Lucid Dreaming Ability and Verbal Creativity

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One night I dreamed I was a butterfly, fluttering hither and thither, content with my lot. Suddenly I awoke and I was Chuang-tzu again. Who am I in reality? A butterfly dreaming that I am Chuang-tzu or Chuang-tzu imagining he was a butterfly?

-Chuang-tzu, a Chinese Philosopher of the 3rd Century

A lucid dream is most commonly defined as one in which the dreamer is aware that he or she is dreaming while the dream is in progress. It has been called a "dream of knowledge* (Fox, 1962); "dreaming" (Castaneda, 1972); a "breakthru dream" (Corriere & Hart, 1977); "Onteric Image" (Meseguer, 1960); a "rational inner experience" (Whlieman, 1961); a "vivid dream" (Hart, 1959); and "cognitive awareness during sleep" (Evans, 1972). Some propose, that lucidity can help one do realize the dream-like quality of life (Faraday 1974; Rapport, 1948; Tart, 1969). This view is central to Tibetan Buddhism (Chang, 1977; Evans-Wentz, 1958) about which Evans-Wentz notes, "the primary purpose for establishing this continuity of consciousness is to allow the dreamer to begin to realize that the environment of the waking state is a self-created dream as well!" (p. 12). Western philosophers have also taken this persepctive on the lucid dream. Rapport (1948) explains, "I was often positive-yes, positive within the dream's illusion of reality, that I had found the basic secret that explains life" (p. 315).

In a less esoteric vein, some have suggested that the lucid dream helps to increase psychological functioning, especially when used in conjunction with some form of psychotherapy (Malamud, 1980; Boss, 1958; Corriere & Hart, *1977;* Rossi, 1972). Rossi explains that this approach can convert dreams from a reflection of our existence to "a living encounter with one's self" (p. 189). On a purely experiential level, lucid dreams have been used to observe the causes of normal dreams (Brown, 1936), to generate exciting dream experiences (Fox, 1962), "to accept responsibility for what one has neglected" (Sparrow, 1975, p. 23); to be en

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joyed as "simple-minded children" (Warman, 1947, p. 92); and to act as vehicles of creative thought (Donahoe, 1974).

Although this type of dream has a rich historical and anthropological heritage, until recently lucid dreaming has been dismissed by sleep researchers as an artifact of the arousal process or as an intriguing, though unhkely possibility (Hartman, 1975). Yet, lucid dreaming has the potential of giving scientists the rare opportunity to have someone "on the inside" consciously regulate and report on their cognitive activities while simultaneously signaling to the experimenter that they know they are dreaming. Four laboratories have successfully demonstrated this basic procedure (Hearne, 1978; LeBerge, Nagel, Dement & Zarcone, 1981, Dane, 1983, Fenwick, Schatzman, Worsley, Adams, Stone & Baker, 1983).

Throughout history dreams have provided artists, scientists, and writers with creative ideas and solutions to problems. When the person reaches an impasse in his work, the solution will often come to him in a dream. In a study that supports this idea empirically, Cartwright (1974) found that the period of time containing dream sleep is followed by solutions to problems which are qualitatively different from those that follow an equal period of waking time. As suggested by Donahoe (1974), herein lies another potential use for dreaming lucidly. Imagine the problem solving capacities of the dream were we to have some control over the process. Although some dream control can be established without becoming lucid, dream consciousness dramatically increases the degree of control (Gackenbach & Schillig, in press; Hearne, 1978; Tart, 1379).

The present study takes a first step toward realizing this potential by investigating the relationship between the ability to dream lucidly and verbal creativity. As the measure of verbal creativity, it uses the Remote Associations Test (RAT, Mednick, 1968), which requires subjects to form associative elements into new combinations by providing mediating links. This choice is supported by the work of Houston and Mednick (1963) who have found that highly creative people have a strong need for associative novelty.

The dreams of creative individuals have often been investigated. Highly creative subjects have been reported to have greater uniqueness and novelty in their dreams and to present more fluent dream reports (Sylvia, Clark, & Monroe, 1978). Adelson (1960) found that creative individuals experience more color, exotic set tings, and humor in their dreams than non-creative persons. He also noted that "creatives" are more often observers of their own dreams. Finally, dream reports of creative students have been found to exhibit greater primary process thinking, sym bolism, condensations and unusual combinations (Domino, 1976).

