write your code number on each of these surveys. Once you complete the surveys please put them in the envelope with your dream journal and hand them in. I will seal your dreams and surveys to ensure their confidentiality and give you a debriefing form which will give you more detailed information about the study.

If you decide you do not wish to complete the surveys or hand in your dream journal you may discontinue participation without academic penalty. In this case you will need to arrange with Paul Freeman for partial credits. These surveys should take approximately 50 to 60 minutes. If you have any questions about the surveys please let me know.

Thank you once again for participating in this study.

Appendix G

Demographic Questionnaire

Please indicate the following information about yourself,

1) Gender: Male_____, Female _____

2) Age _____

3) Marital Status: single: _____, married _____, divorced _____, common-law _____.

4) Are you a parent? Yes_____, No_____

- if yes, how many children do you have?_____,

- what are their ages? _____.

5) Women: Are you currently pregnant? Yes_____, No_____

6) Men: Is your partner currently pregnant? Yes_____, No_____

7) How much contact do you have with children, including children that are not your own?

7	6	5	4	3	2	1
Very often, everyday			Occasional			Very rarely, Almost never

8) Do you consider yourself to be a spiritual person? Yes_____, No _____

9) How strongly spiritual do you consider yourself to be?

7	6	5	4	3	2	1
Not at all			Somewhat			Very Spiritual

10) Do you consider yourself a humanistic person? Yes _____, No _____

11) How strongly humanistic do you consider yourself to be?

7	6	5	4	3	2	1
Not at all			Somewhat			Very Humanistic

12) Do you consider yourself a religious person? Yes _____, No _____

13) How strongly religious do you consider yourself to be?

7 6 5 4 3 2 1
Not at all Somewhat Very Religious

14) Do you have a religious affiliation? Yes_____, No_____

a) If yes, what is this affiliation?

Christian _____, Muslim _____, Buddhist _____, Hindu _____, Judaic _____, Other _____

b) How often do you attend religious services or ceremonies?

I attend _____ times per _____ (week, month, or year).

15) How satisfied are you with your current spiritual beliefs and understanding?

7 6 5 4 3 2 1
Not at all Somewhat Could not be more satisfied

Appendix H

Spiritual Orientation Inventory

Appendix I

Marlowe-Crowne Social Desirability Scale

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally.

1. Before voting I thoroughly investigate the qualifications of all the candidates.
2. I never hesitate to go out of my way to help someone in trouble.
3. It is sometimes hard for me to go on with my work if I am not encouraged.
4. I have never intensely disliked anyone.
5. On occasion I have had doubts about my ability to succeed in life.
6. I sometimes feel resentful when I don't get my way.
7. I am always careful about my manner of dress.
8. My table manners at home are as good as when I eat out in a restaurant.
9. If I could get into a movie without paying and be sure I was not seen, I would probably do it.
10. On a few occasions, I have given up doing something because I thought too little of my ability.
11. I like to gossip at times.
12. There have been times when I felt like rebelling against people in authority even though I knew they were right.
13. No matter who I'm talking to, I'm always a good listener.
14. I can remember "playing sick" to get out of something.

15. There have been occasions when I took advantage of someone.
16. I'm always willing to admit when I make a mistake.
17. I always try to practice what I preach.
18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.
19. I sometimes try to get even, rather than forgive and forget.
20. When I don't know something I don't at all mind admitting it.
21. I am always courteous, even to people who are disagreeable.
22. At times I have really insisted on having things my own way.
23. There have been occasions when I felt like smashing things.
24. I would never think of letting someone else be punished for my wrongdoings.
25. I never resent being asked to return a favor.
26. I have never been irked when people expressed ideas very different from my own.
27. I never make a long trip without checking the safety of my car.
28. There have been times when I was quite jealous of the good fortune of others.
29. I have almost never felt the urge to tell someone off.
30. I am sometimes irritated by people who ask favors of me.
31. I have never felt that I was punished without cause.
32. I sometimes think that when people have a misfortune they only got what they deserved.
33. I have never deliberately said something that hurt someone's feelings.

