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Characteristics of Dream Recall: the Dreamer and His Dreams.

April Hogue Newlin

Louisiana State University and Agricultural & Mechanical College

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CHARACTERISTICS OF DREAM RECALL:

THE DREAMER AND HIS DREAMS

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
In partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Department of Psychology

by

April Hogue Newlin
B.A., University of North Carolina, 1973
M.A., Louisiana State University, 1976
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ABSTRACT

Several hypotheses about the differences in personality, dream content, and memory of subjects classified as low and high recallers of dreams were tested on the basis of repression theory of dream recall. Fifty undergraduate college students were placed into low and high recall groups using responses to a questionnaire and 14 day dream diary. Since numerous variables were examined, subjects were divided into a main study (N=34) and a sub-study (N=16) with significance in both studies required for positive results. The Personality Research Form, Babcock Story Recall Test, and a fantasy experience were used to analyze subjects' dreams. The predicted differences in personality and dreams of low and high dream recallers were clearly not obtained.

Several variables associated with oral needs show significant trends suggesting that dream recall may be related to an early infantile experience as Lewin theorized. No significant memory differences were obtained between the groups. The results suggest the need to consider the role of interpersonal factors in distinguishing between dream recall and dream report.
INTRODUCTION

Although dreams may persist in memory with a powerful intensity, they likewise "give way before the impressions of a new day just as the brilliance of the stars yields to the light of the sun" (Freud, 1900/1965, p. 78). For centuries, philosophers have recognized that "memory is a motivated behavior phenomenon and that emotions are motivating factors" (Rapaport, 1959, p. 8). Repression, therefore, may be a "specific case" of the influence of affects on memory (Rapaport, p. 102). As a particular kind of forgetting, repression can be demonstrated in the tendency to forget dreams (Freud, 1965). In his chapter, "The Forgetting of Dreams," Freud proposed that the censorship, repression, diminished during sleep, regains its power upon waking and "proceeds to get rid of what it was obliged to permit while it was weak" (Freud, 1965, p. 564). The manifest dream is a "night residue" (Leveton, 1961, p. 506) representing material that was incompletely re-repressed on waking.

The Dream in Psychoanalytic Theory

According to Freud (1965) the functions of dreaming are 1) to discharge the unconscious and 2) to guard sleep. Every dream represents an attempted wish fulfillment of a repressed infantile wish which is unacceptable to waking consciousness. The discovery of a unique psychophysiological state of dreaming, the D-state (Hartmann, 1970), occurring about every ninety minutes brings no discredit to Freud's
theory. Rather than serving as an instigator of the dream, the unconscious wishes may take advantage of the D-state which is conducive to their excitation (Jones, R., 1966). The role attributed to unconscious factors in dream construction remains intact. The manifest dream represents a compromise resulting from the struggle of the latent dream wish for expression and the strivings of the resisting censorship. Through condensation, displacement, symbolism, and secondary elaboration, the latent dream thoughts are transformed into the manifest dream which may be suitable to enter consciousness. Nevertheless, the contents of the dream maintain their connections with the unacceptable unconscious impulses. Since the motive of forgetting is "an unwillingness to recall something which can evoke distressing feelings" (Freud, 1960, p. 275), the forgetting of dreams, though they are disguised, becomes understandable. Forgotten material either "touched something unpleasant," or is "brought into connection with" other associations which are influenced by such affects" (Freud, 1960, p. 40). Whitman (1963) reported that "the experience of any practicing analyst indicates that dreams are forgotten in a defensive meaningful pattern" (p. 757), which supports Freud's theory that dream forgetting is due to resistance or repression. In the psychoanalytic view, the remembered dream has escaped repression either as a result of a failure of repression or an adaptive lowering of resistance and acceptance of alien material (Freud, 1965). Why do some people and not others consistently remember their dreams? Are they inundated with unconscious impulses against which they cannot defend or are they unthreatened by and accepting of the dream material? Precisely, what
characterizes their dreams?

Levin (1946) associated the dream with the breast. He theorized that sleep repeats the early infantile situation of nursing. The sleeper loses his ego boundaries and becomes united with the breast and with what was eaten. According to Levin, dream forgetting stands for waking up, loss of the breast, and weaning. The remembering of a dream prolongs sleep through its association with nursing. Levin provides extensive clinical evidence for the association between orality and dream forgetting through his analysis of dreams (Levin, 1946, 1950). Indeed, the memory of a dream may be the fruit that bears the answer to dream forgetting.

It is in the light of the Freudian and Lewinian psychoanalytic approaches that the present study examines the remembered dream and the dreamer.

**Characteristics of Frequent and Infrequent Recallers of Dreams**

Everyone dreams about four to eight times a night, but few people remember more than one to two dreams each morning. Individual differences in recall frequency range from several times each night to once in two to three months (Foulkes, 1966). Research into the causes of differences in recall includes investigation of physiological characteristics of the rapid-eye-movement (REM) period, characteristics of awakening, and characteristics of personality.

Goodenough, Shapiro, Holden, and Steinschriber (1959) found that infrequent recallers have more aroused and intense REM-periods, in terms of alpha activity, than frequent recallers. However, a later
study failed to replicate the findings (Lewis, Goodenough, Shapiro, and Sleser, 1966). The REM-periods of frequent recallers are longer than those of infrequent recallers (Antrobus, Dement, and Fisher, 1964) but the magnitude of difference cannot be considered substantial. No evidence can be found that recallers and nonrecallers differ in REM-period frequency (Lewis et al., 1966).

A small but significant tendency for gradual awakenings to produce reports labeled as thoughts compared to abrupt awakenings may account for some differences in individuals who consistently awaken by one or the other means (Goodenough, Lewis, Shapiro, Jaret, and Sleser, 1965). Under the controlled conditions of the laboratory, frequent recallers average 82% recall, whereas infrequent recallers average 66% recall, a significant difference (Lewis et al., 1966). Time of awakening cannot account for these differences, nor for the lack of 100% recall under optimal conditions.

Investigation of the personality correlates of dream recall frequency provides evidence that personality is a significant variable. The variety of personality measures employed to assess similar variables has produced some confusion, however, and results have not always been consistent. Hill (1974) and Cohen (1970) attribute much of the inconsistency to the use of different criteria for assessing recall frequency.

A positive correlation was obtained between anxiety and frequency of recall (Domhoff and Gerson, 1967; Connor and Boblitt, 1970; Tart, 1962). However, failures to confirm these findings have been reported (Robbins and Tanks, 1970). Others (Tart, 1962; Singer and Schonbar,
1961) found a negative correlation between repression, measured objectively, and dream recall frequency, and ego strength and recall but failure to confirm the findings was reported (Robbins and Tank, 1970). Bone (1968) found a significant positive relationship between frequency of recall and extroversion for women but not men. Additionally, he reported a positive relationship between neuroticism and recall for males but not females. Singer and Schonbar (1961) found a significant positive relationship between need achievement and dream recall frequency and need affiliation and frequency of recall on the basis of a rating of the thematic content of daydreams and stories.

The view that the subjective impact of the dream influences dream recall has been investigated by Cohen and MacNeilage (1974). They concluded that salience accounts for much of the variance in dream recall. Frequent recallers, awakened from REM-periods, reported dreams that are more vivid and emotional than those of infrequent recallers. Histock and Cohen (1973) provide support for a positive association between capacity for visual imagery and frequency of dream recall. A positive relationship between frequency of recall from REM awakenings and M%, and R on the Rorschach Inkblot Test suggests that frequency of recall is related to fantasy and productivity (Orlinsky, 1965). A significant negative correlation was obtained between recall and F% in the same study.

