

## Personality and Dream Recall Frequency: Still Further Negative Findings

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*In order to investigate the relationship between dream recall frequency and personality, 116 college undergraduates kept a dream log for 21 consecutive nights and completed self-report measures assessing fantasy-proneness, psychological absorption, and imaginative involvement. Consistent with most previous literature in this area, with one exception, there were no significant associations found between dream recall and the personality measures. The one exception to this pattern was for fantasy proneness and this correlation was of a small magnitude and only obtained for women. We conclude that dream recall frequency is largely independent from stable personality traits and can better be understood in terms of expectancy and attitudinal factors.*

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**KEY WORDS:** personality; dream recall.

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The search for reliable and robust predictors of dream recall frequency (DRF) has a long and checkered history in the dream research literature (Blagrove & Akehurst, 2000; Cohen, 1974; Goodenough, 1991; Hill, 1974; Schredl & Montasser 1996–97a & b). Much of the earlier work in this area was guided by basic tenets from psychoanalytic theory which suggested that dream recall and its corollary, dream forgetting, was a motivated and dynamic action driven by repression (Levin, 1990). However, numerous studies investigating the relationship between repression (a difficult and elusive construct to define) and dream recall reported little to no relationship between these variables (Cohen, 1979; Levin, 1990; Schredl & Montasser, 1996–97a).

Studies investigating the relationship between other personality variables and DRF have demonstrated decidedly mixed results. While Hartmann's (1991) concept of thin boundaries has been reliably associated with increased DRF (Cowen & Levin, 1995; Hartmann, Elkin & Rosen, 1991; Schredl, Kleinfelchner & Gell, 1996; Schredl, Schafer, Hofmann, & Jacob, 1999), studies investigating such other personality variables as extraversion, Type A/B personality and locus of control have failed to demonstrate consistent

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relationships with DRF (Blagrove & Akehurst, 2000; Cory, Ormiston, Simmel, & Dainoff, 1975; Robbins & Tanck, 1978; Wolcott & Strapp, 2002).

Subsequent work has focused more on cognitive factors in the prediction of DRF. Towards this end, such factors as visual-spatial memory (Martinelli, 1985), arousal and attention (Koulack & Goodenough, 1976), the strength and saliency of the dream imagery (Cohen, 1974; Levin, 1994; Wolcott & Strapp, 2002) and interference (Cohen & Wolfe, 1973) have been investigated in relation to dream recall. In general, these results have been more promising. For example, Levin found that overall dream frequency was associated with increased nightmare production. Similarly, Wolcott & Strapp found that heightened emotionality in dreams was associated with higher rates of DRF. In addition, attitudinal factors have been found to reliably predict DRF (Belicki, 1987; Cernovsky, 1984; Robbins & Tanck, 1988; Wolcott & Strapp, 2002) although again, not all studies have supported this hypothesis (Rochlen, Ligiero, Hill, & Heaton, (1999). (See Goodenough (1991) and Schredl & Montasser, (1996–97a & b) for more comprehensive reviews of this work.)

Despite the dearth of positive findings relating personality to dreaming, efforts continue in the elusive search for personality-based predictors of DRF. One explanation for the persistent negative findings is that previous studies have not investigated the most pertinent personality variables. Indeed, recent work from hypnosis and waking fantasy immersion have identified a number of cognitive style variables related to fantasy and imagistic processing, namely fantasy proneness (Lynn & Rhue, 1988), absorption (Tellegen & Atkinson, 1974), and imaginative involvement (Klinger, 1990; Singer, 1998), which appear to be largely orthogonal from more traditional personality inventories and demonstrate high internal consistency and relate to daydreaming activity (Levin & Young, 2001–02; Lynn et al., 1994; Singer, 1998). Given their ability to reliably measure imagistic processing, it would appear that these constructs might prove to be particularly useful in identifying patterns of relationships with dreaming variables. Briefly, fantasy-proneness refers to a unique constellation of personality traits and experiences coalesced around a deep, profound and long-standing involvement in fantasy and imagination (Lynn & Rhue, 1988, pg. 35). Numerous studies indicate a strong relationship between fantasy-proneness and such relevant constructs as creativity, hypnotizability and imagistic abilities (Lynn & Rhue, 1988). At face, individuals who score high on this measure should report increased dream access. Indeed, recent studies provide confirmation for this observation. Tonay (1993) reported a modest correlation between DRF and a measure of fantasy-proneness ( $r = .29$ ) but she did not utilize the ICMI (Wilson & Barber, 1981), the gold standard assessment for this construct. Using the ICMI, Levin & Young (2001–02) found a similar modest-sized correlation between DRF and fantasy proneness ( $r = .28$ ). However, both of these studies relied on a single item, retrospective estimate of DRF and therefore must be considered with extreme caution.