Appendix J

Debriefing Form: 1998 Dream Study "Calgary"

This study will be used as Gary Hotson's masters thesis research, designed to test a few fundamental tenets of Jungian dream theory. Particularly, this study tests the competing hypotheses that dreams, through their symbolism, will compensate or parallel conscious attitudes that relate to a theoretical unconscious need. Jung's compensatory hypothesis suggests that dreams will reflect conscious attitudes that are not consistent with unconscious needs, while the parallel hypothesis suggests that dreams will reflect conscious attitudes when they are consistent with unconscious needs. It is difficult to asses a person's unconscious needs, however, Jung believed that spirituality is an unconscious need for everybody as it is an important component in the universal "individuation process". One of the surveys you filled out was called the Spiritual Orientation Inventory (SOI; Elkins 1989) which is a non-denominational measure of spirituality closely resembling Jung's idea of the spiritual. Jung did not believe that spirituality was necessarily tied to religious affiliations or creeds, and emphasized that personal experience with the spiritual was most important psychologically. Primary analysis for this study will compare your SOI score to specific symbolism in your dreams.

Jung emphasized that the archetype of the 'divine child' is likely to be activated when spiritual issues are dealt with. This archetype is often expressed by child imagery in dreams. For this reason, trained raters, blind to the hypotheses of this study will score your dreams for child imagery based on a protocol designed for this study. The child imagery in your dreams will be compared to your score on the Spiritual Orientation Inventory.

Jung also suggested that dreams might compensate a conscious attitude by the "archetypal quality" of the dream, that is, by the irrational, bizarre, and emotional characteristics of the dream. For this reason, the trained raters will also score your dreams as 'archetypal' or 'everyday' based on a scale developed by Kluger (1975). The archetypal quality of your dreams will also be compared to your score on the SOI.

You filled out a questionnaire assessing demographic variables (e.g., your age, gender, religious affiliation) so that this research will be able to control for any significant covariates that might exist concerning your SOI score, child imagery in your dreams, or the archetypal content of your dreams. You were given the Marlowe-Crowne Social Desirability scale which roughly assesses how much of an impact social norms have on your responding to the above questionnaires.

As an exploratory part of this study, you were given the Myers-Briggs Personality Inventory (MBTI) as it has been found that different personalities tend to have more or less archetypal and everyday dreams. This aspect of the study will further explore Jung's theory of dreams and his well established personality theory.

Using multiple regressions, the child imagery scores and the archetypal quality of your

dreams will be considered with respect to your SOI score once significant covariates are accounted for. In line with the compensatory hypothesis, it is expected that people with lower levels of conscious spirituality will have a greater amount of child imagery and/or greater archetypal quality to their dreams.

A further component of this study will be to compare the Jungian hypotheses of parallel or compensatory dreaming to the mainstream models of continuity and mastery respectively. The continuity model simply suggests that waking experiences are incorporated into dreams; the mastery model suggests the function of dreams is to process conscious stressors to encourage adaptive behaviour. In both cases, unlike Jungian hypotheses, there is no reference to unconscious needs or conscious attitudes.

If you feel distressed by any of your dreams and wish to talk to somebody about this, you may wish to contact an agency such as the University of Manitoba Counselling Service, or Klinic (784- 4090).

Thank you for your participation in this study. It is expected that the study will be completed in October 1999, at which time a summary of results will be available to interested participants through Gary Hotson (umhotso0@cc.umanitoba.ca). You may also access the study through the thesis library in the psychology department once completed. Also, a copy will be put on reserve at the Dafoe library. Any comments on this study can be sent to Gary Hotson, Dr. M. Johnson, or Dr. M. Brodsky c/o the psychology department. Some references for those interested in Jungian dream theory are given below.

Boa, F. (1994). The Way of the Dream: Conversations on Jungian dream interpretation with Marie-Louise von Franz. Boston: Shambhala.

Jung, C.G. (1974). Dreams. Translated by R.F.C. Hull. Princeton, NJ: Princeton University Press

Jung, C.G. (1969). CW9i: The Archetypes and the Collective Unconscious. Princeton, New Jersey: Princeton University Press.

Jung, C.G. (1938). Psychology and religion. London: Yale University Press.

Koulack, D. (1991). To catch a dream: Explorations of dreaming. Albany, New York: State University of New York Press.

Whitmont, E., & Perera, S. (1989) Dreams, A portal to the source. New York, NY: Routledge.

Appendix K

Child Imagery Scoring Index

Scoring for child symbolism - General scoring directions and principles:

1) Count the number of dreams submitted by a given participant.

2) Read one of the dreams.

3) Underline every direct and indirect reference to a child, as described in the list below.

4) Assign weighting to each child or child symbol underlined as indicated on the list below. Symbols will score as either 2 or 1 point(s) or will not score. Generally, direct references to a child, that is, a person under 12 years old, will score as 2 points. Allusions to childhood such as objects associated with childhood (e.g., a crib), score as 1 point.

