

Almost 40 Years Investigating Near-Death Experiences An Overview of Mainstream Scientific Journals

Adriana Sleutjes, MSc,* Alexander Moreira-Almeida, MD, PhD,* and Bruce Greyson, MD†

Abstract: This article reviews mainstream scientific publications on near-death experiences (NDEs). We searched *near-death experience* in titles, key words, and abstracts at the Web of Knowledge database published between 1945 and 2013. We identified 266 relevant documents, the oldest from 1977. There was a strong predominance of opinion articles (book reviews, commentaries, and editorials), review articles, phenomenological description articles, and articles that originated in the United States. Since 2000, the number of longitudinal and cross-sectional studies has increased; there has been a diversification in the countries that have published on the subject and more articles that discuss the implications of NDEs for the mind-brain relationship. The results indicate that most scholarly publications on NDEs are recent, usually have no original empirical data, and are concentrated in North America and Western Europe. Future studies should focus on increasing the cultural diversity in the field and on testing explanatory hypotheses based on high-quality empirical data.

Key Words: Near-death experience, literature review, mind-body relationship, consciousness, spirituality

(*J Nerv Ment Dis* 2014;202: 833–836)

Near-death experiences (NDEs) are subjective experiences that usually happen during life-threatening conditions and involve “the reported memory of a range of impressions during a special state of consciousness, including a number of special elements, such as an out-of-body experience (OBE), pleasant feelings, seeing a tunnel and/or light, seeing deceased relatives, a life review, or a conscious return into the body” (van Lommel, 2011). Although NDEs have been described for a long time, the term *near-death experience* (NDE) was unknown before Moody coined it in his best seller *Life After Life* in 1975 (Moody, 1975). According to prospective studies, NDEs are reported by 12% to 18% of cardiac arrest survivors (Greyson, 2003; Parnia et al., 2001; Schwaning, 2002; van Lommel et al., 2001).

Although NDEs are widely disseminated, to date, the mechanisms by which they occur have not yet been fully elucidated (Agrillo, 2011; Fenwick, 2012; Greyson, 2010; van Telling, 2008). Explanations for these experiences have ranged from confusional hallucinations and fanciful creations of the mind to manifestations of mind functioning independent of the brain and evidence of life after death (Blackmore, 1996). Authors have discussed whether NDEs have a common core of experiences that is transcultural (Kellehear, 1993; Ring, 1980; Sabom, 1982). Some cross-cultural studies point to some invariants as well as to partial differences in the content of experiments and interpretation of experience on religious belief (Athappilly et al., 2006; Belanti et al., 2008; Pasricha and Stevenson, 1986; Osis and Haraldson, 1977). However, more studies on this topic are clearly needed.

In addition to its clinical implications (Greyson, 2007), NDEs may also have implications for how we understand consciousness and its relationship to the brain (Fracasso, 2012; Facco and Agrillo, 2012; Kelly et al., 2000). For van Lommel (2011) and for Trent-von Haesler and Beauregard (2013), it is a challenge for science to develop new hypotheses that might explain the clear functioning of consciousness during a period of apparent coma, raising the question of whether mind and consciousness may not result exclusively from brain activity. The possibility of a nonlocal mind that is mediated but not produced by the brain has been raised by several authors (Fenwick, 2012; Parnia, 2007). The NDE has also generated interest among the lay public, and many best sellers have been published in recent years (Alexander, 2012; Burpo and Vincent, 2010; Eadie and Taylor, 1994; Neal, 2012). Because it has been almost 40 years since NDEs became a focus of scientific investigation, it would be informative to provide an overview of the scholarship on the subject.

This article provides an overview of the publications on NDEs that are indexed in one of the major interdisciplinary academic bibliographic databases. The aim of this article was to present an overview of the profile and evolution of mainstream academic publications on NDEs.

