

# The Spontaneous Transcendental Out-of-Body Experience: A Beneficial Absorption Response to Threat

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The perceived out-of-body experience (OBE) is a state of altered consciousness in which one has the impression of being consciously separated from the physical body. The location of this presumed disembodiment can be perceived as being either somewhere on Earth (often, but not always, in the vicinity of the physical body) or in some otherworldly place (such as having ventured into a paradisiacal or hellish environment). The latter can be referred to as a *transcendental* perceived OBE, which might also be qualified as a near-death experience (NDE) when it occurs during presumed life-threatening or near-death situations, and is the focus of this theoretical discussion. This paper postulates that such an experience, when spontaneous, is frequently initiated as an adaptive absorption response to brain-interpreted danger or threat and is meant to increase the probability for physical survival and wellbeing. The paper further suggests that the phenomenon accomplishes this by boosting the will to live and survive as a brain-induced simulated scenario with purposeful and beneficial psychological and physiological effects.

Keywords: out-of-body experience, near-death experience, absorption

During a spontaneous perceived out-of-body experience (OBE) an individual has the impression of being separated from the physical body, which can consist of a presumed disembodiment somewhere on Earth — often in the proximity of the physical body — or as having ventured to some otherworldly transcendental environment. The word “spontaneous” in the context of this paper for a perceived OBE means that the phenomenon occurs unexpectedly in contrast to being self-induced by the experient, whereas “transcendental” should be understood as an otherworldly environment that can be presumed by the experient to be away from Earth (King, 2021a, 2023a; Sabom, 1982). During such spontaneous transcendental perceived OBEs, the experients often find themselves in presumed

otherworldly locales consisting of variations of darkness and light and/or paradisiacal or hellish features. It is the spontaneous transcendental perceived OBE that is the subject of this theoretical discussion.

Although a spontaneous transcendental perceived OBE usually occurs during a life-threatening incident or a near-death condition, it can also on occasion take place when there is not a conscious awareness of threat or danger (Blackmore, 2017, pp. 235–254; Charland–Verville et al., 2014; Gabbard and Twemlow, 1991; Owens et al., 1990; Stevenson et al., 1990). However, it is still possible in such cases that the brain may have interpreted internal or external stimuli as a threat because research has shown that threats can bypass conscious awareness with a resultant activation of the threat response system (Bayle et al., 2009; Bertini and Lådavas, 2021; LeDoux, 2008; Lojowska et al., 2019; Öhman et al., 2007; Wisman and Shrira, 2015). In a study on NDEs by Greyson (1985), it was found that these types of transcendental experiences as he defined them were more likely to occur when death was “probably anticipated” (25 out of 51) than if the near-death event was “unequivocally sudden and unanticipated” (9 out of 30), but based on the Fisher’s exact test I conducted, those findings in regards to those transcendental NDEs were not statistically significant ( $p = 0.388$ ).

This paper will postulate that the spontaneous transcendental perceived OBE is frequently initiated as an adaptive absorption response to brain-interpreted danger — particularly during states of low arousal such as while undergoing somatic unconsciousness — and is meant to increase the probability for physical survival and wellbeing. The word “absorption” as used in this article should be understood as a non-pathological dissociation in which the ego (the “I” of one’s consciousness that thinks and distinguishes itself from other people or things) is experiencing an alternate state of consciousness with the loss of the normal somatic environment and the focus of attention instead fixated upon a different presumed locale (see Butler, 2006). The paper will further suggest that the spontaneous transcendental perceived OBE accomplishes this adaptive function by boosting the will to live and survive by means of a brain-induced simulated scenario with purposeful and beneficial physiological and psychological effects.

### **The Transcendental Perceived OBE as an Absorption Response**

During conditions of threat, an experient might find themselves in a transcendental environment at some point in which there is a belief by the experient that they are in danger of dying or in the process of dying, often coupled with analgesia and heightened feelings of empathy, love, warmth, and peace. In fact, a report of peace is one of the most common features of such experiences (Fenwick and Fenwick, 1995, pp. 69–74; Martial et al., 2017; Ring, 1980, pp. 39–45; Royse and Badger, 2020; Sabom, 1982, p. 206, see also p. 18). The ego’s awareness of closeness to death and these positive sensations are primary components of this

absorption state in the characteristic transcendental perceived OBE. How such positive sensations are associated with closeness to death will be discussed below. Although this peace and the other sensations mentioned are typical, there are rare exceptions to this in which there is instead fear or terror in a distressing or hellish experience (Atwater, 1994, pp. 27–45; Bush and Greyson, 2014; Cassol et al., 2019; Fenwick and Fenwick, 1995, pp. 187–196; Ghasemiannejad Jahromi and Imaninasab, 2018; Greyson and Bush, 1992; Sabom, 1998, pp. 169–173).