Absorption refers to a state of heightened imaginative involvement in which an individual's attentional capacities are focused in one behavioral domain, often to the exclusion of explicit information-processing in other domains (Roche & McConkey, 1990). Much like fantasy-proneness, absorption has been found to be significantly associated with imagistic processing, creativity, hypnotizability and dissociative tendencies. This is not surprising given that absorption and fantasy-proneness demonstrate considerable conceptual and statistical overlap (Hoyt et al., 1989; Levin & Young, 2001–02). Four independent studies (Levin & Young, 2001–02; Schredl et al., 1997; Spanos et al., 1980; Zamore & Barrett, 1989) found significant correlations between absorption and DRF ( $r = s$  range .41–.48) but

significantly, these patterns were only obtained for women. In addition, all of these studies relied on a single-item retrospective measure of DRF. This relationship was also studied indirectly by Bernstein & Belicki, (1995–96) who found absorption to be associated with dream bizarreness as measured by a retrospective questionnaire but not with prospective dream diaries ( $r = .00$ ). However, DRF frequency was not investigated in this latter study.

Imaginative involvement, as defined by quality of daydreaming activity, has been studied extensively, particularly within the hypnosis and creativity literature (Klinger, 1990; Singer, 1998). Singer and Antrobus (1972) developed the Imaginal Processes Inventory (IPI) to measure various aspects of subjective phenomenal cognitive mentation. A shortened version of the IPI (SIPI) was developed by Huba, Singer & Aneschensel (1981). Factor analyses of the SIPI reveal three orthogonal imaginative involvement styles: Positive-constructive (PC), guilt fear-of-failure (GFF), and poor attentional control (PAC) daydreaming, each with its own set of behavioral concomitants (Golding & Singer, 1983; Hoyt et al., 1989; Huba et al., 1981; Levin & Fireman, 2001–02; Levin & Young, 2001–02; Zhihan & Singer, 1996–97).

The purpose of the present study was to investigate the relationship between fantasy-proneness, absorption, and imaginative involvement and DRF prospectively. Based on previous work, we predict that 1) DRF will be linearly related to higher scores on the ICMI (fantasy-proneness), TAS (absorption) and the positive-constructive daydreaming scale of the SIPI; and, 2) these results will be more robust for women than men.

## METHOD

### Participants and Procedure

One hundred and sixteen undergraduates (31 men, 85 women, mean age = 20,  $SD = 2.3$ ) at a large state university voluntarily participated in the study for course credit over a period of three academic semesters. Participants were told that the study was investigating various aspects of personality and its relation to dreaming and were asked to monitor their dreams and nightmares for 21 consecutive days. The present investigation was part of a larger study examining correlates of nightmare experience (Levin & Fireman, 2002) and only those variables relevant to the current study will be detailed here. (See Levin & Fireman for a more complete description of the study protocol.) Upon giving phone consent, participants were given an appointment and completed the research protocol in two phases. In the first meeting, students completed a packet of self-report measures of personality which are described below. Students were then given a 21-day supply of dream logs and asked to complete each one as soon as possible awakening, indicating with a check mark whether they remembered any dreams or nightmares the prior night, and if so, to indicate how many.