METHODS

The term *near-death experience* was used to search the titles, key words, and abstracts of all of the publications indexed in the Web of Knowledge database. This database includes the most prestigious academic journals in all fields of science, covering articles published since 1945 by 24,000 of the highest-impact journals worldwide as well as thousands of academic conference proceedings and book reviews (http://thomsonreuters.com/products_services/science/science_products/a-z/isi_web_of_knowledge/). In total, 448 publications were identified between the years 1977 and 2013 (June 15), of which 170 were excluded because they did not address the subject and 12 articles were excluded because the abstracts or full articles could not be located. The remaining 266 articles were broken down by the period when they were published and categorized according to their type (cross-sectional, longitudinal, or experimental study; case report; literature review; theoretical speculation; book review; letter or editorial; and view or commentary; Fig. 1), central theme (mental health, phenomenology, implications for the mind-brain relationship, spirituality and transcendence, as well as consciousness; Fig. 2), publication country (Fig. 3), and authors' names (Fig. 4).

RESULTS AND DISCUSSION

The literature on NDEs began to emerge on the Web of Knowledge during the late 1970s. The number of publications was similar for the periods 1977 to 1989 and 1990 to 1999 (90 and 75, respectively), which were predominantly exploratory and frequently included opinion articles or writings on the phenomenology of the experience. For the latter period of 1990 to 1999, there was a slight increase in topics related to spirituality, transcendence, and consciousness as well as a decrease in cross-sectional studies and publications addressing mental health.

During the most recent period, 2000 to 2013, the phenomenology of NDEs was still the subject that had the highest number of publications, but there was an increasing number of prospective studies,

*Research Center in Spirituality and Health (NUPES), School of Medicine, Federal University of Juiz de Fora (UFJF), Juiz de Fora, Brazil; and †Department of Psychiatry & Neurobehavioral Sciences, University of Virginia Health System, Charlottesville.

Send reprint requests to Adriana Sleutjes, MSc, Rua José Loures Vale, 07, Cond. Mandala Park, Aeroporto, Juiz de Fora, MG, Brazil.

E-mail: adriana.sleutjes@yahoo.com.

Copyright © 2014 by Lippincott Williams & Wilkins
ISSN: 0022-3018/14/20211-0833

DOI: 10.1097/NMD.0000000000000205

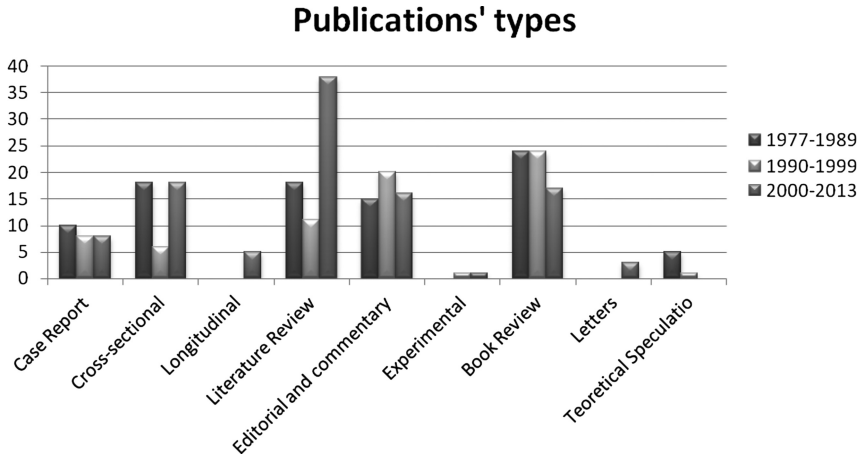


FIGURE 1. Publications categorized according to their type.

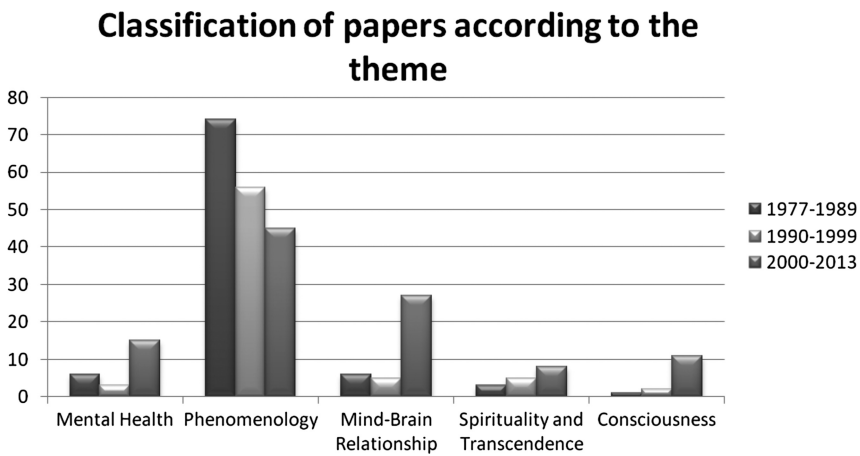


FIGURE 2. Classification of articles according to the theme.

