Differences in the Dreaming Style of Schizophrenic and Non-schizophrenic Subjects Based on Subscales of the Dreaming Style Questionnaire

Larry Knopp  
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Differences in the Dreaming Style of Schizophrenic and Non-schizophrenic Subjects Based on Subscales of the Dreaming Style Questionnaire

BY

Larry Knopp

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

Master of Arts in Clinical Psychology

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY
CHARLESTON, ILLINOIS

2000 YEAR

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Dreaming Style in Schizophrenia

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ACKNOWLEDGEMENTS

I would like to thank all of the teachers, students, participants, and administration who assisted in this research project. Their help and cooperation is greatly appreciated.

I also would like to thank Dr. Gruber, Dr. Lenihan, and Dr. Williams for their help and understanding in this endeavor. Special thanks to Dr. Gruber, the committee chair, for his perseverance when I needed some, and his patience in helping me through this task.

I would also like to thank my wife for the many hours she sacrificed that I could devote myself to this research. I would like to thank her for encouraging me with gentle persistence to complete this study. I would also like to thank my children for their understanding for the times that I wasn’t available to them.

I wish to dedicate this thesis to my parents who aren’t alive to see what I’ve now accomplished through higher education. I’m sure they would be proud.
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Abstract

The differences in dreaming style between 25 participants diagnosed with schizophrenia and 90 participants comprising a control group were examined. A Dreaming Style Questionnaire (DSQ), was administered to each participant. Nine subscales of the DSQ were used to explore differences in dreaming style between these two groups. A significant difference ($p < .003$) was found for the familiarity of characters subscales, showing those diagnosed with schizophrenia report that the characters in their dreams are unfamiliar to them. Trends were noted for the subscales assertiveness, low involvement, participation, and bizarreness. Information processing, function of rapid eye movement (REM) sleep, and dreaming style, were reviewed. It is concluded that dreaming style differences are found between the two groups. The significance of dream research is that innovative treatment methods for common mental health issues are being implemented and are proving to exhibit benefits to the recipient. Hopefully, research will shed some light on the etiology of mental health disorders resulting in better treatment methods.
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Schizophrenia is a disorder which remains poorly understood even though researchers continue to uncover a great amount of information regarding etiology and treatment approaches. Many different theoretical viewpoints have been explored through research efforts. Studying schizophrenia through dream reports is one such recent viewpoint that has provided information for new treatment approaches as well as insight into possible causes.

Dream research is a scientific endeavor which encompasses a broad array of theoretical viewpoints. One such perspective being researched is that of the potential interaction between dreaming processes and schizophrenia (Kant, 1952 & Brenneis, 1971b). Although this area has not been researched extensively, some interesting theories and results have arisen.

One theory of how dreaming may be related to schizophrenia (Cartwright, 1972) involves the possibility that disruption of normal Rapid Eye Movement (REM) sleep may cause some people to exhibit schizophrenic symptoms or to become susceptible to schizophrenia. In contrast, it is also possible that schizophrenia may cause abnormal REM sleep patterns in people or greatly reduced REM
rebound effect. This effect occurs when one is deprived of REM sleep for a period of time. When the subject sleeps next, they usually will exhibit an extended amount of REM sleep to make up for the loss of REM sleep previously. The rebound effect is not totally compensatory for the loss on an equal one-to-one time basis. Less rebound effect is required to make up the loss than the loss itself incurred.

Another theory suggests that people may get "stuck" in a REM mode of brain function during waking periods and act out these bizarre dreamstate thought patterns during waking periods (Dement, 1955).

Conversely, the non-REM period of sleep is thought to be a restorative period. Crick & Mitchison (1983) suggest this period may also serve an information processing function such as the consolidation of memory. If there were a dysfunction in the non-REM cycle of sleep, it may be possible that one would not process information properly, leading to distorted reality during the waking state.

Additionally, Crick & Mitchison (1983) suggest that another possible function of REM sleep is to
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remove certain undesirable modes of interaction in the cells of the cerebral cortex.

Dreaming Content and Style Associated with Schizophrenia

Different areas that researchers have focused on regarding content and dreaming style of schizophrenic persons include such features as: 1) whether or not the dreamer is the main character in their own dreams; 2) how many characters, if any, are in the dream; 3) degree of bizarreness reported; 4) how dream information in schizophrenic participants is processed; and 5) differences in REM sleep patterns.

One unique feature of schizophrenic dreams, although rare, was noted by Kant (1942) as a "cosmic, bizarre dream type," which depicts a world far removed from everyday reality.

Another indication of differences in dreaming style of schizophrenics is that noted by Brenneis, in which he theorizes that schizophrenic dreams reveal a "bankruptcy of defenses" as seen in more openly represented primitive content (Brenneis, 1971b).
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Specific questions of interest are whether REM sleep patterns are different between groups, how dreaming style relates to waking personality, and whether schizophrenic symptoms are due to information processing or vice versa. The overlap between psychosis and the dream is aptly stated by Eissler and quoted by Mack (1969) as: "In the dream state, we are deprived of reality testing and are forced to accept internal reality as if it were external, and that is a kind of psychosis." (pg. 210).