5) Sum all separate incidences of child or child related symbols, including their weighting, to determine the total score for each dream. Record this and go on to the next dream until all of the dreams from the participant are scored.

6) Find the average score for each participant. (Sum all the dream's scores, divide by the number of dreams)

7) Repeat for each participant.

Specific and Sample References With Weighting:

2 point references:

- direct reference to a "youth", "child", "infant", or "baby"

- "boy", "girl", or "kid"

- a son, daughter, or relative under 12 years old

- elementary school child or pupil is assumed to be a child

- any other individual known or unknown to the dreamer under the age of 12

- a friend of a child is assumed to be a child unless otherwise specified

note: plural references score as 4 points

1 point references:

- allusions to pregnancy, birth, a maternity ward, an obstetrician etc.

- specific actions clearly associated only with childhood and not to adult life. e.g., 'breastfeeding', 'spoon/bottle feeding', or 'playing' would score if these were not qualified as adult situations, since the assumption is that these are children's activities. 'Playing golf' does not score since this is not a child's activity, or 'spoon feeding' an adult that cannot feed him/herself would not score either.

- "dwarf", or "elf" or other mystical traditionally young creatures (e.g., Bacchantes of classical mythology)

-young plant or animal of any kind. The 'newness' or 'youngness' must be specified explicitly. (Living things only).

- a child's toy. This includes any toys in the traditional sense of the word, including one that

a child is not playing with. Each explicit toy scores separately. Include pet's toys that are unspecified or are similar to a child's toy (e.g., ball, bell etc.). An exception is in the case of colloquial speech, such as referring to a sports car as an adults' 'toy'. If it is clear that the use of the word toy does not refer to something a child might play with it would not score.

- similarly, a child's clothing, diaper, rattle, a crib, preschool or elementary school, or any other material elements associated clearly with childhood.

- the childish behaviours of having a 'tantrum', or 'whining', but not something an adult might do. For example, complaining or crying would not score.

Note: plural references would score as 2 points

Consider each child symbol only once even if the symbol is mentioned many times. For example, if the dream is that 'child x did something and then child x did something else', this only counts as one symbol since reference is made to only one child i.e., child x. Do not score the number of references, in this case two incidences, but only score the number of different symbols. If, however, the dream is that 'child x plays with her toys, then child x crawls out of her crib' three separate symbols are scored, 'child x', 'toys', and 'crib'. There are four references here but to only three different symbols, i.e., child x is repeated. Be careful to recognize when different terms are being used to describe the same symbol; they will only score once as well, e.g., 'a dog was chewing a toy' and later 'someone grabbed the stuffed animal from the dog's mouth'. If it is not clear if reference is being made to the same symbol, score as two separate symbols, e.g., 'a dog was playing with a toy, then threw a stuffed animal across the room'. We are not as sure that the toy and stuffed animal are the same reference because the dream is written as 'a stuffed animal' rather than 'the stuffed animal',

the latter implying a previous reference has been made.

Note that plural references are scored as twice as many points since at least two images are being referred to, e.g., children = 4 points, toys = 2 points. If a plural reference is made, e.g., "children were walking down the street", and later on it becomes clear that this plural reference distinctly represents child x, child y, and child z, the original 4 points assigned for "children" would be over-turned and scored as 3 separate 2 point symbols. If it is not clear that the original plural reference is meant to represent specific singular symbols, score the plural and singular symbols separately.

Please provide a subjective rating of how central is the child imagery to the dream:

1 2 3 4 5 6 7

not at all important <---------- an average symbol ----------> V e r y important

Appendix L

Confidentiality Agreement for Experimental Assistants

I, _____ agree to respect the confidentiality of the dreams and surveys of the participants of this study. Though participants have been advised not to include any identifying data in their dream reports, I understand that some may be present. I will keep this information confidential and not discuss it with anyone except, if necessary, with the primary researcher. Also, as the participants in this study are University of Manitoba students, I agree not to publicly discuss details of this research where participants may be present. In general, I will treat the data from this study as private and personal information and respect it as such.

_____

Signature

Appendix M

Dream Archetypality Scoring Scales

(taken from Cann & Donderi, 1986; and Kluger, 1975)

Affect Scale

It is the affect of the dreamer (the dream ego) which is scored, not that of any other dream character. If the presence or absence of affect is not explicitly stated, or implied, estimate the degree of affect which would usually be associated with the situation and context surrounding the dreamer. Score the highest degree of affect which occurs within the general context of the dream.