Cohen (1974) concluded that interference contributes to dream forgetting. Events that occur during and immediately after waking may interfere with the consolidation of memory traces. No differences in
long or short-term memory for intellectual and nonintellectual material were obtained for frequent and infrequent recallers (Cohen, 1971). Barber (1969) found that reporters' reports were easier to recall than those of nonreporters. She detected no differences in recall ability of the two groups. Trinder, Kramer, Fishbein and Sandler (1969) presented support for the role of classical memory processes in the recall of dream reports. They reported that the probability of a dream being recalled in the morning was higher if it was intense, long, and first or last in the series. Apparently no tests of memory have been given to frequent and infrequent recallers.

Goodenough, Witkin, Lewis, Koulack, and Cohen (1974) demonstrated that although salient dreams tend to be better remembered, dream recall decreased with an increase in dream affect produced by stress films. The investigators suggested that repression, not salience, best explains the results. Freud (1965, p. 77) observed that "we often forget dream images which we know were very vivid, while a very large number which are shadowy and lacking in sensory force are among those retained in memory." Freud's repression theory of forgetting continues to be tested but not always confirmed. Cartwright, Bernick, Borowitz, and Kling (1969) reported an increase in failure to recall dream content on REM awakenings subsequent to viewing a sexually exciting film. Foulkes, Pivik, Steadman, Spear, and Symonds (1967) found that frequency of recall from REM awakenings decreased after presleep viewing of stress films. However, Foulkes and Rechtschaffen (1964) did not. Schonbar (1965) administered the Embedded Figures Test, Barron Movement Threshold Cards, and Inner-Outer Control Test to
frequent and infrequent recallers and concluded that they displayed
different life styles. Frequent reporters who have an "inner acceptant"
life style were described as more in touch with their feelings, having
a higher intensity of drive strength, manifesting field-independence,
and valuing the feeling of being in control of their lives. Infre-
quently recallers, characterized as "inner-rejectant" were less in
touch with themselves, field-dependent, and believe that their lives
are determined by external circumstances. Schonbar (1961) found that
frequent recallers report having had dreams with emotional components
rather than neutral dreams; low recallers had significantly more
neutral dreams than frequent recallers suggesting a "generalized
repressive function in such people" (p. 68). She was further able
to conclude that dreams are not better remembered because they
precede a waking period nor do the classical factors of memory,
recency, opportunity for recitation, organization, length, and lack
of opportunity for retroactive inhibition account for dream recall.
Wallach (1963), using the MMPI, confirmed that frequent recallers were
more sensitive to their own inner feelings and tended to be introspec-
tive. Individuals reporting low dream recall on a questionnaire but
not on lab awakenings were found to be self controlled, conformist,
and defensive on the basis of the CPI (Foulkes, 1966). The results
were interpreted as consistent with the association between poor
recall and repression. However, Foulkes found a negative correlation
between frequency of recall and psychological mindedness, indicating
more interest in thoughts and feelings among low recallers who were
classified on the basis of a questionnaire and lab awakenings. Using
the Sixteen Personality Factor Questionnaire, Hill (1974) obtained a personality profile of the infrequent and frequent recaller. He described the frequent recaller as more emotionally stable, self-assured, and secure. The frequent recaller tends to be more imaginative and sensitive, less inclined to worry, and lower on superego strength. He is able to "hold apart and enjoy quite separately his inner and outer lives"; "elements of manifest content that are emotionally charged will be allowed through to consciousness by the weak superego because they can be accepted at this level by a strong ego and can be safely retained as part of the individual's inner life, with little danger of their affecting adjustment to the outside world" (p. 771-2). The infrequent recaller tends to be more tough-minded and "matter-of-fact" which fits with Schonbar's inner-rejectant personality. Hill also found that the infrequent recaller is less emotionally stable, more insecure and inclined to worry. His strong super-ego and unconventional attitudes may create more intrapsychic conflict compared to the frequent recaller. Hill suggests that the strong superego censors dream material that would increase conflict and guilt if it were to become conscious.

A review of the research on characteristics of frequent and infrequent recallers indicates that the groups may be differentiated by a style of life that can be described by various personality characteristics that would be expected on the basis of psychoanalytic theory. The investigators have focused on the dreamer, but they have virtually ignored his dreams. No systematic analysis of dream content in the groups has been conducted. Therefore, the present study intends to
examine the dream reports of the two groups on the basis of the psycho-analytic view that recalled dreams have escaped repression.

In contrast to the infrequent recaller who denies and perhaps tones down his recalled dream experience, the frequent recaller's tendency to recall their dreams with more affect and to display more fantasy suggest that they may exaggerate their experiences. Freud (1965) said, "It is true that we distort dreams in attempting to reproduce them; here we find at work once more the process which we have described as the secondary (and often ill-conceived) revision of the dream by the agency which carries out normal thinking" (p. 552). Silber (1973) described "secondary elaboration" as an aspect of secondary revision that "heightens the disguise of the dream in relation to the person to whom the dream is being reported" (p. 165). The secondary revision disguises the dream from the dreamer himself. Perhaps the infrequent recaller represses while the frequent recaller tends to elaborate his dreams. The present study suggests that dream content may be embellished upon by the frequent recaller. Domhoff and Kamiya (1964) reported that home dreams are "spicier" than dreams from laboratory awakenings. They suggested that the results may be due to the inhibitory effects of the lab on selective recall. A more tenable hypothesis might be that the home dreamer, awakening on his own, has a greater chance to elaborate upon his dream compared to the lab subject who reports immediately upon being awakened from REM sleep. Elaboration may be a significant variable, hitherto ignored, in accounting for differences in dream reports of frequent and infrequent callers.
**Interpretation and Analysis of the Dream**

Man's fascination with the meaning of the dream can be traced to primitive cultures who accepted them as messages from the gods. One of the first books on dream interpretation, Artemidorus' *Oneirocritica*, written in the second century A.D., was met with wide popularity (Hall and Van de Castle, 1966). Freud (1965) emphasized that the latent dream thoughts contained the real meaning behind the facade of the manifest dream. His method of dream analysis required interpretation through the method of free association. Numerous approaches to dream interpretation are now available such as French and Fromm's focal conflict view (1964), the culturalist approach (Bonime, 1969), and the views of Jung (Meier, 1969), Adler (Shulman, 1969; Jones, R., 1978), and the existentialists (Lehmann, 1969). The interpretive approach focuses on the latent content which is considered the kernel of the dream. Analysis of content, however, is an empirical strategy oriented toward the manifest content. Its main advantage is its objectivity.

A forerunner of the empirical method, Calkins (1893) compiled statistics of dreams. Horton (1914) devised a "Dream Analysis Record" to study the manifest dream. Alexander and Wilson (1935) were among the first to develop a quantitative method of dream analysis. Several scales have been constructed such as the hostility and super ego scales by Sheppard (1973), the masochism scale by Beck (Hall and Van de Castle, 1966), the reactive content scale (Rychlak and Brams, 1963), and the primary process scale (Auld, Goldenberg, and Weiss, 1968). The most comprehensive system, developed by Hall and
Van de Castle (1966), includes the classification and scoring of physical surroundings, characters, social interactions, activities, achievement outcome, environmental press, emotions, and descriptive elements. They also created several theoretical scales to "measure a construct or group of constructs which are associated with a particular personality theory" (p. 125). Their theoretical oral incorporation, oral emphasis, and castration anxiety scales will be used in the present study as well as Sheppard's super ego and Auld's primary process scales. The Hall and Van de Castle empirical classifications will also be employed. Although opponents argue that empirical analysis is superficial, it can contribute to theoretical interests. Van de Castle (1969) found animal content decreased with increasing age suggesting that emotional immaturity is associated with more animal dreams.