One area of interest focuses on whether the schizophrenic dreams are different in design and content from those of a non-schizophrenic population.

In a study performed by Noble (1951), he recognized there were no dreams characteristic of schizophrenia, but there were tendencies in schizophrenic dream accounts such as simple, frank statements about basic problems with little elaboration, which are often primitive in nature. He further suggests that dreams in schizophrenics serve a valued purpose as do those of persons with other psychological illnesses, and may therefore have treatment value for these persons.
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Research concerning the etiology of schizophrenia is extensive; however, little research has been related directly to the dream patterns and symptomology of those people with schizophrenia. Similarly, a lot of information has been provided on information processing, but again, not as it relates to symptoms of schizophrenia.

In exploring the existence of dreaming styles, Brenneis (1971a) investigated whether judges were able to determine if schizophrenics' manifest dreams could be differentiated from those of non-schizophrenic people. Brenneis used Rapaport's (1968) indices of fabulized combination, confabulation, and contamination, having the dreams scored for the loss of body integrity, and for evidence of thought disorder. Fabulized combination refers to "a response in which two spatially contiguous interpretations are arbitrarily (but not elaborately) related". A confabulation is an "extensive and arbitrary associative elaboration without objective support". Contamination refers to "two interpretations fused into one, or the same area simultaneously stands for two interdependent but logically separate interpretations".

The result of this study was that judges were
able to differentiate differences between the dreams of people with schizophrenia compared to those without barely above chance as a group. It was important to note that the experience of the judges had an important effect upon the outcome of the study. Those judges familiar with dreams and psychotic patients performed better than did judges who only had experience with psychotic patients. The group of nonprofessional judges were the least accurate at diagnosing those subjects with schizophrenia according to dream reports.

In another study, Brenneis (1971b) demonstrated that there were certain distinctive features evident in the manifest dreams of schizophrenics, again utilizing Rapaport's indices of fabulized combination, confabulation, and contamination. These were noted to appear more frequently in the dreams of those with schizophrenia and are considered to be primary process constructions. Also, more difficulty in organizing and reporting the dream around a sense of self was common in the dreams of those with schizophrenia. Lastly, Brenneis reports that waking and dream thought processes were continuous in schizophrenia.

Therefore, in this Brenneis study, the Rapaport
indices were found to be reliable in isolating differences in manifest dream content, therefore, these indices indicate that the manifest dream is a legitimate data source in dream research.

Richardson & Moore (1963), having performed a similar study, report that 15 psychiatrists who were experienced in psychological diagnoses, and who had "ample experience" with schizophrenic patients, were able to determine differences in the dreams of 25 schizophrenic participants compared to 25 non-schizophrenic participants. The judges were given 50 reported dreams in random order and asked to make a choice whether the person was schizophrenic or non-schizophrenic. The judges were not aware of the number of participants in the study. The results concluded that the judges were able to determine schizophrenic dreams better than chance at <.01 phi coefficient level. It was noted that the judges were often (76.8% overall) arriving at identical but often incorrect conclusions. It was theorized that the judges were responding to certain cues in the dreams, but frequently the wrong ones.

This led to a second phase in which researchers attempted to isolate the cues which the judges had
focused on. Two significant findings were noted: there was no significant difference between schizophrenic and non-schizophrenic dreams regarding sexual repression and aggressive content; however, there was evidence to support that the dreams of schizophrenics more often conveyed a sense of bizarreness, strangeness, or incomprehensibility.

Kramer (1973), noted that it was possible to differentiate between depressed patients, schizophrenic patients, and nonpsychological medical patients, based on the content of their dream reports. He found that the most frequent characters in the dreams of those with depressive dreams were family members, while strangers appeared more frequently in the dreams of schizophrenics, and friends were the most common dream subjects of the medical patients. Kramer claims that a person's emotional state is reflected in their dream content. It was also noted that depressed subjects were more likely to report groups of individuals, whereas schizophrenic subjects reported more individual subjects. Schizophrenics also reported a higher number of male to female characters than did depressed
subjects, and also a higher frequency of aggressive social interactions in their dreams. It is important to note that while depressed subjects and schizophrenic subjects are different while awake, they are also different during dreaming states.

Sleeth (1996), performed a similar study to this one and also noted differences between the schizophrenic group and the control group. Significant differences were reported by schizophrenic subjects such as decreased familiarity of dream settings, less participation in their dreams, decreased influence of dreams on their waking moods, less vividness, and lower frequency of recurrent dreams. Similar to this study, Sleeth also noted that the subjects diagnosed with schizophrenia reported the characters in their dreams to be unfamiliar to them. Differences between these two studies are that Sleeth used more subscales, some of which were different, had a larger control group (1768 subjects) who also had a younger mean age, and her group of subjects with schizophrenia were hospitalized at the time of the research. These are variables that could account for the difference in outcome between the two studies.
Sussman (1936) performed a study based on 110 dreams of 55 schizophrenic subjects, in which he concluded that the primary symptoms of the subjects were evident in their dreams, such as, autism, incoherence of thought, and isolation. Specifically, "lack of contact" was the predominant feature in two thirds of the dreams collected. On the other hand, Boss (1938) emphasized that phenomenon such as incoherence appeared in the average dream, although he felt that restriction of censorship was to be considered outstanding in the dreams of schizophrenic subjects. This may suggest that people with schizophrenia do not exhibit any limits or boundaries in their dreaming style. Boss further claimed that dream experiences symbolizing impending or occurring destruction of personality were important diagnostic clues. While Kant (1952) stated that it was doubtful that schizophrenic dreams existed as a type, he did report that there were certain bizarre or cosmic dreams that occurred frequently and were diagnostically significant.