### Measures of Fantasy Immersion

*Inventory of Childhood Memories and Imaginings (ICMI)* (Wilson & Barber, 1981)

The ICMI is a 52-item self-report questionnaire which was designed to classify fantasy-proneness. The ICMI has been extensively utilized in research and has demonstrated high

test-retest reliability and construct validity (Levin & Fireman, 2001–02; Levin & Young, 2001–02; Lynn & Rhue, 1988; Raushenberger & Lynn, 1995).

*Tellegen Absorption Scale (TAS)* (Tellegen & Atkinson, 1974)

The TAS is a 34-item self-report measure which assesses an individual's openness to a variety of cognitive, perceptual and imagistic experiences. The TAS demonstrates excellent construct validity and internal and test-retest reliability (Levin & Young, 2001–02; Roche & McConkey, 1990).

*Short Imaginal Processes Inventory (SIPI)* (Huba, Aneschensel, & Singer, 1981).

The SIPI is a 45-item self-report questionnaire designed to measure the three second-order factors which have been found to characterize ongoing mentation: positive-constructive daydreaming, guilt fear-of-failure daydreaming, poor attentional control daydreaming. The SIPI demonstrates test-retest reliability and construct validity for the three subfactors (Hoyt et al., 1989; Levin & Young, 2001–02; Tanaka & Huba, 1986; Zhiyan & Singer, 1996–97).

## RESULTS AND DISCUSSION

Pearson bivariate correlations were conducted for DRF as well as the total number of nights subjects reported a dream with the five waking fantasy measures. As seen in Table 1, only fantasy-proneness was significantly associated with DRF although modestly ( $r = .19$ ,  $p < .04$ ) accounting for less than 4% of the variance. Absorption approached significance ( $p < .06$ ) while the three SIPI subfactors were unrelated to dream recall, suggesting that these variables are largely orthogonal from DRF. Furthermore, the number of total nights with a recalled dream was not related to any of the fantasy measures. When the correlations were looked at separately by sex, a similar pattern was obtained. As seen in Table 2, absorption and all three daydreaming styles were not associated with DRF for either sex. Only fantasy-proneness demonstrated a very modest relationship to DRF and this was only for women. Again, the number of nights a dream was recalled was unrelated to all fantasy measures for both sexes.

**Table 1.** Bivariate Correlations Between DRF and Waking Fantasy Measures ( $N = 115$ )

Waking Fantasy Measure	DRF	Nights w/a Dream
Fantasy Proneness	.19*	.17
Absorption	.18	.16
Positive Constructive Daydreaming	.06	.12
Guilt Fear of Failure Daydreaming	.10	.04
Poor Attentional Control Daydreaming	.08	.08

\* $p < .05$

**Table 2.** Bivariate Correlations Between DRF and Waking Fantasy Measures for Men ( $N = 31$ ) and Women ( $N = 84$ )

Waking Fantasy Measure	Men		Women	
	DRF	Night w/Dream	DRF	Night w/Dream
Fantasy Proneness	.14	.17	.22*	.18
Absorption	.17	.08	.18	.19
Positive Constructive Daydreaming	-.09	-.01	.10	.16
Guilt Fear of Failure Daydreaming	.14	.16	.13	.06
Poor Attentional Control Daydreaming	.01	.27	.10	.00

\*  $p < .05$

The results of the present study cast further doubt on the notion that dream recall frequency is predicted by stable personality variables. In this regard, our findings are consistent with recent work (e.g., Blagrove & Akehurst, 2000; Wolcott & Strapp, 2002) which found DRF to be largely orthogonal from personality measures. Unlike most other studies, our study was unique in that it utilized a prospective behavioral measure to assess DRF and assessed personality variables presumed, at face, to hold particular relevance for the prediction of dream phenomena, namely fantasy-proneness, absorption and imaginative involvement.

