

# The After-Effects of Near-Death Experiences and Other Similar States of Consciousness

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## Abstract

When faced with life-threatening situations individuals sometimes experience thanatomimetic phenomena often labelled near-death experiences (NDEs) after which individuals typically report phenomena such as moving through a tunnel, the presence of a bright light, or a feeling of peace. Because of the seemingly paranormal nature of these experiences they were initially dismissed by many, but the scientific study of near-death experiences has since grown into a thriving branch of psychology, attracting neurologists, cognitive psychologists, and many others. However, despite the efforts of many specialists, no theory of near-death experiences has successfully explained both the experience and the relating phenomena.

While it is well known that there are life-long consequences, compared to the contents of near-death experiences little is known about them. The research question posed in this extended essay was "To what extent do near-death experiences and similar states have similar consequences, and to what extent can the similarities in the after-effects be explained by the similarities in the contents of the states?" The states that were deemed similar were states induced by the means of hypnosis and drugs, viz. *N,N*-Dimethyltryptamine (DMT), ayahuasca, and ketamine.

These states, their contents and after-effects, studied by reviewing existing empirical literature about the states and their contents, and about the after-effects of said states.

The conclusion of this extended essay is that positive near-death experiences are, in both the content of the experience and their after-effects, similar to the states induced by hypnosis, DMT, and ayahuasca, and that a relationship exists between the content and the after-effects of near-death experiences and similar phenomena, specifically between the presence of bright light and more positive attitudes. The precise nature of this relationship could not be confirmed, but as certain contents were present in all states with the same consequences, a relationship can be assumed to exist.



Word count: 299

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# 1 Introduction

## 1.1 General introduction and brief summary of near-death experiences

Sometimes when faced with life-threatening situations individuals report to have experienced a near-death experience (NDE) (Blackmore, 1996). Research has shown that around 18% of individuals in a clinical setting experience a NDE after a cardiac arrest (Klemenc-Ketis, 2011; van Lommel, van Wees, Meyers, & Elfferich, 2001), although lower rates of incidence have also been reported (Greyson, 2003; Parnia, Waller, Yeates, & Fenwick, 2001). And in addition, NDEs have been reported in virtually every culture (Kellehear, 2009 as cited in Bell, Holden, & Bedwell, 2010), although the experience seems to be partly dependent on culture (Belanti, Perera, & Jagadheesan, 2008).

The aim of this study is to compare the long-lasting effect that results from a near-death experience to those of other similar states of consciousness, achieved through different means, such as hypnosis or psychoactive substances.

There are many features commonly associated with NDEs, such as feeling of peace or the presence of bright light (Lange, Greyson, & Houran, 2004), the vision of a tunnel” is also frequently reported (Mobbs & Watt, 2011)

Although the phrase near-death experience should be restricted (Greyson, 1999), there are states of consciousness that are in many ways similar to NDEs. The ones selected for this study are: **Hypnotically Facilitated Pseudo Near-death Experiences (HFPNDEs)**, which are NDE-like states produced by means of hypnosis for therapeutic purposes (Schenk, 2008), and various **Drug Induced Experiences**. The chemicals selected were *N,N*-Dimethyltryptamine (DMT), which has been used in a chemical model of NDEs (Strassman, 2001) and ketamine, which has also been used in a chemical model of NDEs (Jansen, 1997 as cited in Jansen, 2000). DMT was addressed by **DMT Induced Experiences (DMTIEs)**, different studies made with pure DMT by Strassman (2001), and **Ayahuasca Induced Experiences (AIEs)**; ayahuasca is a tea of the Pan-Amazonian variety, and it has DMT as an active ingredient (dos Santos et al., 2012), its use has also increased due to its role in the Santo Daime religion (Blainey, 2013). Ketamine is used in a medical setting as an anaesthetic (Wilcock & Twycross, 2011), and as “party-drug” in a non-medical setting (Corazatta & Schifano, 2010; Jansen, 2000), and the studies used reflect its bilateral nature.

## 1.2 A brief history of near-death experiences

The first written accounts of near-death experiences range as far back as 380 B.C.E.: in *The Republic* Plato tells the story of Er, a man who died at war, and who was about to be buried on the twelfth day when he “came back to life, and, come back to life, he told what he saw in the other world” (Plato, c. 380 B.C., p. 297).