While Dement (1955) reported that he found schizophrenic subjects' dreams to be particularly devoid of content rather than bizarre and chaotic as one would suspect, Biddle (1963) claims that
chronic schizophrenic subjects were unable to recall their dreams. When subjects were instructed to try to dream, the first recalled dreams were usually of a single inanimate object. When subjects did begin to dream, hallucinations would diminish and eventually disappear.

Dream Function

Kramer (1973) suggests that a functional theory of dreaming might be that dreams serve a problem solving function. He further thought that as the subjects' clinical state changed, so did their dream state and content.

Research findings indicate that the manifest dreams of persons with depression differ from those of the non-depressed. In a study by Kramer (1965a), the outcome signified that depressed persons reported themes of hopelessness-helplessness, escape, and masochistic dreams. Beck (1961) also came to the same conclusion in his research regarding the masochistic style of dreaming exhibited in depressed persons. It is also noted that depressed subjects exhibited a higher frequency of depressive themes in their dreams and
lower incidence of dream recall, but not a lower incidence of dream frequency (Kramer, 1965b). This supports the theory that dreams and mental illness do interact to some degree.

In studying the relationship between schizotypal personality and dreaming style, it was noted by Levin & Raulin (1991) that persons with schizotypal personality symptoms reported more frequent nightmares, which also appear to be stronger in women than in men. Hartman (1984) noted a greater incidence of mental illness in family members of nightmare sufferers compared to his normative group. This does not indicate that schizotypal personality is derived from dream patterns or vice versa, but research does suggest that some people with mental illness do exhibit different dreaming styles.

Another possible risk factor in the etiology of schizophrenia may be that schizophrenic people process information differently than do other persons.

In a literature review conducted by Gable (1987), it was suggested that due to the increased right hemispheric activity and efficiency of the brain, that this was an area where humans were able
to arrive at new solutions and adaptations to existing problems during REM sleep. Further, increased right hemisphere activity might promote dissociative abilities of the two hemispheres, resulting in each hemisphere exhibiting it’s own individual ability to feel, react, initiate action, and sense desire. These right hemisphere mediated processes might also create a new image or story involving the dreamer and his or her life, which may be told in metaphoric terms, resulting in different conclusions than were expressed during wakefulness.

Looking at the dream as a metaphor, Antrobus (1977) proposed that dream events may be constructed from the perception of events taking place and stored from an earlier wakeful experience. During dreams, it is often thought that persons, events, and objects “stand for” interrelationships of persons, events, and objects occurring during wakeful periods. The metaphor theory would suggest a model for information processing during the dream state. Antrobus further states that perceptions of events occurring during wakefulness are not subject to “filters” and that these perceptions would be able to run free of any
constraints imposed by external stimuli and sensory systems. He suggests that the expectations of our processing system are dependent in part by the context in which the stimulus is presented.

Physiological Evidence, REM Sleep, Lucid Dreaming, & Ego Function

Another theory of interest regarding dreaming style of schizophrenic people is the neurophysiological approach. It is theorized that serotonin plays a prominent role in the regulation of dream and hallucinatory states in schizophrenia. Fischman (1983) suggested that depressed serotonergic neurotransmission may be the force that affects schizophrenic symptomatology. When PCPA (parachlorophenylalanine), a serotonin inhibitor, is introduced in subjects deprived of REM sleep, REM rebound effect is inhibited (Fischman, 1983). It is also known that when a subject is deprived of REM sleep, that psychotic symptoms were noted. Neale & Oltmanns, (1980) point out that human sleep studies consistently have shown that acute schizophrenics do not have a REM rebound effect after REM sleep deprivation.
Personality and thought patterns appear to be sensitive to the chemical systems of the human brain. Neurochemical substances that experimentally alter these systems are producing insightful information into the operation of the human brain, relevant to personality and thought. According to Meltzer & Stahl (1976), pharmacological substances that decrease dopamine activity produce antipsychotic effects, while amphetamines increase dopamine activity resulting in a state that is very much like that of paranoid schizophrenia.

Also regarding REM sleep, Cartwright (1972), citing the work of Koresko, Snyder, and Feinberg (1963), reports that the amount of REM sleep in schizophrenics and non-schizophrenic subjects does not significantly differ. It was suspected that those who hallucinate in the daytime would exhibit a lower than average amount of nighttime REM sleep. This, in fact, was not the case. Zarcone, Gulevitch, Pivik, and Dement (1968) report that actively ill patients show greatly reduced amounts of REM rebound effect compared to that of normatives. The researchers offered the hypothesis that there may be a "breakdown of processes that ordinarily hold the discharge of dream equivalents
in check and confine them to REM periods". This might occur with schizophrenics under the increased pressure associated with sleep disturbance. In this case no compensation would be necessary, since no deficit would be accumulating.