Taking into account the obtained personality differences of frequent and infrequent recallers, predictions about dream content may be developed. Alternatively, differences found in dream content may contribute to our understanding of the personality of the two groups of dreamers. Hall and Van de Castle (1966) reported significant sex differences on most categories of content. The present study will balance the sex variable to insure control over effects due to sex.

Statement of the Problem

The present study focused on the recalled dream which is a case of partial failure of waking re-representation. The dream offers us the manifestation of both "the repressed" and the defense against it (Freud,
1965). By comparing the dream reports of two groups who are distinguished by their tendency to forget their dreams, differences in the reports may reveal differences in the dreamers' characteristic way of dealing with his needs and feelings. It is hypothesized that the infrequent recaller dreams compared to the dreams of the frequent recaller will show more evidence of repression in spite of their having been recalled. Two methods will be used to examine the differences: 1) analysis of material that escapes repression and 2) recognition of the absence of material that should be present on the basis of norms.

In support of the first approach, Rapaport (1959) noted that repression "can be demonstrated by the qualitative analysis of the memory material" (p. 102). In the present study, the continuity view that dreams are continuous with waking behavior (Breger, Hunter, and Lane, 1971; Foulkes, 1967; Hauri, 1970; Turpin, 1976; Winget, Kramer, and Whitman, 1972) will be used to predict dream content. Beck (1969) gives assurance that the continuity view is consistent with psycho-analytic theory; dreams can be continuous with waking behavior and also serve the function of wish-fulfillment. On the basis of the continuity view and the evidence regarding personality characteristics of frequent and infrequent recallers, the analysis of the material that is recalled is expected to show that infrequent reporters are the type of people who tend to use repression. That is, "nonreporters, as compared to reporters, appear more prone to use repression as a defense, to experience less anxiety, to be lower in ego strength, and to have less self awareness" (Witkin, 1970, p. 155). E. Jones (1938) stated that the latent content of dreams is usually "of a sexual nature" (p. 277). One
would expect that infrequent recallers compared to frequent recallers would show more castration wish and penis envy in their dreams as a result of more conflict created by the repression of this unconscious material striving for discharge. As stated earlier, Hill (1974) concluded that the infrequent recaller experiences more intrapsychic conflict. Manifest sexual content would be especially subject to repression in the infrequent recall group. Auld et al. (1968) predicted that "people whose dreams have more evidence of primary process will also report more and longer dreams" (p. 419), using Freud's hypothesis that the censor is responsible for both the forgetting of dreams and the inhibition of primary process thinking in the manifest dream. They reported a correlation just short of significance. In the present study, the comparison of frequent and infrequent recallers is considered a better test of the hypothesis. Frequent recallers are expected to reveal more primary process thinking in their reports than infrequent recallers. Infrequent recallers may use fewer metamorphoses, a specific instance of primary process thinking in dreams. Dream reports of the infrequent recaller will reveal more super ego function than those of the frequent recaller. A reduction in content associated with emotion and color would be expected in the infrequent recaller who tends to deny feelings compared to the frequent recaller. The infrequent recaller would be prone to give a more positive appraisal of his dreams as a consequence of denial of any negative impact. The frequency of negatives, a descriptive category, would be expected to be significantly greater among the infrequent recaller who is prone to use denial. On the basis of personality research and continuity
theory, one would expect the infrequent recaller to have fewer characters and fewer social interactions in his dreams than the frequent recaller. The frequent recaller having a more integrated body image (Witkin, 1969), will have more body parts and more self-involvement in dream reports. The infrequent recaller, prone to distance himself from action, will have more witnessed than involved interactions. Since he is less oriented to fantasy, the infrequent recaller will show less dramatic quality. A greater number of animals is expected in the dreams of the infrequent recaller due to relatively greater immaturity. The association between need achievement and dream recall frequency raises the expectation of more successes and failures and more dreams with success and failure in the frequent recaller.

The second method for assessing the influence of repression comprises the exploratory aspect of this investigation. Hall (1969) suggested that "if something is absent from a series of dreams that one expects to be there on the basis of norms, one can investigate the possibility that absence or low frequency is due to repression" (p. 181). The present study compares several categories of content in an exploratory manner without specific hypotheses. Using Hall and Van de Castle's norms, tentative post hoc interpretations regarding the influence of repression in specific areas of content may be made. It is expected that infrequent recaller compared to frequent recallers will demonstrate a significant departure from the norms in several content areas.

Lewin's theory of dream forgetting predicts significant differences in orality in frequent and infrequent recallers. Such
differences are expected to be manifest in their dreams.

The role of the dreamer's needs in the formation of dreams would be expected to account for much individuality in dream content. According to Lewin's theory, the dreamer recalls his dream as a symbolic reunion with the breast. Consequently, frequency of recall may be related to oral-dependent needs of the dreamer and be revealed by oral content in his dreams. Furthermore, frequent recallers may experience more intense needs reflected in their having more salient dreams compared to infrequent recallers who are less in touch with their needs and feelings. Singer and Schonbar's (1961) finding that frequency of recall is positively related to need achievement and need affiliation supports the view that psychological needs are related to dream recall. The present study will assess and compare the needs of infrequent and frequent recallers.

Since dreams cannot be obtained except from the subjects' own report, we know only how he has interpreted his dream experience. Therefore, an investigation of memory and accuracy of reporting between the two groups was made to determine whether frequent reporters tend to embellish and exaggerate their experiences compared to infrequent recallers.

A questionnaire designed to assess various aspects of the dream experience was administered. The main purpose of the questionnaire was the determination of recall frequency. Birth order was considered important. In the light of Schacter's (1959) finding that first borns have greater need affiliation, and the literature on the personality of the frequent recallers, it was hypothesized that frequent recallers
would tend to be first borns.

**Hypotheses**

It was hypothesized that significant differences between frequent and infrequent recallers of dreams would be found in manifest dream content, psychological needs, and the tendency to elaborate recall. One of the main questions concerned the relationship between dream recall and dream content.

The personality types described in the literature are consistent with the view that infrequent recallers tend to repress and deny their feelings. The continuity approach to dream interpretation predicts that the subjects' dreams will be continuous with their personalities. Content can, therefore, be predicted on the basis of the continuity view. The hypotheses were as follows:

1. The manifest content of dreams of infrequent recallers would be congruent with the behavior of the individual who uses repression, has lower ego strength, is more guilt prone, has a stronger super ego, and is more tough-minded.

2. The manifest content of dreams of frequent recallers would be continuous with the behavior of the individual who is in touch with his feelings, has good ego strength, values interpersonal relationships, and has a well integrated self image.

Specific content variables hypothesized to be significantly different in frequent and infrequent recallers were:

1. castration wish and penis envy
2. primary process thinking
3. super ego integration
4. characters
5. animals
6. aggression
7. body parts
8. metamorphoses
9. dreamer involved interactions
10. sexual interactions
11. witnessed interactions
12. sex frequency
13. emotions
14. color
15. evaluation of the dream
16. negatives
17. social interactions
18. success/failure (achievement outcome)
19. dreams with success/failure
20. oral incorporation
21. oral emphasis

Several categories were examined in an exploratory manner. Since the infrequent recaller was expected to report less content compared to frequent recallers and the normative population on categories that were associated with unconscious material, the groups were compared with the norms on several categories. Evidence of repression would be indicated by the absence or decrease in frequency of content that should have been present in greater frequency on the basis of norms.

The second aspect of the study was a comparison of psychological
needs between the two groups. It was predicted that frequent recallers would have more need achievement, need affiliation, need nurturance, and need succorance.

The third aspect of the investigation was a test of the hypothesis that frequent recallers embellish their recall of fantasy material compared to infrequent recallers. The hypotheses were:
1. Frequent recallers would show significant differences in exaggeration and elaboration of recall compared to infrequent recallers.
2. Frequent recallers will demonstrate significant differences in amount of sexual and aggressive content in reports compared to infrequent recallers.