The earliest written account in the modern era comes from a Swiss geologist Albert Heim (Liester, 2013). Heim fell while he was climbing a mountain and experienced a near-death experience; he then proceeded to collect accounts from individuals who had experienced close brushes with death. These accounts were published in the *Yearbook of the Swiss Alpine Club* in 1892 (Liester, 2013).

The next major step was in the form of Raymond Moody, where he heard talk given by Dr. George Ritchie at the University of Virginia about his NDE during WW2<sup>1</sup> (Liester, 2013). Years later, after hearing many similar stories from his students<sup>2</sup> and members of the community, Moody began collecting these stories, and in 1972 he was invited to speak about his research into “near-death experiences” (Moody, 2012 as cited by Liester, 2013). And in 1975 he published his book *Life After Life* (Bell et al., 2010).

Since then the field of NDEs has grown and in recent times more research has been put into the phenomena bordering NDEs.

## 1.3 The research question

Since NDEs are quite common, cross-cultural (Belanti et al., 2008) and carry with them lifelong effects and long-lasting memories (Greyson, 2007), their importance cannot be underestimated. There have been numerous explanations about the origins of NDEs and their contents, including cognitive, neurological, and even psycho-analytical (Appleby, 1989), but so far none has successfully explained all of the phenomena (Greyson, 1999). This essay, however, is not interested in the origins of NDEs or their contents, but the effects NDEs have on a individual’s life, and, more specifically, whether similar states of consciousness have the same effects, and to what extent the differences in the after-effects can be said to have resulted from the contents of the experience. Therefore the research question is:

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<sup>1</sup>The NDE was the result of a severe pneumonia, which Ritchie developed during basic training in Texas (Ritchie, 2007 as cited by Liester, 2013)

<sup>2</sup>After graduating from the University of Virginia Moody accepted a teaching position at East Carolina University.

To what extent do near-death experiences and similar states have similar consequences, and to what extent can the similarities in the after-effects be explained by the similarities in the content of the states?

This essay was based on existing literature and as such no empirical data was gathered. There were many interesting and important topics which could not be included – such as near-birth experiences, negative NDEs, or the physiological changes after the experiences – or had to be dealt with superficially, e.g., contents of the different experiences.

## 2 The consequences of near-death experiences and similar states of consciousness

### 2.1 Main similarities between NDEs and NDE-like states

The content of near-death experiences (NDEs) and similar experiences induced by hypnosis, DMT, ayahuasca, and ketamine showed some common themes; of the content typical to NDEs (Greyson, 1999; Lange et al., 2004) the following were present: out-of-body experiences (OBEs), sense of being dead, a feeling of peace, presence of an angel or a guide, presence of bright light, life review, and a reluctance to return to life were present in hypnotically facilitated pseudo near-death experiences (HFPNDEs) (Schenk, 2008). OBEs, sense of being dead, tunnel or void, presence of an angel or a guide, presence of bright light, and a reluctance to return to life were present in DMT induced experiences (DMTIEs) (Strassman, 2001). OBEs, sense of being dead, a feeling of peace, presence of an angel or a guide, presence of bright light, life review, rising rapidly into heavens, and a reluctance to return to life were present in ayahuasca induced experiences (AIEs) (Heuser, 2006; Liester, 2013). OBEs, a feeling of peace, presence of bright light, and tunnel-like experience were found in KIEs (Jansen, 2000; Stirling & McCoy, 2010). Additionally, NDE-like states occasionally occur in KIE (Stirling & McCoy, 2010). Although, outside the focus of this essay, it is also interesting to note that a near-birth or rebirth experiences are sometimes reported by after a KIE (Jansen, 2000).

The OBEs were different depending on the induced state; the individuals do not look down on their bodies in AIEs, whereas in NDEs they typically do (Liester, 2013).

The states had similarities with each other that they did not have with NDEs, e.g.; reports of mythical creatures, such as little green men, gnomes, elves etcetera were reported in few of the states, viz. AIEs (Liester, 2013; Heuser, 2006), DMTIEs (Strassman, 2001); alien phenomena in DMTIEs (Strassman, 2001) and KIEs (Stirling & McCoy, 2010). These, however, are not the focus of this essay, and will not see any further discussion.

### 2.2 The after-effects of different states

#### 2.2.1 Near-death experiences

Despite it being a once-in-a-lifetime experience, NDEs can, and often do, leave long-lasting changes in the individual's life. These changes include physical, such as electro-magnetism (Fracasso, 2012; Nouri, 2008), and cognitive, such as

changes in the individual's attitudes and personality. Of these, this essay is interested in the latter. Moreover, the life-changes do not probably come from the closeness to death alone – research into the changes in those individuals who came close to death, but did not experience a NDE show significantly weaker life-changes than NDErs (Klemenc-Ketis, 2011; van Lommel et al., 2001).