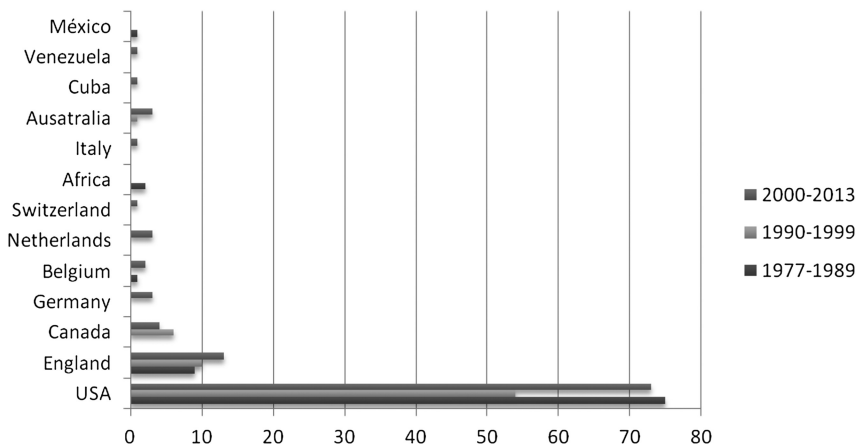


FIGURE 3. Number of publications by country.

Number of publications by author 1977 - 2013

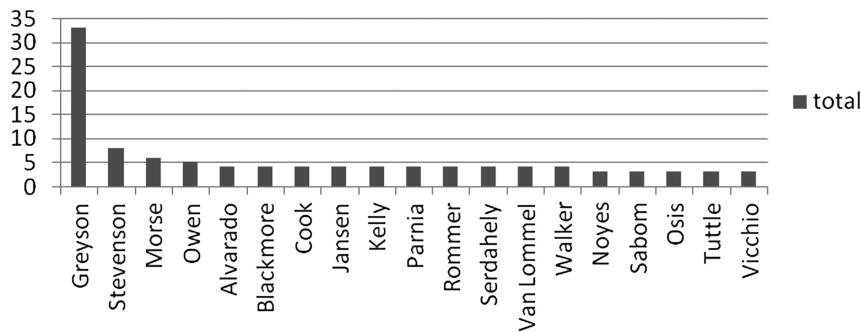


FIGURE 4. Number of publications by author.

especially with patients who experienced cardiac arrest and were then resuscitated (Greyson, 2003; Klemenc-Ketis et al., 2010; Parnia, 2007; Parnia and Fenwick, 2002; Parnia et al., 2001; van Lommel et al., 2001). There was an increase in the number of cross-sectional studies and in publications on the implications of NDEs for the mind-brain relationship (Agrillo, 2011; Beauregard et al., 2009; Britton and Bootzin, 2004; Klemenc-Ketis et al., 2010; Mobbs and Watt, 2011; Nelson et al., 2006; van Tellingen, 2008), spirituality and transcendence (Greyson, 2006; Rommer, 2000, 2001; Stannard, 2003), as well as consciousness (Fracasso and Friedman, 2011; Greyson, 2010; Laws and Perry, 2010; Parnia, 2007; Schwartz, 2012; van Lommel, 2004).

It is important to note that academic publications from the United States predominate in the field, followed by British publications and publications from other European countries. Only since 2000 have publications from Latin American countries (Cuba, Venezuela, and Mexico) been found.

Of the 266 articles analyzed, approximately 31.6% ($n = 84$) were published by 39 authors, who have each published at least 2 articles on NDEs, and just one author accounted for approximately 12.4% of the total ($n = 33$).