Both groups of subjects were compared on a test of memory in order to investigate the possibility that differences in dream recall were due to memory. It was hypothesized that frequent recallers would not be significantly different from infrequent recallers on a test of memory.
METHOD

Subjects

Fifty college students were chosen from a pool of 87 students who had volunteered from their psychology classes for the study. Extra credit points were offered. Fourteen subjects were eliminated since they did not meet the criteria for determining dream recall frequency. That is, they could not be classified as frequent or infrequent on the basis of both questionnaire and dream diary. One subject taking medication was not used. Sixteen subjects did not complete the diary. Five infrequent male recallers and one female frequent recaller were eliminated in order to insure that groups were balanced for sex, leaving 25 low and 25 high recallers.

Instruments

Measures of Frequency of Dream Recall

Three methods have been used to measure frequency of dream recall: questionnaire, diary, and sleep interruption in the laboratory. Although Cohen (1970) warned that results of studies on dream recall frequency may depend on the method used, Cohen and Wolfe (1973) reported that questionnaire measures "have proved to be valid predictors of both diary and sleep interruption estimates of dream recall frequency" (p. 350). The present study utilized both questionnaire and diary methods in order to insure accurate assessment.
The Dream Research Questionnaire in Appendix A was used to select subjects from a larger sample on the basis of their estimates of dream recall frequency during the previous two weeks. Subjects who reported dreams every morning or almost every morning were classified as frequent recallers. Those students who recalled dreams one morning a week or less were considered infrequent recallers.

Each subject received a dream diary notebook (see Appendix B), covering a fourteen day period, in which he was asked to record dreams each morning upon waking. Only nocturnal dreams were recorded. The dream recall score was the number of dreams recorded. The diary was used to divide subjects at the mean into groups of frequent and infrequent recallers. Only subjects who received the same classification on both questionnaire and diary were used.

Dream Content Analysis Scales

The scales developed by Hall and Van de Castle (1966) are based on a normative sample of 1000 dreams, 500 male and 500 female undergraduate college students. The authors report interjudge reliability ranging from .60 to .90 depending on the complexity of the scale. Both empirical and theoretical (oral and castration) scales were employed. Hall and Van de Castle (1965) obtained evidence, using the castration scale, that manifestations of castration anxiety in dreams are more typical of males. The empirical and oral scales have considerable face validity which contributes to ease of scoring.

Sheppard (1969) describes her super ego scale as descriptive of a "psychologically derived integrative factor" (p. 225). She reports interscorer reliability of about .85.
Auld et al. (1968) distinguish their primary process scale from other content analyses in its focus on the mode of thinking in the dream report. Inter-rater reliability was reported as .87.

The Babcock Story Recall Test

The Babcock, selected as a measure of memory in the present study, is a test of meaningful memory in which distortions or lack of accuracy is penalized. Both attention and concentration are required to obtain high scores. Disturbances in the test can be interpreted as "expressions of the forces that organize memory in everyday life, cause slips of tongue, accidental forgettings, persistently recurring memories, and deficiencies in the availability of memories when they are needed" (Rapaport, Gill, and Shafer, 1975, p. 177). Its relation to the verbal subtests of the Wechsler-Bellevue indicate factors that contribute to the memory score of the Babcock.

The Personality Research Form (PRF)

Murray's need system was chosen as the theoretical foundation for the PRF since it provides a comprehensive description of personality that has been well researched. Jackson (1967) defined the goals of construction as "to develop sets of personality scales and an item pool which might be useful in personality research" and "to provide an instrument for measuring broadly relevant personality traits in settings such as schools and colleges, clinics and guidance centers, and in business and industry" (p. 4). Norms are based on samples of more than 1000 male and 1000 female college students from over 30 North American colleges and universities. The PRF is available in two
short parallel forms and two long parallel forms. The long version, used in the present study, contains twenty-two scales, twenty of which assess variables of personality and two of which are validity scales. Each scale comprises a bipolar dimension such that both low and high scores are descriptive of personality characteristics. Response keying is balanced and there is no item overlap among the scales. Stability coefficients for the twenty content scales range from .69 to .90, with most correlations in the .80's. Internal consistency estimates for the scales range from .54 to .85. The manual reports validity coefficients for the PRF with the Strong Vocational Interest Blank and the California Personality Inventory. For example, PRF achievement correlates .62 with CPI achievement via conformance, PRF dominance .78 with CPI dominance and PRF exhibition .69 with CPI self-acceptance, .68 with social presence, and .67 with sociability. Edwards and Abbott (1973) found high correlations of the PRF with the Edwards Personality Inventory scales. In terms of its psychometric sophistication and its comprehensive assessment of needs and dispositions, the PRF is considered an appropriate measure in the present investigation of the dreamer and his needs.

Evaluation of Recall Elaboration

The elaboration measure is an attempt to examine the tendency to exaggerate or embellish the memory of a visual experience due to defense against unconscious instinctual impulses. Elaboration is here defined in terms of Freud's "secondary elaboration" as a means of defense against unconscious and unacceptable thoughts occurring in
dreams. In the present study, a visual fantasy is presented to subjects in an effort to determine their interpretation of an experience similar to the dream; the dream being "perhaps the richest and clearest expression of fantasy thinking" (Arlow, 1969, p. 32). The visual fantasy has been chosen for its likeness to dream material in terms of its being visual, sequential, unusual or bizarre, and suggestive. The images contain symbols, subtle allusions, and overt material of a sexual and aggressive nature expected to stimulate unconscious impulses and conscious defenses. Evaluation of recall of the experience is intended to reveal the degree to which the defense of secondary elaboration is used by each group of subjects. Each report will be scored by computing an elaboration score. The technique used by Fiss, Klein, and Bokert (1966) for scoring waking fantasies following REM and non-REM sleep was adapted for the present study. Formal differences of story length (number of words) and number of different "idea-units" (an idea-unit is "the shortest sentence or phrase expressing a complete thought") were compared (p. 544). The elaboration score is the percentage of idea-units containing distorted or exaggerated elements. Criteria for classification as a distortion will be used as a scoring guide (see Appendix C). The frequency of overt reference to sexual and aggressive material in each story was compared. The experimenter and one judge scored the protocols which were coded to insure that judges were blind as to group classification.

Procedure

The Dream Research Questionnaire and Dream Diary were given to all subjects who volunteered to participate in the study. They were
informed that an additional group meeting would be necessary after the fourteen day period. During the two week dream diary collection, subjects were asked to check with the experimenter every other day in order that their dream reports could be collected, their interest maintained, and any problems discussed. All subjects were asked to report to the experimenter on the fourteenth day in order that final collection could be made.

Following the two week period, subjects were selected and classified as frequent or infrequent recallers. A group meeting was scheduled in which all subjects were given the Babcock, the fantasy experience, and the PRF.

Subjects were allowed up to ten minutes to cover the fantasy material which allowed each individual plenty of time to finish. They were asked not to go back over the material after having completed it. Subjects were not informed that they would be asked to recall the material in order to simulate the dream experience in which there is no conscious awareness of a motive to recall. After the allotted time, subjects were given the same instructions for recording dreams except "dreams" was replaced by the word "story" and words in parentheses were eliminated (see Appendix B). The Babcock Recall Test was administered to all subjects according to the procedure suggested by Rapaport, Gill, and Schafer (1975). The PRF was administered upon completion of the immediate memory recall. After ten minutes, the subjects were interrupted and asked for the delayed recall of the Babcock story. They were then allowed to finish the PRF.
**Content Analysis**

An equal number of dreams was randomly chosen from each group for comparison. The only restriction was that no student could contribute more than three dreams. All dream reports were scored by the experimenter in accordance with the procedures for each scale. Only dream narratives were subjected to analysis. Dream reports were scored by the experimenter and an assistant on the primary process scale in order to obtain reliability measures. Scores were averaged to attenuate inter-rater differences. Reliability was .70. Using the Hall and Van de Castle sample dreams, the experimenter obtained correlations averaging in the high .80's. A comparison of the experimenter's rating of presence of super ego on the Sheppard scale with sample dreams provided by Sheppard (personal communication) yielded a percentage agreement of 80. Inter-rater reliability for the elaboration test was determined by comparison of the Experimenter's scores on distortion, aggression, and sex frequency with an assistant's scores. Correlations coefficients were .75, .82, and .84 respectively.