In understanding the functional role of the lucid dream and its relation to waking cognition, one may begin to determine how a deficit in this area of dream style may be a causative factor regarding schizophrenic symptoms. In order to theorize symptomatology, one must first have a comprehension of the operating factors of the lucid dream.

One suggestion is that there may be a strong link between management of waking cognition and lucid awareness within dreams, and that the lucid dream may be an approach to studying the relationship between dream function and waking cognition (Gruber, 1995). Gruber (1985) hypothesized that because a lucid dreamer exhibits the ability to accurately identify and control subjective perceptions, interpretations, and distortions while awake, these abilities may carry over into the dreaming state. One difficulty of the lucid dream approach, is that frequent lucid
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dreamers appear to be a rare occurrence, falling in about the 10% range of those lucid dreamers surveyed (Kohr, 1980).

When assuming the importance of ego pathology or a deficit in a schizophrenic subject (Searles, 1965) together with the critical role of the ego processes in dream formation, one could imply that the manifest dreams of schizophrenics should offer disruptions in ego function and, therefore, should differ in some manner from the dreams of nonschizophrenic subjects (Erikson, 1954). This is not to say that all manifest dreams of schizophrenics will reveal some type of ego dysfunction, but, when studying reports of enough manifest dreams, some differences should be apparent.

Also of note is that when the manifest dream is approached and confronted directly in therapeutic sessions, schizophrenic patients were able to control insomnia and nightfears to a greater extent, and received therapeutic value from the sessions (Wilmer, 1982).

Therefore, measuring dreaming style differences between those with schizophrenia and those without schizophrenia, may lead to useful information for
understanding this disorder. This could encompass clinical treatment approaches, regulation of sleep patterns, and information processing.

The present study focuses on whether people with schizophrenia dream differently than do those without the illness.

This is a quasi-experimental design intended to gather information about dreaming style and how differences in dreaming style may relate to the symptomatology of schizophrenia. In what way do people with schizophrenia dream differently? Can this information provide insight into treatment involving manipulation of the dream state?

Method

Participants

The study included 25 participants diagnosed with schizophrenia by a psychiatrist. The group was also chosen on the basis of being able to communicate in a lucid manner, and subjects had no other conflicting diagnoses such as mental retardation. The group with schizophrenia was composed of 20 males and five females. The ages of
this group range from 32 years to 71 years, with a mean age of 46.2 years. All the participants with schizophrenia have symptoms controlled by medication. Participants volunteered from a group living at a shelter care facility. They were not paid for taking part in the study.

Some of the participants had pursued or attained college level of education or professional careers prior to the onset of schizophrenia. Of the group, 68% of the participants with schizophrenia had completed high school level of educational achievement, while 32% had completed at least two years of college.

The control group of 91 subjects was derived from a larger study of 2500 students, conducted at Eastern Illinois University & the University of Cincinnati. The responses of participants 30 years of age and older were used in order for the two groups to match more closely by age. This resulted in a control sample of 91 participants for the normative group.

Measures

The Dreaming Style Questionnaire (DSQ; Gruber,
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1988) was used as a measure of dream experience. The questionnaire employs a 7 point Likert type scale ranging from "0" for "not at all like me" to "6" for "very much like me". The DSQ consists of 63 questions which are used to construct various subscales, which can be found in appendix D. These subscales include: realistic, bizarre, assertive, vulnerable, high involvement, low involvement, familiar settings and characters, unfamiliar settings and characters, and level of participation in ones own dreams. The assertive and vulnerable scales are made up of ten questions each, while the high involvement & low involvement scales are five questions each. The realistic scale & bizarre scale are four questions each, while the familiar, unfamiliar, and participation scales consist of two questions each. Questions 48, 49, 50, 58, 59, & 63 of the questionnaire were not administered as they were not considered relevant for this study. Table 1 lists the questions of the DSQ associated with each scale.

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The bizarre/realistic subscale measures whether dreamers report unusual or bewildering dream content. The assertiveness/vulnerable subscale measures whether the participant reported themselves as feeling fearless, more relaxed, more accepted by others, and having a general well being and positive feeling about themselves. The participation subscale measures how much the subject feels they take an active part in their dreams, or are always the main character in their dreams. The familiar/unfamiliar subscale measures whether the participant feels that the settings and characters in their dreams are familiar to them. The high involvement/low involvement subscale measure how much the participant tries to interact with their dreams and how their waking mood affects their dreams. This scale also measures how much the participants’ dreams affect their waking mood.

Subscales were formed using a factor analysis procedure. Items loading at $r = .38$ or better were grouped together. Test-retest reliability is moderately high. For example, the assertiveness scale has a test-retest reliability of .83, while the vulnerability scale has a test-retest
reliability of .82. Combining the two scales, the score improves to a reliability factor of .85.