Given that this article aimed to analyze the profile of mainstream scientific publications on NDEs, we searched at the Web of Knowledge, which indexes only the mainstream journals with the highest impact in their areas. However, most of the scholarly articles on NDEs have been published in specialized journals that are not indexed in the Web of Knowledge. For example, the *Journal of Near-Death Studies* has published more than 700 articles on NDEs between 1981 and 2013 but is not indexed in the Web of Knowledge. It is worth noting that the term *near-death experience*, which was used as the search term in this study, although it has been the most common label for the experiences under consideration for the past 4 decades, was not coined until 1975. Thus, articles about NDEs that did not use the term *near-death experience* were not included in our survey.

CONCLUSIONS

The results indicate that, although starting recently, there is a considerable number of scholarly publications on NDEs. However, they usually have limited original empirical data and have been concentrated in North America and Western Europe. Since 2000, there has been an increase in the number and quality of empirical studies, in the geographical diversity of the countries publishing these studies, as well as in the number of discussions about the implications of NDEs for the mind-brain relationship. To advance the scientific understanding of this intriguing human experience, we suggest that future studies should focus on the enlargement of the cultural diversity of NDE studies, on the

formulation of explanatory hypotheses, and on the collection of high-quality empirical data to test these hypotheses.

DISCLOSURE

The authors declare no conflict of interest.

REFERENCES

- Agrillo C (2011) Near-death experience: Out-of body or out-of brain? *Rev Gen Psychol.* 1:1–10.
- Alexander E (2012) *Proof of heaven: A neurosurgeon's journey into the afterlife.* New York: Simon & Schuster.
- Athappilly GK, Greyson B, Stevenson I (2006) Do prevailing societal models influence reports of near-death experiences? A comparison of accounts reported before and after 1975. *J Nerv Ment Dis.* 194:218–222.
- Beauregard M, Courtemanche J, Paquette V (2009) Brain activity in near-death experiencers during a meditative state. *Resuscitation.* 80:1006–1010.
- Belanti J, Perera M, Jagadheesan K (2008) Phenomenology of near-death experiences: A cross-cultural perspective. *Transcult Psychiatry.* 45: 121–133.
- Blackmore SJ (1996) Near-death experiences. *J R Soc Med.* 89:73–76.
- Britton WB, Bootzin RR (2004) Near-death experiences and the temporal lobe. *Psychol Sci.* 15:254–258.
- Burpo T, Vincent L (2010) *Heaven is for real: A little boy's astounding story of his trip to heaven and back.* Nashville, TN: Thomas Nelson.
- Eadie B, Taylor C (1994) *Embraced by the light.* New York: Bantam.
- Facco E, Agrillo C (2012) Near-death experiences between science and prejudice. *Front Hum Neurosci.* 6:1–7.
- Fenwick P (2012) Can near-death experiences contribute to the debate on consciousness? In: Moreira-Almeida A, Santos FS (Eds), *Exploring frontiers of the mind-brain relationship* (pp 143–163). New York: Springer.
- Fracasso C (2012) Paving a new frontier: Near-death experiences and the unspoken aspect of what researchers have faced, and continue to face. *Neuroquantology.* 10:210–215.
- Fracasso C, Friedman H (2011) Near-death experiences and the possibility of disembodied consciousness challenges to prevailing neurobiological and psychosocial theories. *Neuroquantology.* 9:41–53.
- Greyson B (2003) Incidence and correlates of near-death experiences on a cardiac care unit. *Gen Hosp Psychiatry.* 25:269–276.
- Greyson B (2006) Near-death experiences and spirituality. *Zygon.* 41:393–414.
- Greyson B (2007) Near-death experience: Clinical implications. *Rev Psiq Clin.* 34:116–125.
- Greyson B (2010) Implications of near-death experiences for a post materialist psychology. *Psychol Relig Spirituality.* 2:37–45.