The two groups of subjects were compared on average length of report but length was not controlled in the analysis. Domhoff (1969) argued against controlling length of dream reports since the control may affect the quality as well.

**Analysis of Data**

Subjects were divided into low and high recallers at the mean of 7.3 dreams per subjects for the two week period. The median, 6.5, indicated that the distribution was only slightly skewed by a few high
dream recallers. When the five males and one female were eliminated the number of low and high recallers was equal in the two groups.

Considering the rather large number of variables being investigated the following strategy was adopted to decrease the likelihood of making Type I errors. Sixteen of the fifty subjects were placed in a subgroup. Data was then analyzed for the main group (N=34) and the subgroup (N=16) separately. Only results which were consistent over both groups would then be considered as positive. In order to insure that sex was balanced, only female subjects were randomly drawn from the low and high recall groups for the substudy, making the sub-study a refinement of the main group.

The main study was composed of 34 subjects divided into two groups of 17 subjects each. Groups were balanced with six males and eleven females in each of the low and high groups. Means for low and high recall were 4.29 and 10.64, respectively. A total mean of 7.53 characterized the main study. Within the sub-study means for the low and high recallers were 4.0 and 10.88, respectively. The overall mean for the sub-study was 7.43.

No significant differences were found between the high recall groups of the main and sub-study nor between the low recall groups. Significant differences (p < .001) were obtained between the high and low recall groups within each study.

Groups of subjects were compared on the questionnaire, the PRF, the Babcock Recall Test, and the elaboration test using a univariate analysis of variance. A Kruskal-Wallis was indicated where n was small. Dreams of the two groups were compared using an analysis of
variance. Since many content variables tended to be present or absent, most variables were dichotomized and compared. A t-test was used to compare groups with the norms on several of the content variables. For the dream analysis, the main study was composed of 68 dreams; the sub-study consisted of 32 dreams chosen at random from the pool of subjects' reports.
RESULTS

The design for the tests of hypotheses was a univariate analysis of variance with two groups divided into a main and sub-study.

Analysis of the questionnaire responses demonstrated no significant differences (see Table 1). The hypothesis that frequent recallers would more often be first born than infrequent recallers was not upheld. The $X^2 = .48$ and $1.34$, for the main and sub-studies respectively, were not significant.

The second group of hypotheses were made on the basis of dream content. Variables investigated as reflecting dream content on the basis of a univariate analysis of variance are shown in Table 2. Since the distribution was skewed for many of the dream variables, all variables except primary process and dream length were dichotomized into present/absent. No tests of significance were possible for amount of sexual interactions and metamorphoses because of lack of scorable content. No significant differences were found in either the main or the sub-study. Number of settings per dream was significant ($p=.046$) in the main study. High recallers had significantly more settings per dream than low recallers. The variable primary process approached significance ($p=.096$, main study; $p=.052$, sub-study) in both studies with high recallers demonstrating more primary process in their dreams than low recallers as predicted.

The second set of hypotheses predicted differences in psychological needs of the two groups. Comparisons of the 22 variables were made
<table>
<thead>
<tr>
<th>Questions</th>
<th>Main Study Recall</th>
<th>Frequency</th>
<th>K-W</th>
<th>Sub-Study Recall</th>
<th>Frequency</th>
<th>K-W</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
<td></td>
<td>Low</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Frequency recall</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>without content</td>
<td>318.5</td>
<td>276.5</td>
<td>.52</td>
<td>68.5</td>
<td>67.5</td>
<td>.00</td>
</tr>
<tr>
<td>Tell dreams to someone</td>
<td>325.5</td>
<td>269.5</td>
<td>.93</td>
<td>52.0</td>
<td>84.0</td>
<td>2.82</td>
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<td>Recurring dream</td>
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<td>297.5</td>
<td>.00</td>
<td>64.0</td>
<td>72.0</td>
<td>.18</td>
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<td>284.0</td>
<td>.19</td>
<td>71.5</td>
<td>64.5</td>
<td>.14</td>
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<td>Pleasant dreams:</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bizarreness</td>
<td>222.0</td>
<td>339.0</td>
<td>3.24</td>
<td>46.0</td>
<td>74.0</td>
<td>1.34</td>
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<td>Excitement</td>
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<td>306.0</td>
<td>.38</td>
<td>64.5</td>
<td>71.5</td>
<td>.14</td>
</tr>
<tr>
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<td>256.5</td>
<td>1.99</td>
<td>43.0</td>
<td>62.0</td>
<td>.07</td>
</tr>
<tr>
<td>Intensity</td>
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<td>301.0</td>
<td>.19</td>
<td>51.0</td>
<td>69.0</td>
<td>.33</td>
</tr>
<tr>
<td>Unpleasant dreams:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bizarreness</td>
<td>279.0</td>
<td>316.0</td>
<td>.41</td>
<td>62.0</td>
<td>74.0</td>
<td>.40</td>
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<tr>
<td>Excitement</td>
<td>304.0</td>
<td>257.0</td>
<td>1.33</td>
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<td>63.5</td>
<td>.00</td>
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<td>Personal significance</td>
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<td>224.5</td>
<td>2.22</td>
<td>61.0</td>
<td>59.0</td>
<td>.33</td>
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<tr>
<td>Intensity</td>
<td>301.5</td>
<td>259.5</td>
<td>1.13</td>
<td>51.0</td>
<td>69.0</td>
<td>.33</td>
</tr>
<tr>
<td>Daydream frequency</td>
<td>286.0</td>
<td>275.0</td>
<td>.25</td>
<td>57.0</td>
<td>79.0</td>
<td>1.33</td>
</tr>
</tbody>
</table>
### TABLE 2

