

Psychological considerations in pursuing lucid dreaming research

Commentary on “The neurobiology of consciousness: Lucid dreaming wakes up” by J. Allan Hobson

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1. Introduction

As an long time lucid dream researcher (Gackenbach & LaBerge, 1988), it has been with great pleasure to follow the recent developments in neuroscience on lucid dreaming. Hobson's essay, in a recent issue of the “International Journal of Dream Research” (Hobson, 2009), is a call again for the use of lucid dreaming as a methodological paradigm which offers the potential to understand more deeply the brain basis of consciousness. My purpose here is to address the areas of his essay for which I have some background. I am not a physiologist, but I have done considerable work on the psychological side of lucid dreaming.

Before I begin an analysis from the psychological side, I should mention a couple of things on the brain science side. First and foremost, is the work by Mason and Travis on witnessing in sleep (Mason, Alexander, Travis, Gackenbach, & Orme-Johnson, 1995; Travis, 1994). They have discussed being aware of sleep/dreams while asleep/dreaming both theoretically (Travis, 1994) and in an excellent sleep laboratory study (Mason, et al., 1995). They have argued that sleep consciousness was a separate state of consciousness, as seems to be the conclusion more recently of Voss, Holzmann, Tuin, and Hobson (2009). On the other hand Schonhammer (2005) has offered an excellent analysis of alternative bioscience perspectives on lucid dreaming, which also offers various suggestions for lucid dreaming as an alternative state of consciousness.

A minor second point in Hobson's essay is his incorrect citations for the brain imaging work of Michael Czisch's group. The studies Hobson cited were not about lucid dreaming. He should have cited two papers which were about lucid dreaming, that were presented at conferences (Dresler, Wehrle, Koch & Mann, 2008; Dresler, Wehrle, Spoormaker, Koch, Holsboer, Steiger, Obrig, Sämann, & Czisch, 2009). I only mention this because the conclusions are important to keep in mind, and anyone tracking back might find what I found, that the citations offered said nothing about lucid dreaming.

While Hobson emphasized an historical perspective on lucid dreaming in his article, which was largely representative, his brief survey of the psychological side was more limited.

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Over the course of my professional life I have focused upon individual differences associated with dreaming lucidly (Snyder & Gackenbach, 1988), the content of the experience of dreaming lucidly (Gackenbach, 1988), and the spontaneous behavioural antecedents to lucid dreaming (Gackenbach & Bosveld, 1989). I always preferred to view lucid dreaming in is “natural” setting and did not address issues of how to have a lucid dream. Hobson seemed to reduce these induction questions to “pre-sleep autosuggestion”, when clearly the emergence of lucidity is predicated by both individual differences and various life circumstances. LaBerge and others (LaBerge, 1980; Zadra, Donderi, & Pihl, 1992; Paulson, & Parker, 2006) have shown that autosuggestion does work. So too, Laberge and Levitan (1995) have shown that light triggers, in a mask worn while in REM sleep, can also elicit lucidity when paired with presleep suggestions. However, the incidence of success for such techniques does not come close to the spontaneous emergence of lucidity in sleep as a by-product of the practice of meditation (Alexander, 1987; Gackenbach & Bosveld, 1989; Hunt, 1989; Gackenbach & Hunt, 1992). The intent of meditation is typically not to specifically have a lucid dream, but rather is more broadly motivated and indeed the outcomes of meditation can be developmentally framed as ultimately naturally occurring (Alexander et al., 1990).

Relatedly, in an obscure study, many years ago, I also found that those in some sort of self reflective therapy also increase their lucidity through increased dream recall (Gackenbach & Bosveld, 1989). Indeed, the confound with dream recall is so substantive (Gackenbach, 1988) that if not controlled for becomes synonymous with lucid dreaming. More recently, I turned my attention to the effects of electronic media exposure on dreams. Our laboratory has repeatedly found that interactive media use, especially video game play, is more often associated with lucid dreaming, than its spontaneous emergence in those less often using such media (Gackenbach, 2006; 2009).