Procedure

Releases of information and informed consent to participate were procured from all participants. When meeting with the participants for administration of the DSQ, the test administrator read the questions to each participant individually. Both the examiner and the subject had a copy of the DSQ. This was done in order to ensure that participants clearly understood the nature of the questions being asked. The examiner marked the responses for the participants on the protocol. The DSQ was administered very stringently and with exactness for each participant. Each person was instructed at the beginning of questioning to advise the examiner if they did not understand a question.

T-tests for independent means were used to examine differences between the groups. The mean of each of the DSQ subscales for the group with schizophrenia was compared with the mean of the control group. The significance level began with an
alpha level of $p < .05$. Utilizing a Bonferroni correction to control for a type I error reduced the alpha level to $p < .0055$. The Bonferroni correction is performed by taking the beginning alpha level, and dividing this number by the number of t-tests being performed, in this case nine. Therefore, there must be $p < .0055$ alpha level for a difference between groups to be considered significant.
Results

T-tests for independent means were performed on nine subscales of the DSQ. When using the Bonferroni correction, statistical significance becomes much more stringent at the $p < .0055$ level. The only scale that was significant at $p < .0055$ was the unfamiliarity of characters scale. Persons with schizophrenia were significantly different at $p < .003$ when reporting that the settings and characters in their dreams were unfamiliar to them. Sleeth reported a finding of this same subscale with an alpha level of $p < .000001$.

The participation subscale is considered a trend finding, and had a statistical value of $p < .007$, with the schizophrenic group reporting less active participation.

The other scales were not statistically significant, but the low involvement subscale reached $p < .060$ alpha level.

Table 2 displays the results of the t-tests performed on each of the subscales.
DISCUSSION

The results of this study indicate that the participants with schizophrenia tend to classify the characters in their dreams as unfamiliar ($p < .003$). It is possible that this unfamiliarity of dream characters reflects the daytime social interactions of persons with this illness. Persons with schizophrenia tend to be "loners" and often have difficulty experiencing close relationships and interactions with others. Observation leads one to believe that schizophrenia is often a lonely experience where the individual spends much of their time and effort inwardly directed, dealing with symptoms of the disorder.

Along this same line, the participation scale resulted in a finding of $p < .007$. This indicates that people with schizophrenia report that they are often not the central character in their dreams, or
feel as if they are outsiders watching their dreams taking place. Here again we see a parallel with waking life where they are often not active participants in typical day-to-day roles and responsibilities. Sleeth reported this subscale finding to be $p = .000001$.

While not significant, other interesting trends indicated that the schizophrenic participants exhibited slightly lower recall of their dreams, and related that their dreams had less of an effect on their waking mood than did the control group. This effect could possibly be explained by the use of psychotropic medications whose sedative effects may repress recall and alter the individuals' waking mood. It is also possible that these findings may indicate a difference in the way dreams are used and information is processed.

There was also a tendency toward lower assertiveness, and one can see that although the outcomes of some individual scales are not significant, combined, one would begin to suspect that the dreams of people with schizophrenia reflect their tendency to suffer from low self esteem and be timid people. This is not to say that they are shy or do not become angry, but merely
that they may view themselves as "less significant" than others. Becoming preoccupied in their psychosis may also lead to this introverted personality effect as well as explain the lack of social skills exhibited.

While one would assume that dreams of those with schizophrenia would be bizarre, it was found that this was not true, and there was only a tendency toward this phenomenon at the $p < .085$ level. This outcome is supported by other research in which it is reported that dreams of those with schizophrenia tend to be bland and void of content rather than bizarre (Cartwright, 1972). This investigator further related these findings to the possible lack of productive REM sleep in those with schizophrenia. She theorized that we all have a fixed daily amount of REM sleep, which normal persons use to process hallucinatory mental activity during their sleep cycles. Those with schizophrenia may not process hallucinatory thought patterns during REM sleep properly and this affects their behaviors during waking hours. It was also reported by Dement (1955) that dreams of schizophrenic patients were characterized by their sterility and lack of content. This phenomenon was
also confirmed by Arey (1964), who suggested that the blandness of content he was finding in these patients during the active phase of the illness, transformed to a more "florid primary process" dream content, as patients moved toward remission. Biddle (1963) reported that chronic schizophrenics had no dream recall at all. As he instructed them to begin dreaming, he noted that they would begin to dream of single objects, and as they began to dream more, their hallucinations would diminish and eventually disappear. This theory would explain the blandness and lack of dream content of schizophrenic subjects who may be "living" their dreams during waking hours.

According to Sleeth (1996), the opposite tendency was noted with the schizophrenic sample reporting more bizarre dreams at the $p < .01$ level. Related research finds that persons with a more realistic style of dreaming tend to be more conservative, practical, and less creative during waking stages (Gruber, 1989).

When comparing this study to a very similar study which Sleeth (1996) performed, it is noted that some of the results were in a corresponding direction. Regarding the scale of vulnerability,
both studies found that the normative group reported feeling more vulnerable in their dreams. This subscale relates to feelings of fearfulness, anxiety, and some degree of paranoia. Both studies revealed that the sample with schizophrenia reported less familiarity with the characters portrayed in their dreams. Both schizophrenic groups similarly reported that their dreams were a less integrated part of their lives; for example, they do not try to remember their dreams, their evening mood does not affect their dreams, or their mood during waking is not influenced by their dreams.