**MEANS AND F-RATIOS OF DREAM CONTENT VARIABLES FOR LEVEL OF DREAM RECALL IN MAIN AND SUB-STUDIES**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Main Study</th>
<th></th>
<th>Sub-Study</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Recall Low</td>
<td>Frequency High</td>
<td>Recall Low</td>
<td>Frequency High</td>
</tr>
<tr>
<td>Settings per dream</td>
<td>.82</td>
<td>.97</td>
<td>4.10*</td>
<td>.88</td>
</tr>
<tr>
<td>Characters per dream</td>
<td>.97</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Animals per character</td>
<td>.06</td>
<td>.09</td>
<td>.21</td>
<td>.00</td>
</tr>
<tr>
<td>Oral incorporation</td>
<td>.24</td>
<td>.29</td>
<td>.29</td>
<td>.31</td>
</tr>
<tr>
<td>Oral emphasis</td>
<td>.18</td>
<td>.21</td>
<td>.09</td>
<td>.06</td>
</tr>
<tr>
<td>Emotions per dream</td>
<td>.65</td>
<td>.65</td>
<td>.00</td>
<td>.69</td>
</tr>
<tr>
<td>Aggression per dream</td>
<td>.38</td>
<td>.53</td>
<td>1.47</td>
<td>.75</td>
</tr>
<tr>
<td>Friendliness per dream</td>
<td>.38</td>
<td>.56</td>
<td>2.13</td>
<td>.44</td>
</tr>
<tr>
<td>Sex per dream</td>
<td>.03</td>
<td>.00</td>
<td>1.00</td>
<td>.00</td>
</tr>
<tr>
<td>Dreamer involved interaction per dream</td>
<td>.65</td>
<td>.71</td>
<td>.26</td>
<td>.81</td>
</tr>
<tr>
<td>Witnessed interaction per dream</td>
<td>.09</td>
<td>.18</td>
<td>1.14</td>
<td>.25</td>
</tr>
<tr>
<td>Interaction per dream</td>
<td>.65</td>
<td>.79</td>
<td>1.82</td>
<td>.88</td>
</tr>
<tr>
<td>Failure per dream</td>
<td>.15</td>
<td>.12</td>
<td>.12</td>
<td>.13</td>
</tr>
<tr>
<td>Dreams with failure</td>
<td>.15</td>
<td>.12</td>
<td>.12</td>
<td>.13</td>
</tr>
<tr>
<td>Success per dream</td>
<td>.24</td>
<td>.35</td>
<td>1.12</td>
<td>.19</td>
</tr>
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</table>
TABLE 2 (continued)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Main Study Recall</th>
<th>Main Study Frequency</th>
<th>Sub-Study Recall</th>
<th>Sub-Study Frequency</th>
<th>F</th>
</tr>
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<tbody>
<tr>
<td>Dreams with success</td>
<td>.24</td>
<td>.35</td>
<td>1.12</td>
<td>.19</td>
<td>.06</td>
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<tr>
<td>Achromatic color per dream</td>
<td>.15</td>
<td>.15</td>
<td>.00</td>
<td>.06</td>
<td>.25</td>
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<tr>
<td>Chromatic color per dream</td>
<td>.12</td>
<td>.15</td>
<td>.12</td>
<td>.25</td>
<td>.25</td>
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<tr>
<td>Evaluation-positive</td>
<td>.12</td>
<td>.21</td>
<td>.96</td>
<td>.19</td>
<td>.38</td>
</tr>
<tr>
<td>Evaluation-negative</td>
<td>.06</td>
<td>.18</td>
<td>2.28</td>
<td>.25</td>
<td>.44</td>
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<tr>
<td>Negatives per dream</td>
<td>.68</td>
<td>.76</td>
<td>.64</td>
<td>.81</td>
<td>.75</td>
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<tr>
<td>Penis envy</td>
<td>.06</td>
<td>.09</td>
<td>.21</td>
<td>.00</td>
<td>.06</td>
</tr>
<tr>
<td>Body parts per dream</td>
<td>.24</td>
<td>.21</td>
<td>.08</td>
<td>.00</td>
<td>.06</td>
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<tr>
<td>Super-ego</td>
<td>.68</td>
<td>.76</td>
<td>.64</td>
<td>.75</td>
<td>.56</td>
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<tr>
<td>Primary process</td>
<td>2.22</td>
<td>2.76</td>
<td>2.85</td>
<td>2.25</td>
<td>3.25</td>
</tr>
<tr>
<td>Words per dream</td>
<td>114.29</td>
<td>135.09</td>
<td>1.42</td>
<td>99.94</td>
<td>164.56</td>
</tr>
<tr>
<td>Castration anxiety</td>
<td>.26</td>
<td>.09</td>
<td>3.74</td>
<td>.25</td>
<td>.06</td>
</tr>
<tr>
<td>Castration wish</td>
<td>.09</td>
<td>.09</td>
<td>.00</td>
<td>.13</td>
<td>.06</td>
</tr>
</tbody>
</table>

* $p \leq .05$
using a univariate analysis of variance procedure. A Kruskal-Wallis was used as well in the sub-study due to small n. Table 3 depicts a summary of the means, F-ratios, and Kruskal-Wallis values for level of recall in the main and sub-studies. Inspection of Table 3 indicates that only need Nurturance achieved significance in both studies. While in the main study need Affiliation, need Sentience, and Desirability reached the .05 level, only need Achievement reached the .05 level in the sub-study. Considering the probability that in a large number of different tests some will by chance alone achieve significance, interpretation of the few significant findings must be made quite cautiously. The finding that need Nurturance was different for the two groups, low recallers having higher need in the main study and lower need in the sub-study, cannot be clearly reconciled.

The results of the comparison of several dream content variables with the norms (Hall and Van de Castle, 1966) are shown in Table 4. Results are presented for sex and level of recall since the norms were established for both males and females separately. Comparisons of the main and sub-study indicate that only the variable settings per dream reached significance in both studies. In the main study, low recall males had significantly fewer settings than the norm for males. High recall males had significantly more settings than the normative sample. Although no significance was obtained for the low female recallers, high recalling females in the sub-study had significantly more settings than the norm for females.

The other variables, aggression, emotion, and color did not reach significance across both the main and sub-studies. The sex
### Table 3
Means, F-Ratios, and Kruskal-Wallis Values for Level of Dream Recall in Main and Sub-Studies on Raw Scores of the Personality Research Form

<table>
<thead>
<tr>
<th>Variable</th>
<th>Main Study</th>
<th>Sub-Study</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Recall Frequency</td>
<td>Recall Frequency</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>K-W</td>
</tr>
<tr>
<td></td>
<td>Low (Low)</td>
<td>High (High)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abasement</td>
<td>51.94</td>
<td>50.82</td>
<td>.14</td>
<td>47.38</td>
<td>51.00</td>
<td>.52</td>
</tr>
<tr>
<td>Achievement</td>
<td>55.65</td>
<td>55.71</td>
<td>.00</td>
<td>52.25</td>
<td>60.88</td>
<td>6.43*</td>
</tr>
<tr>
<td>Affiliation</td>
<td>53.64</td>
<td>45.71</td>
<td>4.17*</td>
<td>47.13</td>
<td>54.00</td>
<td>2.90</td>
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<td>Aggression</td>
<td>48.76</td>
<td>50.59</td>
<td>.40</td>
<td>51.63</td>
<td>57.38</td>
<td>1.70</td>
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<tr>
<td>Autonomy</td>
<td>51.59</td>
<td>54.82</td>
<td>.96</td>
<td>50.75</td>
<td>51.50</td>
<td>.02</td>
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<td>Change</td>
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<td>.10</td>
<td>50.88</td>
<td>56.88</td>
<td>1.52</td>
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<tr>
<td>Cognitive Striving</td>
<td>57.24</td>
<td>57.05</td>
<td>.00</td>
<td>55.00</td>
<td>54.00</td>
<td>.04</td>
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<td>Defendence</td>
<td>49.70</td>
<td>53.29</td>
<td>1.06</td>
<td>56.13</td>
<td>54.25</td>
<td>.08</td>
</tr>
<tr>
<td>Dominance</td>
<td>53.70</td>
<td>46.47</td>
<td>3.84</td>
<td>52.75</td>
<td>60.13</td>
<td>1.75</td>
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<tr>
<td>Endurance</td>
<td>60.70</td>
<td>54.64</td>
<td>2.31</td>
<td>49.38</td>
<td>60.75</td>
<td>3.10</td>
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<td>Exhibition</td>
<td>50.82</td>
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<td>.37</td>
<td>52.25</td>
<td>62.38</td>
<td>3.13</td>
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<td>Harmavoidance</td>
<td>53.88</td>
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<td>56.50</td>
<td>55.88</td>
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<td>Impulsivity</td>
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<td>.03</td>
<td>51.75</td>
<td>55.13</td>
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<td>Nurturance</td>
<td>58.41</td>
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<td>9.05*</td>
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<td>.07</td>
<td>51.13</td>
<td>53.88</td>
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<td>Play</td>
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<td>.67</td>
<td>52.00</td>
<td>56.88</td>
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<td>48.47</td>
<td>4.96*</td>
<td>53.88</td>
<td>56.88</td>
<td>.47</td>
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<tr>
<td>Social Recognition</td>
<td>46.35</td>
<td>50.88</td>
<td>1.35</td>
<td>55.00</td>
<td>53.13</td>
<td>.12</td>
</tr>
<tr>
<td>Succorance</td>
<td>50.70</td>
<td>54.06</td>
<td>1.31</td>
<td>52.00</td>
<td>51.38</td>
<td>.03</td>
</tr>
</tbody>
</table>
### TABLE 3 (continued)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Main Study Recall Frequency</th>
<th>Sub-Study Recall Frequency</th>
<th>K-W</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
<td>F</td>
</tr>
<tr>
<td>Understanding</td>
<td>57.05</td>
<td>56.24</td>
<td>.08</td>
</tr>
<tr>
<td>Infrequency</td>
<td>55.53</td>
<td>56.76</td>
<td>.18</td>
</tr>
<tr>
<td>Desirability</td>
<td>57.24</td>
<td>49.12</td>
<td>4.10*</td>
</tr>
</tbody>
</table>