Long-term studies following a NDErs have found that in the years following the NDE individuals become **less afraid of death**, begin to **appreciate nature more**, and are **more positive than they were before the NDE** (Carr, 1996; Flanagan, 2008; Klemenc-Ketis, 2011; van Lommel et al., 2001). NDEs have also been associated with increases in spirituality, although some of the research indicates that pre-existing beliefs of afterlife, atheistic included, are confirmed in a NDE, which in most cases shows as an increase in spirituality (Flanagan, 2008; Greyson, 2006; Waxman, 2012). The none of the changes, are immediate, but instead they become stronger as more time passes (Carr, 1996), the memories of the event, however, do not show any changes even 20 years later (Greyson, 2007).

While there has been plenty of research into the contents of NDEs and some into their after-effects, there has been little research that combines the two. One such study by Flanagan (2008) makes the following connections:

The presence of a bright light was reported by everyone who experienced changes in seeking knowledge, a connection to God-Spirit – the Light, and healing. A sense of separation from the physical body, also known as an out-of-body-experience, was reported by all of the NDErs who reported a sensation of living in two worlds following the near-death experience. Entrance into an unearthly world was experienced by all of the study participants who reported seeking knowledge, living in two worlds, and healing as aftereffects of the NDE. Encountering a mystical being during the near-death experience was reported by all of the interviewees who indicated a change in seeking knowledge, living in two worlds, and empathy following the NDE. (p. 77)

While there have not been as much research into the after-effects as there has been into NDEs themselves, for the purposes of this essay the amount of research was plentiful. Instead the problems arise from how little research has been done that investigates after-effects with the contents as factors, as Flanagan's (2008) study was the only one of its kind. And so, as direct comparison was impossible, what this essay assumes is that the common elements of NDEs lead to common after-effects of NDEs. And while this is not an unreasonable assumption, it prevents any direct conclusions from being drawn.

### 2.2.2 Hypnotically facilitated pseudo near-death experiences

Hypnotically facilitated pseudo near-death experiences (HFPNDEs) are NDEs induced by the means of hypnosis take advantage of the transformative effects of NDEs and use them in a therapeutic setting and they differ from NDEs in a few ways, the most important of which is that the patient experiences not his own death, but the death of a person whose life the patient experiences during hypnosis (Schenk, 2008). The effects of HFPNDEs are also much smaller than those of a NDE, and so they require multiple sessions for them to have a significant effect on the patient's life (Schenk, 2008).

Schenk (2008) presents six ways of using HFPNDEs to help the patient, but since most of them place heavy emphasis on the dialogue between the patient and the "dream-person"<sup>3</sup>, the only directly applicable is the sixth one, wherein the therapist employs the presence of bright light, guides or angels and focuses on the emotional healing that the patient can receive in his "waking dream": in the example Schenk (2008) uses to demonstrate this, the patient<sup>4</sup> experiences unconditional love and support, and provided "a richly emotional experience indicating that exploring the spiritual dimension of life might be worth a second chance" (Schenk, 2008, p. 11). And while he does not explicitly state how common the increased interest in spiritual dimensions is, it would not be unreasonable to assume it to be somewhat frequent.

However, since the experiences are guided by the therapist they are much more focused on the more specific issues of the patient, as a result of which the reported effects focus on how the issue was resolved. While this is advantageous for the therapist and the patient, it makes comparisons between NDEs and HFPNDEs more difficult, and in addition to it, the human presence cannot be ignored. However, DMTIEs always and AIEs often feature a human presence, and it is not rare for KIEs either. The presence of the "dream-person" is also an issue, but as his role is minimal in cases such as case 6, it should not have too strong of an influence on the results. Additionally, as the paper by Schenk (2008) appears to be the only one of its kind, it could not be verified, and so in terms of HFPNDEs this essay is over-reliant on it. Nonetheless, the advantage of using HFPNDEs is that the different chemical substances can be avoided, which is beneficial for both ethical and practical reasons, as it prevents the unwanted side-effects.

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<sup>3</sup>During the "waking dream" the patient experience a life (and, consequently, death) of a person whose experiences will be "useful in helping to resolve [the presenting problem.] [sic]" (Schenk, 2008, p. 2). However, the dream is usually experienced in first person (Schenk, 2008).