Kramer (1973), reported that those with schizophrenia were more likely to recount that their waking mood did have an effect on the content of their dreams. This is the opposite finding of this research. On the other hand, he did note other differences between the dreaming style of the control and schizophrenic groups. Strangers were more likely to be reported in the dreams of schizophrenic subjects. They also reported a higher number of male to female subjects in their dreams, and exhibited more aggressive tendencies in their dreams.
The findings of this study along with the Sleeth (1996) study findings, also reveal that both groups with schizophrenia exhibited low participation in their dreams. This outcome indicates that the schizophrenic population may tend to lack participation in their dreams compared to the normative population; this also appears to be a trend in their daily interactions. The question now becomes whether the schizophrenic symptoms can be considered causative of the dreaming style or vice versa.

One of the differences between these two studies may be the source of the schizophrenic sample. Sleeth’s participants diagnosed with schizophrenia were identified in an inpatient hospital setting, suggesting an increased severity of symptomatology. One must also consider the effect of a controlled setting, and the feelings of safety derived from a hospital environment, on the self interpretation of their dreams. This present study acquired participants from a local group home where their symptoms would be considered as stable as possible at the time of questioning. The environment also relates more closely to a normal lifestyle, than does the Sleeth (1996)
Dreaming Style in Schizophrenia

A study of this type is difficult to perform due to many variables that are not possible to limit or control ethically. One of these difficulties is that schizophrenic participants have symptoms controlled with various regimens of pharmacotherapy. Difficulties arise in that it is possible that the schizophrenic participants' outcomes are affected by medication treatment while the normative group is not. It may be possible that the medications' sedative effects could diminish the amount of dream recall and dream report. Similarly, medication could alter the mood of the individual which could relate to how one reports dreaming effects on waking mood or vice versa. It is also important to consider the strides that new medications have made in symptom control, and how this has affected research with schizophrenic subjects over the years. Before 1950, there were few potent antipsychotic medications, and research was confounded to some extent. Now, there are many antipsychotic medications that work well, and therefore the research of these two eras are not truly comparable. I have only included one pre-1950 resource, but one also has to consider that
pharmacologic changes have continued to progress up to the present time.

Conversely, it is possible that schizophrenic subjects are better able to rationally respond to the questionnaire due to symptom control, and therefore their DSQ responses more closely match the normative group. Since symptoms were controlled by medication, the schizophrenic subjects may be able to respond clearly and with forethought to the questionnaire.

Other possible weaknesses of this type study might include how well the participants were able to respond on the DSQ. To expect someone to recall a dream from the previous night with total accuracy is problematic at best. There is always some degree of subjectivity that cannot be totally controlled when using a self-report measure.

It is also possible that some of the participants could have responded using a rigid response style. In reviewing the questionnaires this did not appear to be the case. By observation, participants appeared to answer each question with thoughtful and purposeful responses.

It was determined that the group diagnosed with schizophrenia were more likely to report that
the characters in their dreams were unfamiliar to them. Regarding the subjects reported in the dreams of those with schizophrenia, Kramer (1973), noted that the schizophrenic participants were more likely to report strangers as dream characters. Conversely, he found that subjects experiencing depression were more likely to report groups of individuals, while those with schizophrenia reported individuals in their dreams.

Sleeth also found that the unfamiliarity of characters to be a highly significant discriminator, corroborating this outcome. This finding in itself may not be enough to formulate specific treatment methods, but it is noteworthy that a significant difference of dreaming style was found.

Since one of the negative symptoms of schizophrenia is self isolation, addressing this unfamiliarity characteristic during treatment sessions may be useful for better integrating these persons into social and community settings. Targeting and teaching skills to increase positive interaction may lead to a feeling of connectedness and a decrease of feeling unfamiliar in social settings. Further research of this subscale
independently may lead to more significant findings for treatment.

Although not statistically significant, the trend findings in the subscales of participation, assertiveness, and low involvement (effect of dreams on waking mood), may be important in the group with schizophrenia. These observations are consistent with the lack of affect this group exhibits during waking hours. Again, targeting these deficits and teaching social skills during therapeutic sessions may help to alleviate part of the symptomatology people with schizophrenia experience.

Because causes and treatment for schizophrenia continue to be illusive at the present time, dream research may be able to narrow the focus of research and give direction to finding more effective psychological treatments for this devastating disorder. Since there has been consistent findings of differences between the dreams of people with schizophrenia and those without, these observations and treatment recommendations have been strengthened by this study.
REFERENCES


Table 1

<table>
<thead>
<tr>
<th>Subscale Names</th>
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<td>2. Vulnerable</td>
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<td>5. Bizarre</td>
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<td>7. Familiarity</td>
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<td>8. Unfamiliarity</td>
<td>18, 19</td>
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<td>9. Participation</td>
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Table 2