* p ≤ .05
TABLE 4
MEANS AND t VALUES OF DREAM CONTENT FOR LEVEL OF RECALL AND SEX IN MAIN AND SUB-STUDIES

<table>
<thead>
<tr>
<th>Group</th>
<th>Main Study</th>
<th>Sub-Study</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Settings per Dream</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Norms</td>
<td>t</td>
</tr>
<tr>
<td>Low:</td>
<td>Males</td>
<td>1.29</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>1.31</td>
</tr>
<tr>
<td>High:</td>
<td>Males</td>
<td>2.75</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>1.54</td>
</tr>
<tr>
<td></td>
<td>Aggressions per Dream</td>
<td></td>
</tr>
<tr>
<td>Low:</td>
<td>Males</td>
<td>.80</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>.67</td>
</tr>
<tr>
<td>High:</td>
<td>Males</td>
<td>1.08</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>.86</td>
</tr>
<tr>
<td></td>
<td>Emotions per Dream</td>
<td></td>
</tr>
<tr>
<td>Low:</td>
<td>Males</td>
<td>.56</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>.84</td>
</tr>
<tr>
<td>High:</td>
<td>Males</td>
<td>1.17</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>.77</td>
</tr>
<tr>
<td></td>
<td>Color per Dream</td>
<td></td>
</tr>
<tr>
<td>Low:</td>
<td>Males</td>
<td>.15</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>.33</td>
</tr>
<tr>
<td>High:</td>
<td>Males</td>
<td>.25</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>.18</td>
</tr>
</tbody>
</table>

*Hall and Van de Castle (1966)
*P < .05
content variables could not be compared due to the lack of scorable content in each group.

The third group of hypotheses concerned memory and elaboration of remembered material. A univariate analysis of variance indicated no significant differences in the variables of the Elaboration Test (see Table 5). Virtually no difference in length of recall (number of words) of the fantasy was obtained.

Differences in memory were not significant for the Babcock Recall Test using an analysis of variance and Kruskal-Wallis for small n in the sub-study. Table 6 demonstrates the mean scores for immediate memory and delayed recall.
**TABLE 5**

Means, F-ratios, and Kruskal-Wallis values for level of dream recall in main and sub-studies on variables of the elaboration test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Main Study</th>
<th></th>
<th></th>
<th>Sub-Study</th>
<th>Recall Frequency</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Recall Frequency</td>
<td>Low</td>
<td>High</td>
<td>F</td>
<td>Recall Frequency</td>
<td>Low</td>
<td>High</td>
<td>F</td>
<td>K-W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distortion</td>
<td>5.76</td>
<td>5.64</td>
<td>.01</td>
<td></td>
<td>4.63</td>
<td>6.25</td>
<td>4.43*</td>
<td>2.65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex per story</td>
<td>3.35</td>
<td>3.18</td>
<td>.15</td>
<td></td>
<td>3.38</td>
<td>3.13</td>
<td>.17</td>
<td>.47</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aggression per story</td>
<td>5.59</td>
<td>4.88</td>
<td>.49</td>
<td></td>
<td>5.38</td>
<td>5.75</td>
<td>.10</td>
<td>.18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Words per story</td>
<td>220.41</td>
<td>220.12</td>
<td>.00</td>
<td></td>
<td>201.88</td>
<td>221.88</td>
<td>.47</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*P ≤ .05
### TABLE 6

**MEANS, F-RATIOS, AND KRUSKAL-WALLIS VALUES FOR LEVEL OF DREAM RECALL IN MAIN AND SUB-STUDIES ON VARIABLES OF THE BABCOCK RECALL TEST**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Main Study</th>
<th></th>
<th>Sub-Study</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>K-W</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Recall Frequency</td>
<td></td>
<td>Recall Frequency</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
<td>F</td>
<td>Low</td>
<td>High</td>
<td>F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immediate Memory</td>
<td>13.53</td>
<td>12.82</td>
<td>.21</td>
<td>14.25</td>
<td>14.25</td>
<td>.00</td>
<td>.10</td>
<td></td>
</tr>
<tr>
<td>Delayed Memory</td>
<td>14.29</td>
<td>13.94</td>
<td>.08</td>
<td>15.00</td>
<td>14.13</td>
<td>.53</td>
<td>.80</td>
<td></td>
</tr>
</tbody>
</table>
DISCUSSION

Predicted differences in personality and dreams of low and high dream recaller were clearly not obtained. The lack of differences between the two groups in the predicted degree and direction indicates that measures in terms of recalled dreams are not sufficiently different in quality for high and low recaller. While alternative hypotheses may be offered, they are merely speculative explanations. For example, the content of the forgotten dream rather than the remembered one may contain the important elements for demonstrating differences in groups and understanding the role of repression. Another alternative to be considered is the effect stemming from the small number of subjects in each group. By itself a small n may not be a major suppressor, but coupled with other potential sources of confounding it may have contributed directly to the failure to obtain predicted results. However, the groups were carefully selected, using two methods to group the subjects (see Cohen, 1970). Since the present study eliminated fourteen subjects who did not fit criteria for both recall assessment measures, studies that used only questionnaire or diary method may have failed to differentiate their groups (see Hill, 1974; Schonbar, 1965; Bone, 1968).

The hypothesis that dream reports of the two groups would reflect their personality characteristics was not upheld. The trend toward significance for primary process thinking in both studies suggests that
low recallers restrict the expression of primitive material in their dream reports. The tentative finding supports the hypothesis that high recallers do not censor their dreams as much as low recallers. Although length of report tended to be lower for low recallers in both studies, the difference was not significant. Furthermore, the assumption that content depends on length is not a sound one (Domhoff, 1969). The lower scores may indicate qualitative differences in dream reports regardless of length.

The hypothesis that the personality needs of the two groups would be significantly different was not supported. The significant finding for need Nurturance was predicted. However, differences were obtained in the predicted direction in the sub-study only. The opposite result in the main study that low recallers have more need Nurturance than high recallers cannot be reconciled. In the light of the significant finding for need Affiliation in the main study and the consistent finding of lower scores on oral incorporation and oral emphasis for low recallers, in both studies, Lewin's view that recall is related to an infantile oral experience is worth further investigation.

The hypothesis that low recallers would consistently score below the norms in several dream content variables was not upheld. The comparisons indicate that high recallers, male and female, have significantly more settings per dream than norms. Low recall males, but not females, have significantly fewer settings per dream than the norms. The data for the normative comparisons suggests that both female groups tend to approximate or exceed the norms. Consequently,
the question is raised whether the norms are applicable to this geographical population. More precise norms may be indicated for further investigations (Kramer, Winget, Whitman, 1971).