<sup>4</sup>The patient was a woman "wrestling with sexual identity issues" (Schenk, 2008, p 10)

## 2.2.3 Drug induced experiences

### 2.2.3.1 DMT induced experiences

*N,N*-Dimethyltryptamine (DMT) is a substance that is present in humans and occurs throughout the plant and animal kingdoms (Strassman, 2001), and has been used in many chemical models of NDEs (Strassman, 2001). In their scale and scope the DMT-studies by Strassman's (2001) are nonpareil: the studies<sup>5</sup> involved numerous participants, methods, and aims, one of which was to show that DMT causes NDE-like states, and that NDEs are caused by DMT. While Strassman feels that the results were not conclusive enough, the DMTIEs bore great resemblance to NDEs in their content, and so, if the after-effects are affected by the content they too should resemble NDEs.

Strassman (2001) sums up his findings as follows: "Volunteers reported a stronger sense of self, less fear of death, and greater appreciation of life. Some found they were better able to relax, and they pushed themselves a little less. Several volunteers drank less alcohol or noted they were more sensitive to psychedelic drugs. Others believed with greater certainty that there are different levels of reality" (p. 274). Moreover, previously held beliefs were confirmed and validated, but while the views and perspectives became broader and deeper, they did not become essentially deeper (Strassman, 2001). Interestingly, no negative long-term effects were found, not even in the participants who had had negative experiences during the DMT sessions (Strassman, 2001).

However, one of the drawbacks of these studies is their small sample size, because whilst the total number participants was large, the number of experiments resulted in a relatively small sample size in each<sup>6</sup>, and the one concerning this essay is the fact that by 2001 he had only gathered long-term data from 11 participants of the 50 he was intending to (Strassman, 2001). That the information was gathered via interviews brings its own limitations, because while the participants seemed to be fine and reported mainly positive changes (Strassman, 2001), psychiatric symptoms were not measured. This, combined with lack of alternative DMT-experiments limited this essay, but in the material reviewed Strassman's experiments were given a lot of significance, and this, combined with the large scale of the experiments, gives the results some credibility.

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<sup>5</sup>Numerous studies, e.g. dose-response studies, tolerance studies, pindolol studies etc., were conducted over the span of five years (Strassman, 2001).

<sup>6</sup>The number of participants ranged from 1 to 13, but generally remained around 8 (Strassman, 2001).

### 2.2.3.2 Ayahuasca induced experiences

Ayahuasca, a combination of plants, including extractions of the bark of a forest liana of the Malpighia Family or Malpighiaceae *Banisteriopsis sp.* and other additive plants, particularly *Psychotria viridis* or *Diplopterys cabrerana* (Winkelman, 2005), is one of the most widely used hallucinogens in the Amazonia (Luna, 1986 as cited in Winkelman 2005). It contains DMT (dos Santos et al., 2012), and is most commonly used in a religious context (Blainey, 2013; Bustos, 2008; Trichter, 2010), which has led to an increase in the amount of research. Ayahuasca has also been shown to alleviate the effects of psychiatric disorders such as depression (Osborn, 2012; Palladino, 2009).

Despite the strong psychedelic effects<sup>7</sup>, the long-term effects are fairly minuscule, but quite consistent with each other: ayahuasca shows no adverse effects regarding neither quality of life (Bustos, 2008; Surprise, 2006) nor minor psychiatric symptoms (Barbosa, Cazorla, Giglio, & Strassman, 2009; de Rios et al., 2005; Da Silveira et al., 2005). Moreover, although many of the individuals who use ayahuasca become more spiritually inclined (Trichter, 2006; Trichter, Klimo, & Krippner, 2009), not all of them join the church even if they used it in a religious context (Barbosa et al., 2009).

Many of the of the studies used were concerned with the use of ayahuasca in a religious context, which could affect the results, as the guiding human presence and the motivation of the user could have considerable effects on the results.

### 2.2.3.3 Ketamine induced experiences

Ketamine has been linked with mental health problems including anxiety, panic attacks, flashbacks, PTSD, persistent perceptual changes, mania, depression, suicide, insomnia, nightmares, night terrors, an unpleasant feeling of being unreal or feeling that the world is unreal, paranoid delusions, automatic behaviour, fragmentation of the personality and aggression (Jansen, 2001 as cited in Jansen, 2000), although due to the correlational nature of these reports a cause-effect relationship has not been fully established (Jansen, 2000). Moreover, ketamine has been linked via experimental studies to source memory impairment (Morgan, Riccelli, Maitland, & Curran, 2004), neurodegeneration (Zou et al., 2009), cognitive deficits (Paule et al., 2011), and a decrease in resting state functional network connectivity (Scheidegger et al., 2012). Ketamine overdoses, however, are exceptionally rare, with only two recorded deaths when no alcohol was involved (Jansen, 2000).