- Kellehear A (1993) Culture, biology and the near-death experience. A reappraisal. *J Nerv Ment Dis*. 181:148–156.
- Kelly EW, Greyson B, Stevenson I (2000) Can experiences near death furnish evidence of life after death? *Omega*. 40:513–519.
- Klemenc-Ketis Z, Kersnik J, Grmec S (2010) The effect of carbon dioxide on near-death experiences in out-of-hospital cardiac arrest survivors: A prospective observational study. *Crit Care*. 14:R56.
- Laws V, Perry E (2010) Near-death experiences: A new algorithmic approach to verifying consciousness outside the brain. *Neuroquantology*. 8:142–154.
- Mobbs D, Watt C (2011) There is nothing paranormal about near-death experiences: How neuroscience can explain seeing bright lights, meeting the dead, and being convinced you are one of them. *Trends Cogn Neurosci* 15:447–449.
- Moody RA (1975) *Life after life*. New York: Bantam.
- Neal M (2012) *Toheaven and back: A doctor's extraordinary account of her death, heaven, angels, and life again: A true story*. Colorado Springs, CO: Water Brook Press.
- Nelson KR, Mattingly M, Lee SA, Schmitt FA (2006) Does the arousal system contribute to near death experience? *Neurology*. 66:1003–1009.
- Osis K, Haraldson E (1977) *At the hour of death*. New York: Avon.
- Parnia S (2007) Do reports of consciousness during cardiac arrest hold the key to discovering the nature of consciousness? *Med Hypotheses*. 69: 933–937.
- Parnia S, Fenwick P (2002) Near death experiences in cardiac arrest: Visions of a dying brain or visions of a new science of consciousness. *Resuscitation*. 52:5–11.
- Parnia S, Waller DG, Yeates R, Fenwick P (2001) A qualitative and quantitative study of the incidence, features and aetiology of near death experiences in cardiac arrest survivors. *Resuscitation*. 48:149–156.
- Pasricha S, Stevenson I (1986) Near-death experiences in India: A preliminary report. *J Nerv Ment Dis*. 7:205–222.
- Retrieved from http://thomsonreuters.com/products_services/science/science_products/a-z/isi_web_of_knowledge/. Accessed March 22, 2013.
- Ring K (1980) *Life at death: A scientific investigation of the near-death experience*. New York: Coward McCann & Groghegan.
- Rommer BR (2000) Near-death experiences and wider acceptance of reincarnation and other religious/spiritual tenets in the new millennium. In Batey B (Ed), *Frontiers of consciousness in the new millennium: Proceedings of the Academy of Religion and Psychical Research 25th annual conference* (pp 64–71). Bloomfield, CT: Academy of Religion & Psychical Research.
- Rommer BR (2001) Entree to cosmic consciousness and enlightenment via the portals of near-death experiences, dreams and other spiritually transforming events. In Batey B (Ed), *Cosmic consciousness, near-death experiences, and the afterlife: Proceedings of the Academy of Religion and Psychical Research 25th annual conference* (pp 38–45). Bloomfield, CT: Academy of Religion and Psychical Research.
- Sabom MB (1982) *Recollections of death: A medical investigation*. New York: Harper & Row.
- Schwaninger J (2002) A prospective analysis of near-death experiences in cardiac arrest patients. *J Near-Death Stud*. 20:215–232.
- Schwartz SA (2012) Nonlocality, near-death experiences, and the challenge of consciousness. *Explore (NY)*. 8:326–330.
- Stannard R (2003) Religion, spirituality and the near-death experience. *Times Literary Suppl*. 5208:33–33.
- Trent-von Haesler NT, Beauregard M (2013) Near-death experiences in cardiac arrest: Implications for the concept of non-local mind. *Rev Psiq Clin*. 40:197–202.
- van Lommel P (2004) About the continuity of our consciousness. *Adv Exp Med Biol*. 550:115–132.
- van Lommel P (2011) Near-death experiences: The experience of the self as real and not as an illusion. *Ann N Y Acad Sci*. 1234:19–28.
- van Lommel P, Van Wees R, Meyers V, Elfferich I (2001) Near-death experience in survivors of cardiac arrest: A prospective study in the Netherlands. *Lancet*. 358:2039–2045.
- van Tellinghen C (2008) Heaven can wait—Or down to earth in real time. *Neth Heart J*. 16:359–362.