In none of these cases is having a lucid dream the express purpose of meditation, psychotherapy, dream recall or video game play. Yet in all cases the incidence of lucidity is the same as or higher than spontaneous lucidity emergence. Now it may be that “pre-sleep autosuggestion” is as viable as these other activities, but as far as I could tell this research has not been done. This is a research question that should be undertaken especially if, as suggested by Hobson, lucid dreaming is finally coming into its own as a research paradigm for investigating the nature of consciousness.

In-dream triggers for lucidity have been investigated as

part of LaBerge's effort to elicit lucid dreams on command and as part of my inquiry into the content of lucid dreams (LaBerge & Gackenbach, 2000). While noticing bizarre elements, as suggested by Hobson as his own in lucid dreams, was found in our lab, it only accounted for one-third of the lucid dreams which emerged spontaneously in college students. The other two ways that lucidity emerged was as a result of a nightmare and the dreamer indicating that they "just knew" (Snyder & Gackenbach, 1988).

Individual differences which may predispose dreamers to have lucid dreams seem to fall along spatial/vestibular lines (Snyder & Gackenbach, 1988). More recently, Schredl and Erlacher (2004) found no association to the big five personality characteristics, but did find some relationship to fantasy proneness and openness to experience, including absorption, which has been key in Hunt's interpretation of lucidity within the range of consciousness (Hunt, 1989). Indeed it is these sorts of individual difference variables, i.e. spatial/vestibular and absorption that can account, in part, for the higher incidence of lucidity among video game players (Gackenbach, Kuruvilla, Dopko, & Le, 2010).

Finally, and most recently, on the psychological side, Kahan and colleagues (Kahan, 1994; Kahan & LaBerge, 1994; 1996) and Kuiken's group (Kuiken, 2009; Lee & Kuiken, 2009; Lee, Czupryn, & Kuiken, 2008) have investigated lucid dreaming in metacognitive and phenomenological terms. Their respective refined analysis should be included in any comprehensive understanding of the psychological side of lucid dreaming.

In conclusion, I applaud Hobson's call for lucid dreaming to be placed center stage in our inquiries into the nature of consciousness. This critique has primarily highlighted areas of inquiry into lucidity which were either missed or misrepresented.