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<sup>7</sup>Ayahuasca can produce states similar to NDEs, wherein OBEs, presence of bright light etcetera are experienced (Burton, 2009).

Although ketamine does not produce physical withdrawal effects, users can still develop a strong dependence (Copeland & Dillon, 2005; Jansen, 2000). No beneficial long-term effects were found to have resulted from KIEs, however, it is possible that the effects of a positive ketamine “trip” might be overshadowed by the multiple harmful consequences that habitual use of ketamine brings. It should be remembered, however, that ketamine is a widely used in medical settings as an anaesthetic (Copeland & Dillon, 2005; Jansen, 2000; Wilcock & Twycross, 2011), wherein it can be held partly responsible for many of the phenomena linked to NDEs, such as ‘hovering above the scene’ (Jansen, 2000).

The occurrence of the content similar to positive NDEs is quite small in KIEs (Stirling & McCoy, 2010), and the long-term after-effects are very dissimilar. However, it is possible that more similarities could be found with between negative NDEs and trips down “the K-hole” – i.e. negative KIEs – and their after-effects. The after-effects of near-birth experiences were similarly dismissed. As most studies on the use of ketamine have focused on its negative effects on health – presumably due to its medical use – the number of directly applicable studies is quite small.

### **2.3 Summing up and contrasting the different after-effects**

The after-effects of all of these, besides KIEs and HFPNDEs, were rather small, and concerned mainly the quality of life or small changes in attitudes. This was to be expected for NDEs based on pre-reviewed material, although the rarity of severe after-effects or psychiatric symptoms for AIEs and DMTIEs was somewhat surprising. Nonetheless this shows the great deal of similarity these three have with each other and NDEs, which implies that the use of Ayahuasca and DMT for NDE-simulations has at least some validity.

Some of the typical after-effects of NDEs, such as increased appreciation of nature, were not seen after any other experience.

No literature suggesting positive life changes after ketamine use was found, which might result from the lack either research or positive life changes. However, many negative side- and after-effects have been identified, such as psychic disturbances after ketamine anaesthesia in about 15-40% of adult cases (Copeland & Dillon, 2005), dependence (Copeland & Dillon, 2005; Jansen & Darracot-Cankovic, 2001; Jansen, 2000), and several physical effects (Copeland & Dillon, 2005; Jansen, 2000). It is therefore not unreasonable to assume that the small positive changes in quality of life that might occur after a ketamine experience would be overshadowed by the more serious after-effects of ketamine use. The same might apply to personality changes, because the personality changes reported after NDEs, AIEs, DMTIEs were all quite small, and if similar changes occur after KIEs they might be obscured by the other after-effects of

ketamine use.

There were some methodological issues with many of the studies, in the sense that the way in which they were induced different from genuine NDEs, most notable of which was the presence of another human, who guided the experience and aided the experiencer. Such presence was noted in HFPNDEs in the form of the therapist; in DMTIEs Strassman, as well as the research nurse Laura were guiding the participant; and as many of the AIE-studies were concerned with its use in a religious context, the presence of the priest cannot be ignored.

### 3 Conclusion

There were multiple similarities between the different states; NDEs, AIEs, DMTIEs and HFPNDEs all included a **sense of being dead, presence of an angel or a guide, presence of bright light, a reluctance to return to life, and out-of-body experiences (OBEs)**. Moreover, all of them were associated with positive life-changes and increased interest in the spiritual. The results were at least partly consistent with Flanagan's (2008) results – emotional healing or a more positive outlook seems to have correlated with the presence of bright light. However, none of the states perfectly matched NDEs in either the content of the experience or its the after-effects.

What was surprising was how different from the other experiences KIEs were, but as quite little material dealing with the ketamine model of NDEs was available<sup>8</sup>, whether or not KIEs bear similarity to NDEs cannot be fully addressed. Nonetheless, in terms of after-effects, KIEs bore little resemblance to NDEs, and although some of the content matched NDEs, viz. OBEs, feeling of peace, the presence of bright light and a tunnel-like experience, the occurrence this content – except for OBEs, which were somewhat common – was rare (Stirling & McCoy, 2010), so rare in fact, that it was not included in many of the studies concerned with ketamine usage.