Results of t-tests Between Norms & Schizophrenics on the DSQ

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<tr>
<th>DSQ Scales</th>
<th>Norms</th>
<th>Schizophrenics</th>
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<td>X _ SD</td>
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<td>Vulnerability</td>
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<td>32.2 13.4</td>
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<td>Bizarreness</td>
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<td>13 5.43</td>
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<td>15.5 4.48</td>
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<tr>
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<td>Participation</td>
<td>2.47 2.81</td>
<td>0.76 2.51</td>
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* Significant at p< .0055 alpha level    + trend finding
Chart 1

Means of Groups

- Assertive
- Bizarre
- Familiar
- Chimeric
- Low Involvement
- High Involvement
- Participatory
- Realistic
- Unfamilial
- Vulnerable

Groups:
- Norms
- Schizophrenics
Appendix A

Information Summary

Project Title: Differences in the Dreaming Style of Schizophrenic and Non-schizophrenic Participants Based on Subscales of the Dreaming Style Questionnaire.

Investigator: Larry Knopp

This study involves research to determine differences in dreaming styles of individuals. You are invited to take part in this research project for testing along with other persons who have schizophrenia.

The purpose of this study is to determine whether people with schizophrenia have different types of dreams than do people without schizophrenia. Results of this research may be useful to treat schizophrenia or its' symptoms.

If you agree to participate in this study, you will be asked to answer questions that I will be reading from a questionnaire. You will rate your responses on a scale of 0 through 6 for "not at all like me" to "very much like me".

These following procedures will be followed if you agree to participate:

1. We will together review a debriefing statement and you will be asked to sign an informed
consent for your participation.

2. I will then be asking you 56 questions from the Dreaming Style Questionnaire regarding your dreams. You will answer on a scale of 0 through 6 that this question sounds very much like your dream or not very much like your dream. I will write your answer on a score sheet.

3. The test should take approximately 30 minutes. If you need a 10 minute break about half way through the test, we will do so.

4. This will conclude the testing session.

There are no foreseeable risks involved as this is only a question and answer format. If you feel some uneasiness from recalling dreams that upset you, please let me know and we will take a break or stop, as you feel necessary.

A record of your participation in this research will be maintained, but will be kept confidential to protect your identity and rights.

Any question you may have about this project will be answered by Dr. Russell Gruber, Department of Psychology, Eastern Illinois University, Charleston, Il. 61920, 217-581-6614.

Your participation is voluntary and you may discontinue at anytime. No penalty or loss of benefits to which you are entitled will occur if you decide not to participate.
Appendix B

Certification of Participant Consent

Project Title: Differences in the Dreaming Style of Schizophrenic and Non-schizophrenic Participants Based on Subscales of the Dreaming Style Questionnaire.

Investigator: Larry Knopp

I, hereby certify that I have been informed by Larry Knopp about the research on Differences in the Dreaming Style of Schizophrenic and Non-schizophrenic Participants Based on Subscales of the Dreaming Style Questionnaire. I understand that any records that can identify me will be kept confidential.

I understand that I have the right to ask questions at any time and that I should contact Dr. Russell Gruber at 217-581-6614 for questions about the research.

Therefore, I freely consent to participate in the present study being conducted under the supervision of a faculty member of the Department of Psychology at eastern Illinois University. I have been informed either orally or in writing, or
both, about the procedures to be followed and about any discomforts or risks that may be involved. I understand that I am free to terminate my participation at any time without penalty or prejudice.

____________________  ____________________
participant               experimenter

date ___________________
Appendix C

Debriefing Statement

Project Title: Differences in the Dreaming Style of Schizophrenic and Non-schizophrenic Participants Based on Subscales of the Dreaming Style Questionnaire.

Investigator: Larry Knopp

There has been considerable speculation about how schizophrenia may affect dreams or what affect dreams have on schizophrenia, if any. In prior studies, differences in dreaming style were noted between those with schizophrenia and those without schizophrenia. Studies have shown that psychiatrists were able to tell which dreams were those of people with schizophrenia merely by reading dream reports from the two groups and being asked to determine to which group the dream belonged. The purpose of this study is to further determine whether differences exist and what affect this may have on schizophrenia. This information will be useful in looking at new approaches to
Researchers have discovered new methods useful in treating depression due to information gathered from similar studies.

Participants were assigned to the schizophrenic group based on the diagnoses of their psychiatrist, and those who exhibit symptom control due to medication treatment for the last 30 days. The other group is that of randomly assigned college students who are not diagnosed with schizophrenia. Each group will respond to questions from the Dreaming Style Questionnaire and the investigator will mark the appropriate response on a score sheet. The answers will be analyzed to look for differences between the two groups.

Please do not comment about this study with friends or classmates until testing of all participants has concluded. Thank you.
INSTRUCTIONS:

The following questions ask you to think about your dream experiences and rate them on a seven-point scale. The questions will be answered on a scale ranging from (0) = not at all like me through (6) = very much like me. Please think carefully about what you remember of your dreaming experiences and answer the questions by filling in the circle on the separate answer sheet which corresponds to the rating you’ve chosen. Be careful NOT to answer the questions as you WISH your dreams to be or how you feel while awake, but rather as you ACTUALLY remember them. All questions are to be answered on the separate answer sheet. Please do not write on the questionnaire itself.