An absence of differences in the elaboration of fantasy material suggests that the groups cannot be distinguished by the tendency to elaborate material upon recall. That is, high recallers do not remember more dreams because they embellish the contents of their memory. The two groups did not obtain significant differences on frequency of recall of sexual or aggressive fantasy content. The expectation that low recallers would report less sexual or aggressive content than high recallers due to the repression of material was not upheld. Lack of differences in recall of the fantasy material is supported by the lack of differences in memory.

The relative similarity between high and low recallers on a test of memory is an important finding, supporting the hypothesis that differences in dream recall were not due to basic differences in memory ability. People who recall their dreams more frequently do not have better memory abilities than people who have difficulty recalling dreams, according to the test used in the present investigation. Dream recall differences appear to be due to factors other than memory ability.

Whitman's (1963) distinction between "failure of dream recall" and "dream forgetting" offers an explanation for the lack of obtained differences in terms of psychoanalytic theory. The failure to recall a dream seems to be due to "1. the difficulty of conceptualizing primary process thinking in secondary process terms, 2. the energy
demands on the ego to deal on the one hand with the dream and on the other with incoming sensory stimuli and also to initiate motor activity, 3. the difficulty in recalling a completed (oral) experience as compared with an interrupted one" (Whitman, 1963, p. 771). The forgetting of a dream, however, is due to an "endopsychic perception of the latent content of the dream which is seen as ego-alien to the waking individual or potentially unacceptable to the listener" (Whitman, p. 771-2). In other words, Whitman distinguishes between two kinds of lack of recall, failure to recall and forgetting.

Goodenough (Witkin and Lewis, 1967) warns that people may be "non-reporters" for different reasons and "studies of dream reporting will not be fully successful until the kind of failure to report a dream is taken into account" (p. 147). Repression may account for only one aspect of low recall.

The interpersonal dimension of dream recall has hitherto been neglected in research, although it has received some attention (Markowitz, I., Bokert, E., Sleser, I., and Taylor, G., 1967).

Whitman (1963) emphasized the communicative aspect of dream recall. Kanzer (1955) described the communicative function of the dream. Roth (1958) suggested that dreams can be acted out, an interesting hypothesis since acting out is frequently an avoidance of remembering. The view that recall is associated with the experience of nursing implies an important role for primary object relations in dream recall (Lewin, 1946). Miller (1975) averred, "it is more important to understand the patient who is having the dream than it is to understand the dream the patient is having" (p. 144). The present results indicate the need for
further investigation of the relationship between recalling and reporting the dream. Subjects in the present investigation may have reported dreams haphazardly since the daily diary required much time and effort. Perhaps low and high recallers' reports would generate interesting differences if they were asked to tell their dreams to someone rather than write them anonymously.

General conclusions regarding the characteristics of low and high recallers can not be made. The importance of Lewin's theory has been suggested. The finding that high recallers do not embellish their memories of a fantasy experience compared to low recallers indicates that the variable is not significant in dream recall. The similarity of the groups on a test of memory suggests that other variables account for recall frequency.

The present investigation has raised questions about the variables related to dream recall frequency. Since a lack of dream content differences between low and high recallers has been demonstrated, the relationship between dream recall and the interpersonal context involved in dream reporting must be considered. Indeed, the essence of the dream may lie in the telling of it.
REFERENCES


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Fiss, H., Klein, G., and Bokert, E. Waking fantasies following interruption of two types of sleep. *Archives of General Psychiatry*, 1966, 14, 543-551.


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APPENDIX
APPENDIX A

DREAM RESEARCH QUESTIONNAIRE

The following questions are part of a scientific study of dreams in which you are being asked to participate. This is an important project. Your serious and thoughtful cooperation will be greatly appreciated.

Please respond to the following questions by placing a check mark beside the most accurate answer.

Name _______________________________ Age ______
Marital Status ______ ______ Telephone No. ______
No. of siblings ______
Your rank in family (first child, 2nd, etc.) ___________

1. Check the answer that best describes how often you remembered the contents of your dreams over the previous two week period:
   1. _____ every morning
   2. _____ just about every morning
   3. _____ about one morning a week
   4. _____ once during the two weeks
   5. _____ not once during the two weeks

2. Check the answer that best describes how often you recall having dreamed but do not remember any content over the previous two week period:
   1. _____ every morning
   2. _____ just about every morning
3. _____ about one morning a week
4. _____ once during the two weeks
5. _____ not once during the two weeks

3. Do you ever tell your dreams to someone else?
   1. _____ No
   2. _____ Rarely
   3. _____ Occasionally
   4. _____ Frequently

4. Have you ever had the same dream on more than one occasion?
   _____ Yes          _____ No

5. Check the type of dream that you have most often:
   _____ Pleasant     _____ Neutral     _____ Unpleasant

6. Consider a pleasant dream that you have had. Rate it according to the following characteristics with "1" having least of the characteristic and "4" having most of the characteristic. Check the appropriate number.
   1. Bizarreness     ___1    ___2    ___3    ___4
   2. Excitement      ___1    ___2    ___3    ___4
   3. Personal Significance ___1    ___2    ___3    ___4
   4. Intensity       ___1    ___2    ___3    ___4

7. Consider an unpleasant dream that you have had. Rate it according to the following characteristics with "1" having least of the characteristic and "4" having most of the characteristic. Check the appropriate number.
1. Bizarreness   ___1  ___2  ___3  ___4
2. Excitement   ___1  ___2  ___3  ___4
3. Personal significance   ___1  ___2  ___3  ___4
4. Intensity   ___1  ___2  ___3  ___4

8. Check the phrase that best describes how often you daydream:

1. _____ never daydream
2. _____ rarely daydream
3. _____ maybe once a week
4. _____ about once a day
5. _____ several times a day
APPENDIX B

Dream Record
(Hall and Van de Castle, 1966, p. 313)

Code No. ___________ Date _______________
Age ___________ Name _______________

I remember a dream from last night, yes _____ no _____.

Please describe the dream exactly and as fully as you remember it. Your report should contain, whenever possible, a description of the setting of the dream, whether it was familiar to you or not, a description of the people, their sex, age, (and relationships to you, and of any animals that appeared in the dream). If possible, describe your feelings during the dream and whether it was pleasant or unpleasant. Be sure to tell exactly what happened during the dream to (you and) the (other) characters. Continue your report on the other side and on additional paper if necessary.
APPENDIX C

SCORING GUIDE FOR ELABORATION
(supplement available)

Criteria for scoring as elaboration:

1. The substitution of words and/or images that are allied but not synonymous with the original.

2. The introduction of mild appropriate material to accompany nouns, e.g., descriptive adjectives, euphemisms.

3. Recombining material; making the story different but often using the same event.

4. Introduction of new elements, related or unrelated to the story content.
VITA

April Hogue Newlin was born July 27, 1951 in New Orleans, Louisiana. She attended Louise S. McGehee High School in New Orleans. After graduation in 1969, she entered Southern Methodist University in Dallas, Texas. In September, 1971, she transferred to the University of North Carolina, Chapel Hill, North Carolina, where she received her Bachelor of Arts degree in Psychology in May, 1973. Graduate work in clinical psychology was initiated at Louisiana State University in September, 1974. She obtained the Master of Arts degree in December, 1976. She is presently completing her clinical psychology internship at Topeka State Hospital. She is a candidate for the Doctor of Philosophy degree, to be awarded in August, 1979.
EXAMINATION AND THESIS REPORT

Candidate: April Hogue Newlin

Major Field: Psychology

Title of Thesis: Characteristics of Dream Recall: The Dreamer and His Dreams

Approved:

[Signatures]

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

[Signatures]

Date of Examination: April 20, 1979