In this investigation the ability to dream lucidly is **expected to be positively related** to verbal creativity. This hypothesis is based on three l**ines of evidence. First, field independent persons, those who are able to differentiate themselves ps**ychological ly from **their environment, have been found to be consistently more creative than field dependent persons, those who tend** to be psychologically stimulus bound, (Bloomberg, 1967; Ohnmacht & McMorris, 1971) including RAT **test performance (Leftcourt** & Telegdi, 1971) Closel**y related, Gackenba**ch, Heilman, Boyt and **LaBerg**e (in press) found that those who frequently dreamt lucidly were more field **independent than those who infrequently or never had this dream experience. RAT scores have also been found to correlate positiv**ely with fr**equency of dream** recall (Bone & Corlett, 1968). This finding su**ggests another** connection bet**ween RAT performance and ones** ability to experience lucid d**reams as the latter are** typically highly recaliable (Gackenbach, in press; Hearne, 1978). Finally, hypnoti

cally susceptible sub**jects have been found to be more creative than unsusceptible subjects (Bowers & Van Der Meulen, 1970). Self-suggestion is the most frequently used method of lucid induction (LaBerge, 1980; Hearne, 1982; Dane, 1983).**

Method

Undergraduate psychology students (males = 59; females = 93) at a mid western university participated in the present study for course credit. Several ques. tionnaires were filled out by these students but oniy two are of interest here, the Lucid Dream Questionnaire (LDQ; Gackenbach & Schilling, in **press) and the Remote Associations Test (RAT; *M*ednick, 1968). In the former, the lucid dream is explained with an example and the respondent is asked to indicate the frequency** with which th**ey have these dream experiences. In the RAT the respondent is presented** with thi**rty sets of three words and is asked to find a fourth word which is related to all three. For example: cookies-sixteen-heart (the answer is sweet). A forty-**minute time limit i**s set on the RAT.**

Research subjects were tested in two semesters of one academic year in groups of from ten to thirty individuals. After signing in**formed consents, subjects were given two timed perceptual tasks. These were followed by a packet of question naires, in**cluding th**e two of interest in the present study. The entire testing session ran from 1 to 11/2 hours, after** which subjec**ts were debriefed as to the purpose of the tests.**

Results

Based on their responses to the LDQ, subjects were identified as either frequent lucid dreamers (one or more per month; males = 20; females = 23), infrequent lucid dreamers (at least once in a life; males = 21; females = 43) and nonlucid dreamers (males = 18; females = 27). A two-way analysis of variance on RAT scores (number of correct responses) was performed with sex of subject (male, female) and lucid dreaming frequency (frequent, infrequent, never) as the between subject independent variables. The main effect for sex of subject reached conventional levels of significance ($F(1,151) = 4.07$, $P < .045$) while the interaction between subject sex and lucid dreaming frequency approached significance ($F(2,151) = 2.72$, $P < .069$). Females ($X = 12.81$) outperformed males ($X = 10.97$) on this verbal creativity task.

The interaction was primarily accounted for by men. That is, male frequent lucid dreamers ($X = 12.90$) scored higher on the RAT than either male infrequent lucid ($X = 9.28$) or male nonlucid ($X = 10.78$) dreamers, Whereas, among females there was no appreciable difference between the three types of lucid dreamers (frequent $X = 11.87$, infrequent $X = 12.98$; nonlucid $X = 13.33$).

Discussion

In the present study it was hypothesized that frequent lucid dreamers would score highest on a measure of verbal creativity. The hypothesis received some support among men. This is consistent with the findings of Gackenbach, *et al (in press)* who report that the relationship between lucidity ability and field independence, the latter having been found to be positively associated with RAT performance (Left court & Telegdi, 1971), is especially strong for men. That is, across measures of

field independence male frequent lucid dreamers were rated as field independent while women's performance was not consistent across measures. Other sex differences between male and female lucid dreamers have also been noted. For instance, Gackenbach (in press) reports that men who frequently experience lucid dreams tend to have some emotional problems and are concerned

with religious oriented questions in life. Women, on the other hand, seem to be healthy in both their psychological and physical functioning.

Further research is currently being carried out by the authors on the relationship Investigated herein and will be reported on as results are determined. In the mean time, it appears that dream lucidity may be associated with creative abilities in men. Yet, the potential for using the lucid dream to enhance the creative process remains open to everyone. For instance, Garfield (1974) suggests that would-be creative dreamers should occupy themselves with the subject or problem they wish to dream about, up until a few seconds before falling asleep. She notes that if one could bring some measure of waking consciousness into the dream and state the problem clearly, the solution process would be greatly enhanced.

References can found either in the reference list or in the bibliography which follows.

NOTES

'Other tests administered included the block rotation task from the Luria-Nebraska Neuropsychological Test Battery (Golden, Purish & Hammeke, 1980); the Group Embedded Figures Test (Witkin, Oltman, Raskin. (Karp, 1971); the Edinburgh Handedness Inventory (Oldfield, 1971) and the Sleep Habits Questionnaire (Monroe, 1967).

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