6. *Extreme* - panic, horrified, terrified, ecstatic, enraged, furious, paranoia, suicidal depression.

5. *Very Strong* - great fear or anger, hatred, incensed, dread, mortified, crushed, grief-stricken, revulsion, awe-struck, exhilarated, elated, heart-broken, astonished, amazed, desperate.

4. *Strong or Stressed* - afraid, scared, happy, delighted, excited, mad, angry, sorrowful, alarmed, ashamed, foreboding, very embarrassed, contemptuous, depressed, hopeless, mourning, very disgusted, repulsed, bewildered, mystified, joyful, distressed, miserable.

3. *Moderate* - glad, annoyed, very interested or satisfied, irritated, apprehensive, nervous, uptight, indignant, provoked, disappointed, upset, sad, lonely, frustrated, surprised, weird, confused, cheerful, gay, hurt, disliked, compassionate.

2. *Mild* - pleasant, unpleasant, uneasy, worried, concerned, sorry, defensive, apologetic, regretful, bored, discontented, puzzled, uncertain, doubtful, contented, amused, sympathetic.

1. *Slight or Absent* - relaxed, unconcerned, neutral.

NB The addition of intensifiers (e.g., very, greatly, extremely, etc.) Will increase the degree to affect scored.

Rationality Scale

The considerations in scoring dream content under this category are the degree *of likelihood of their occurrence, and the degree of their adherence to natural law.*

4. *Rational, and not unlikely* - Examples: riding a bike, hitting a stone, and falling off.

3. *Rational - possible* - (i.e., possible, conceivable, but uncommon or unexpected)-Examples: being chased, caught, and raped; San Francisco being bombed by the Russians.

2. *Rational - unlikely* (i.e., very unlikely, although not violating any natural law)-Examples: being chased from tree to tree by a white bear; some men chased, caught, and tried to poison me.

1.5. *Borderline* (i.e., the operation of natural law is uncertain and questionable)-Examples: a long row of black box-cars rolling by a railroad track. There was no engine.

1. *Non-rational but comprehensible* - Examples: playing in a barnyard and suddenly covered with green snakes; our guns wiped out everything in front of them.

0. *Irrational* (i.e., impossible in reality)-Examples: a toothed fish chased me out of the pool and across fields; about a man with a lion's head.

B. *Bizarre*- Example: The veins on my chest stood out, studded with rhinestones and sequins.

Everydayness Scale

4. *For dreams just like everyday life* - Examples: making plans with a friend for a car trip to a neighbouring town; having to go to the bathroom; working or talking with some people.

3. *Slight variations from everyday life* - Examples: running in a relay race with two best friends, somehow got in a wrong exchange area and have to give up the race; or (a student) "I had already graduated and gotten a good position in my field."

2. *Unlikely variations from everyday life* - Examples: returning to apartment to find all the furniture gone and workmen removing the bathroom pipes; all the girls in the dorm getting together for the last time before vacation, and all sad and crying at the prospect of the long separation.

1.5. *With an impossible twist to everyday life* - Examples: cleaning out a fishbowl, the fish swim up the stream of water pouring into it; a horse performing tricks suddenly turns into an elephant.

1. *Very unlikely in everyday life* - Example: walking along a dirt road, an airline flies so low over us we could almost touch it. It circles back, lands on the road hitting a group of people as though intentionally.

0. *Very remote from everyday life, or with the feeling tone of the strange and unfamiliar* - Examples: three priests with icepicks sitting at a round table, each begins pricking the left arm of the neighbour, increasing this to a jabbing and furious stabbing till it's a horrible bloody scene; "I walk through a maze of high hedges. I am trying to reach the centre. There is a mist in the air, and grass beneath my feet. I feel I am near a river or a moat. I have very long hair, and cloths that belong to another century. I sing the old folksong, 'Where I come from nobody knows.' I feel I must get to the centre."

B. *Bizarre* - Examples: The veins on my chest stood out, studded with rhinestones and sequins.

The dream is scored as archetypal if two of three of these scales meet the following criteria:

Affect >= 4
Rational scale =< 1.5
Everyday scale =< 1.5

1) Score each dream as archetypal or everyday.

2) Sum the number of archetypal dreams for each participant, divide by the number of dreams submitted, for an average archetypality score.

Appendix N

Myers Briggs Personality Inventory (MBTI)