There were a few cognitive changes that commonly occur in NDEs, e.g., increased appreciation of nature (Carr, 1996; Flanagan, 2008; Klemenc-Ketis, 2011; van Lommel et al., 2001), but were not reported in any of the differently induced states. This might be the result of either content that was missing in all other states besides NDEs, like encounters with deceased loved ones, or some other reason – such as any physiological reason – that was not addressed in this essay. Plenty of content exclusive to states other than NDEs was found, e.g., visions of geometric patterns in AIEs (Heuser, 2006). But surprisingly, the after-effects of AIEs, DMTIEs and HFPNDEs were quite uniform, and so the effects of the exclusive content must be minimal. Alternatively, it could mean that since the variations in the content have any considerable after-effects, the content of the experience in general has little effect. This, however, can be partly ruled out because of the relationship NDE-like states lack some of the content and the after-effects specific to NDEs. It is still quite possible that the content of the NDE is not the cause of the after-effects, but a relationship of some kind seems to exist.

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<sup>8</sup>Most importantly Jansen's (1997) article *The Ketamine model of near-death experiences* could not be used.

None of the studies used found gender to have a significant effect – neither the content of the experience nor the after-effects showed no dependence on gender. But the fact that the studies concerning the after-effects tended to focus on only one culture is a disadvantage, but while no cross-cultural studies were used, this essay is cross-cultural to an extent – populations used came from Europe (NDEs, AIEs, KIEs), North America (NDEs, DMTIEs, HFPNDEs, KIEs), and South America (AIEs). Asian populations, however, were not used, and if the differences from American NDEs (Belanti et al., 2008), are significant, whether or not they have different after-effects could help to illustrate to what extent the after-effects result from physiological reactions.

The lack of more diverse studies limited the essay, specifically in the case of HFPNDEs and DMTIEs, for neither of which more than one study was used, and while the lack of studies was not an issue with the other experiences, the fact that most of the studies used did not seek, or even note, any links between the content and the after-effects, forced this study to rely on generalised data:  $x$  was a common element in  $\alpha$ , and  $a$  was a common after-effect of  $\alpha$ , therefore  $x$  might partly cause, or at least have an effect on  $a$ . The results are not necessarily false – the correlation existed in all states studied, which gives it more validity. However, since there were multiple common elements and after-effects, the results cannot be narrowed down to show a correlation. Moreover, although the experience precedes the after-effects, it cannot be claimed that the contents of it lead to some after-effect, as the both the after-effect and the specific content can be both caused by a specific physiological change.

Ethical issues in the studies used in this essay were diverse, the most common of which was that the individuals were asked to remember and describe a possibly traumatic experience, although positive experiences were the majority, and indeed, the only ones used in this essay. And even though the changes were mostly minor and overwhelmingly positive, the life-changing nature of these studies should not be neglected. The issue with HFPNDEs was that the examples given, although anonymised, were of private people and their therapy sessions. And the issue with the various drug induced experiment were the possible harmful effects, although in most studies regarding AIEs and KIEs the individuals were already using or going to use the drug, but the question of whether the researchers should have intervened remains. As no study attempted to induce NDEs, the studies with the largest ethical issues were the experimental ones – wherein some of the participants had no previous experience with drugs, and some were habitual users – and the animal studies, which often lead to negative consequences for the animal.

As a conclusion, the different states – with the exception of KIEs – were found to have many similarities to NDEs in both the content and the effects, which implies that there is at least some relationship between the two, specifically between the presence of bright light and the increased positivity in attitudes, but more in-depth studies are required to specify that relationship. Additionally, the use of hypnosis and drugs to simulate NDEs does seem to have beneficial effects, and after further evaluation could be adapted by more therapists.

The information was not enough to produce conclusive results, and for that reason alone more research would be required. Moreover, the effects of culture, the negative experiences with near-death, and “bad trips” were almost completely ignored despite their significance, as were the physiological changes after and during NDEs. It would be fruitful to know whether the after-effects of “bad trips” are similar to those of negative NDEs, but because of the large scale and broad focus, an approach different from the one used in this essay would be appropriate.

There were also a few fascinating topics, such as electromagnetic after-effects, that were merely touched on, and deserve further evaluation. Nonetheless, near-death experiences continue to be an interesting phenomenon, and there is a lot about them that is not yet fully understood.

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