Please read each question carefully. Take your time and answer the questions as thoughtfully and honestly as possible. Thank you for the contribution you have made to our knowledge of dreaming by filling out this questionnaire.
1. I often feel relaxed or at ease in my dreams.

2. I often feel happy or pleased in my dreams.

3. I have dreams in which I am successful at solving some problem.

4. I have dreams of finding valuables or money.

5. I have feeling of being accepted by others in my dreams.

6. My dreams are often made up of an orderly sequence of events or seem to have a basic theme.

7. My dreams seem to be a fairly direct representation of my waking life.

8. My dreams seem to be about everyday things that actually could happen in reality.

9. I am always an active participant or the central character in my dreams.

10. I try to learn things about myself from my dreams (feelings, conflicts, etc.).

11. When I am upset about something during the day it often shows up in my dreams.

12. I often feel afraid or terrified in my dreams.

13. I sometimes have dreams of being injured or hurt.

14. I have dreams where my self-image seems very negative (I am unattractive, incompetent or unfortunate).
In my dreams things seem to happen to me that I can’t control.

I seem to be or feel very vulnerable in my dreams.

I often have nightmares.

Characters in my dreams are often complete strangers.

My dreams most often seem to be taking place in settings which are completely unknown.

My dream settings seem unreal, bizarre, or weird.

It is not important to me to recall my dreams.

My dreams are not affected by my evening mood.

My dreams have very little effect on my waking emotions.

I often feel fearless or brave in my dreams.

During a dream I have found that I possess super-human strength or abilities.

I have dreams where my self-image seems very positive (I am attractive, competent, or fortunate).

I find that while dreaming, I can do things to make my dreams turn out better.

In my dreams I feel that I can strongly influence what happens.
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<tr>
<td>29.</td>
<td>I feel that my dreams are bewildering and I can't imagine what they might be about.</td>
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<td>30.</td>
<td>My dreams seem very strange or distorted compared to waking life (filled with bizarre or impossible happenings).</td>
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<td>31.</td>
<td>My dreams seem to be about strange occurrences that could not actually happen in reality.</td>
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<td>32.</td>
<td>I seem to be an observer or bystander to events in my dreams.</td>
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<td>33.</td>
<td>I usually do not make an effort to understand my dreams.</td>
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<td>34.</td>
<td>My waking life seems to have little effect on the events in my dreams.</td>
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<td>35.</td>
<td>I often feel anxious or worried in my dreams.</td>
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<td>36.</td>
<td>I often feel sad or disappointed in my dreams.</td>
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<td>37.</td>
<td>I have dreams of being unsuccessful at solving some problems.</td>
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<td>38.</td>
<td>I have dreams of losing something valuable.</td>
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<td>39.</td>
<td>I have feelings of being rejected by others in my dreams.</td>
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<td>40.</td>
<td>Characters in my dreams are often well known to me.</td>
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<td>41.</td>
<td>My dreams most often seem to be taking place in settings which are very familiar.</td>
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<tr>
<td>42.</td>
<td>My dream settings seem very close to real life.</td>
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</table>
43. I make an effort to remember my dreams.

44. My mood before I go to sleep sometimes has an effect on what I dream.

45. My mood in the morning is sometimes affected by what I have dreamed.

46. I sometimes have dreams that seem to come true.

47. I have dreams which seem to occur again and again.

48. I often initiate sexual activity in my dreams.

49. I feel strong feelings of sexual arousal in dreams.

50. Other dream characters often initiate sexual activity with me in my dreams.

51. I have dreams in which I feel threatened by authority figures (policemen, teachers, supervisors).

52. Others are physically or verbally aggressive toward me in my dreams.

53. I am physically or verbally aggressive to others in my dreams.

CONTINUED ON NEXT PAGE
54. I have had nightmares. 

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<td>a few</td>
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<td>or more</td>
<td>a month</td>
<td>months</td>
<td>a year</td>
<td>or less</td>
<td>in my life</td>
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55. Characters in my dreams are most often. 

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56. My dreams most often seem to have. 

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57. I remember a dream. 

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A "lucid dream" is a type of dream that while in progress a person realizes, "This is not really happening. It's only a dream." Here is a short example: "I was sitting and talking to my friend John...all of the sudden I realized this can't be...John is in California...I must be dreaming!! I knew it was a dream and that I was really asleep in bed, but the dream continued and I still talked to John even though I knew he was not real."

58. I often have lucid dreams.

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Dreaming Style in Schizophrenia

59. I have "lucid dreams" ___.

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<td>a year</td>
<td>or less</td>
<td>in my life</td>
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</table>

60. Sex:  Male - Ø
         Female - 1

61. Age:  1 - Ø-19
         2 - 20-21
         3 - 22-25
         4 - 26-30
         5 - 31-35
         6 - 36-40
         7 - over 40

62. Race: 1 - White
         2 - Black
         3 - Hispanic
         4 - Asian
         5 - Native American
         6 - Indian
         7 - Other

63. I am majoring in (or will probably major in) ___.

1 - Engineering
2 - Natural Sciences
3 - Social Science
4 - Fine Arts or Music
5 - Humanities
6 - Business
7 - Other