References

- Alexander, C. (1987). Dream Lucidity and Dream Witnessing: A Developmental Model Based on the Practice of Transcendental Meditation. *Lucidity Letter*, 6, 113-124.
- Alexander, C. N., Davies, J. L., Dixon, C. A., Dillbeck, M. C., Orzel, R. M., Muehlman, J. M., & Orme-Johnson, D. W. (1990). Higher stages of consciousness beyond formal operations: The Vedic psychology of human development. In C. N. Alexander & E. J. Langer (Eds.), *Higher stages of human development: Perspectives on adult growth* (pp. 286-341). New York: Oxford University Press.
- Dresler, M., Wehrle, R., Koch, S., & Sa Mann, P. G. (2008). Dream imaging – how to read the sleeping brain. *European Sleep Research Society, Journal of Sleep Research*, 17 (Suppl. 1), 92.
- Dresler, M., Wehrle, R., Spormaker, V.I., Koch, S., Holsboer, F., Steiger, A., Obrig, H., Sämann, P.G., & Czisch, M. (2009). Neural correlates of consciousness – insights from sleep imaging. *Göttingen Meeting of the German Neuroscience Society T24-3C*
- Gackenbach, J.I. & LaBerge, S. (Eds.) (1988). *Conscious mind, sleeping brain: Perspectives on lucid dreaming*, N.Y.: Plenum.
- Gackenbach, J.I. (1988). The psychological content of lucid dreams. In J.I. Gackenbach and S. LaBerge (Eds.), *Conscious mind, sleeping brain: Perspectives on lucid dreaming*, N.Y.: Plenum.
- Gackenbach, J.I., Kuruvilla, B., Dopko, R. & Le, H. (2010). Chapter 5: Dreams and video game play. In F. Columbus (Ed.), *Computer Games: Learning Objectives, Cognitive Performance and Effects on Development*, Hauppauge, NY: Nova Science Publishers.
- Gackenbach, Jayne; Hunt, Harry T. (1992). Lucid dreaming as a transpersonal (meditational) state: A potential distinction from dream-work methods. *Journal of Mental Imagery*. 16(1-2), 97-102.
- Hunt, H. (1989). *Multiplicity of dreams: Memory, imagination, and consciousness*. Westford, MA: Yale University Press.
- Kahan, T. (1994). Measuring dream self-reflectiveness: A comparison of two approaches. *Dreaming*, 4(3), 177-193.
- Kahan, T.L., & LaBerge, S. (1994). Lucid dreaming as metacognition: Implications for cognitive science. *Consciousness and Cognition*, 3(2), 246-264.
- Kahan, T.L., & LaBerge, S. (1996). Cognition and metacognition in dreaming and waking: Comparisons of first and third-person ratings. *Dreaming*, 6(4), 235-249.
- Kuiken, D. (2009, June). *Classifying Impactful Dreams: Nightmares, Existential Dreams, and Transcendent Dreams*. Paper presented at the 2009 meeting of the International Association for the Study of Dreams, Chicago.
- LaBerge, Stephen P. (1980). Lucid dreaming as a learnable skill: A case study. *Perceptual and Motor Skills*. 51(3, Pt 2), 1039-1042.
- LaBerge, S., & Gackenbach, J.I. (2000). Lucid dreaming. In E. Cardeña, S. J. Lynn, & S. Krippner (Eds.), *Varieties of anomalous experience: Examining the scientific evidence* (pp. 151-182). Washington, D.C.: American Psychological Association.
- LaBerge, S. & Levitan, L. (1995). Validity established of dream-light cues for eliciting lucid dreaming. *Dreaming*, 5(3), 159-168
- Lee, M., & Kuiken, D. (2009, June). Relationships between Reflective Awareness in Dreams and Impactful Dream Types. Paper presented at the 2009 meeting of the International Association for the Study of Dreams, Chicago.
- Lee, M., Czupryn, J., & Kuiken, D. (2008, June). Categories of Reflective Awareness in Dreams. Paper presented at the 2008 meeting of the International Association for the Study of Dreams, Montreal.
- Mason, L., Alexander, C.N., Travis, F. Gackenbach, J. & Orme-Johnson, D. (1995) EEG correlates of "higher states of consciousness" during sleep. *Sleep*, 24, 152.
- Paulsson, T. & Parker, A. (2006). The effects of a two-week reflection-intention training program on lucid dream recall. *Dreaming*. 16(1), 22-35.
- Schonhammer, R. (2005). 'Typical Dreams' Reflections of Arousal. *Journal of Consciousness Studies*, 12(4-5), 18-37(20).
- Schredl, M. & Erlacher, D. (2004). Lucid dreaming frequency and personality. *Personality and Individual Differences*, 37(7), 1463-1473
- Snyder, T.J. & Gackenbach, J.I. (1988). Individual differences associated with lucid dreaming. In J. I. Gackenbach and S. P. LaBerge (Eds.), *Conscious mind, sleeping brain: Perspectives on lucid dreaming*, N.Y.: Plenum.
- Travis, F. The junction point model: A field model of waking, sleeping, and dreaming, relating dream witnessing, the waking/sleeping transition, and Transcendental Meditation in terms of a common psychophysiological state. *Dreaming*, 4(2), 91-104.
- Zadra, A.L., Donderi, D. C., Pihl, R. O. (1992). Efficacy of lucid dream induction for lucid and non-lucid dreamers. *Dreaming*. 2(2), 85-97.