One finding of note however was the obtained discrepancy between the present study and a recent study (Levin & Young, 2001–02) examining the same variables. In that study, DRF was modestly but significantly associated with fantasy-proneness ( $r = .28$ ), absorption ( $r = .30$ ) and positive-constructive daydreaming ( $r = .34$ ). However, like many of the previous studies conducted in this area, Levin & Young relied on a single-item retrospective assessment of DRF. While these two studies utilized different population samples (Levin & Young utilized a nonclinical community-based sample), we believe that the observed differences are not due to sampling differences. This is because the same high levels of intercorrelations between the waking fantasy measures were obtained in the present investigation as in Levin & Young’s study as mean scores on the fantasy measures in the present study were comparable to that found in the previous study.

Instead, we believe that these differences can better be understood in terms of method variance, namely the use of an ongoing behavioral measure rather than a single-item retrospective assessment which is highly susceptible to memory biases and temporal instability. There is now considerable evidence that retrospective measures of any behavior are notoriously susceptible to such factors as response style biases, selective recall and embellishment and a tendency to appear internally consistent, even at the expense of factual accuracy. In this regard, recent research looking at nightmare recall frequency (Levin & Fireman, 2002a; Wood & Bootzin, 1990; Zadra & Donderi, 2000) has consistently demonstrated that retrospective measures significantly *underestimate* nightmare incidence by a factor of approximately 2.5:1 when tracked by ongoing behavioral logs. Further, our data are consistent with Bernstein & Belicki’s (1995) comparing diaries with questionnaires. In addition, a single-item DRF measure, like *any* single-item measure is highly susceptible to reliability deficiencies and would appear to be an inadequate measure to tap any behavior that by its very nature, demonstrates high temporal fluctuation. In this regard, we concur with Blagrove &

Akehurst (2000) who posited that such retrospective questionnaires are an invalid and possibly unreliable measure of DRF (p. 144).

We suggest that previous studies noting a significant relationship between DRF and imaginal experiences (i.e., Levin & Young, 2001–02; Spanos et al., 1980; Schredl et al., 1997; Tonay, 1993) inadvertently capitalized on these factors as well as capturing an individual's tendency to respond to like-minded measures in an internally-consistent manner as all measures were completed in the same sitting. Indeed, there is evidence that scores on the ICMI may vary widely when administered in conjunction with other measures tapping convergent personality traits (Levin & Young, 2001–02). In light of these observations, we conclude that the present findings are highly robust and more accurate than these previous investigations.

The question remains, if DRF is not predicted by personality variables, what then *is* it associated with? Obviously this is a more difficult question to answer. However, alternative hypotheses abound in the literature ranging from memorial factors (Cohen, 1974; Martinelli, 1985) to physiologically-based (Blagrove & Akehurst, 2000; Hobson, Pace-Schott, & Stickhold, 2000) determinants. As our study was not designed to address this question, we can only speculate as to the actual determinants of DRF. However, the present data are consistent with other results which suggest that attitudinal factors highly predict DRF (Cernovsky, 1984; Halliday, 1992; Robbins & Tanck, 1988; Tonay, 1993; Wolcott & Strapp, 2002). Given this, we suggest that DRF is mediated by a host of attitudinal and expectancy variables which are shaped by an individual's need to behave (and especially respond on a global retrospective self-report) in an internally consistent manner with their derived self-concept. In this regard, sociocognitive theory (Silva & Kirsch, 1992; Spanos, 1994) provides a more fruitful explanatory framework for better understanding this central question.

Of course, in light of the steady accumulation of negative findings, one might raise the question as to whether the null hypothesis ought to be given more serious consideration. Namely, that personality is *not* associated with DRF. A related point is the relevance of the actual question guiding much of this previous work. In other words, does it matter *what* predicts DRF? We suggest that the question itself is a vestige of an earlier epistemological perspective regarding dreaming and its clinical relationship to waking personality functioning which may no longer pertain in the context of over 50 years of empirical research.

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