The experient may encounter one or more presumed spiritual personages (Greyson, 1990; Kelly, 2001; Lai et al., 2007; Long and Perry, 2010, pp. 121–133; Moody, 1976, pp. 55–64; Ring, 1980, pp. 67–81; Royse and Badger, 2020; Sabom, 1982, pp. 46–50; van Lommel et al., 2001), and when this occurs, the experient is usually told they need to return to life on Earth or are given a choice whether or not to do so, with those personages sometimes indicating or inferring that they still have a purpose in living and so are needed (Fenwick and Fenwick, 1995, pp. 97–112; King, 2022; Ring, 1980, pp. 67–81). Generally the experient who is given a choice agrees to return to Earth — although this is not always the case — sometimes after various persuasion efforts. However, they may at times already want to return so no discussion and/or persuasion is necessary to convince them. Nevertheless, afterwards, somatic consciousness returns and the absorption event ceases.

Although the absorption elements of the spontaneous transcendental perceived OBE are apparent in the above description, there are still a number of questions. For example, why do such absorption events occur? Is this absorption purposeful or circumstantial? In order to answer these questions, we first need to explore the psychological components of the absorption event.

### **Psychological Components of the Transcendental Perceived OBE**

There are at least two salient psychological components of the absorption response with beneficial effects that need to be pointed out. First and foremost is the death motif, a feature that has recently been discussed elsewhere (King, 2023b). The purpose of the death motif is to accentuate to the experient that they may be in danger of dying.

The death motif can be made apparent by means of the presumed afterlife environment and/or the types of personages encountered, which can include deceased relatives, or presumed spiritual beings and deities generally associated with the experient's own exposure to culture and/or religion (*Arvind B NDE*, 2022; Bailey, 2001; Benedict, 1996, p. 42; Ghasemiannejad Jahromi and Long, 2020; Lai et al., 2007; McClenon, 1991; Murphy, 2001; Pasricha, 2008; Pasricha and Stevenson, 1986; Purkayastha and Mukherjee, 2012; Sabom, 1998, p. 213; Shushan, 2018; 2022, pp. 7–92). However, besides the normal unconscious expectations of an afterlife such as seeing deceased loved ones and/or different types

of spiritual beings, there have also been a number of reports of seeing coffins, tombstones, graveyards, the Grim Reaper, and even one's own imaginary funeral (King, 2023b).

There are a couple of psychological theories that are relevant here. The first is Maslow's hierarchy of needs theory of human motivation, which stresses the initial importance on physical needs such as food and water, insinuating that the desire to survive is a primary drive of the human organism (Maslow, 1943, 1954). In other words, survival is an innate desire of the human psyche that generally takes first priority over other types of motivations related to living. The other relevant psychological theory is *edge theory* of death anxiety (Kastenbaum, 2000), which refers to death anxiety with an increased focus and alertness to danger in response to external or internal cues indicating that one's continued existence might be threatened (pp. 152–155). By accentuating to the experient that they are in danger and close to death, the death motif facilitates or increases death anxiety with a desire in the moment to survive.

The second salient psychological component of the spontaneous transcendental perceived OBE takes place when the importance of returning to life on Earth is stressed by the encountered personages or determined by the experient on their own (Fenwick and Fenwick, 1995, pp. 97–112; King, 2022; Ring, 1980, pp. 67–81). This stress on returning to Earth to continue living can also occur in different ways depending on whether or not the experience is the more common pleasant type or if it is instead a rare distressful one. After having become aware and/or focused on the seriousness of a threat to life, the experient is then generally compelled toward survival or encouraged to survive.

During a pleasant transcendental perceived OBE that includes an encounter with a perceived personage, that personage often either mandates that the experient needs to return to life or instead offers them a supposed choice to stay in the presumed afterlife (Fenwick and Fenwick, 1995, pp. 97–112; King, 2022; Ring, 1980, pp. 67–81). There are frequently further efforts of persuasion whether a choice is given or not, sometimes in a subtle manner when it is associated with a supposed choice. These further persuasion efforts might come in the form of spontaneous thoughts, personage discourse, visual portrayals of living loved ones, imagery of past events, and/or conceivable future scenes related to whether the experient lives or dies. The primary stress on returning is framed with the notion that they are needed in the physical world by loved ones, to serve God in some way, or for some other — often unspecified — reason. Although this notion of being needed is usually vague as far as relevance to time and exact specifics, it accentuates to the experient that their life has meaning, purpose, and significance. This can have a powerful effect on the desire to live.

If an experient instead enters into a hellish or distressing situation, desire and desperation for escape ensues because they usually believe in that moment that the ego or self does not die. This, too, can be a potent stimulus in striving to

survive and return to life in the physical world. For example, the English monk and scholar Bede (731 C.E./2008) from the middle ages provides a report of an ancient case in which the experient who supposedly died from an illness found himself in a hellish locale. That experient later declared, “I cast my eyes in every direction to see if there was any help or way of escape” (p. 255). In a more modern example, an experient who had the impression of being in hell after a suicide attempt later stated, “I remember begging. I threw myself to my knees and prayed, ‘Forgive me. I want to live. God, please help me’” (Sabom, 1998, p. 170).

Fischer and Mitchell–Yellin (2016) have suggested that some elements, such as presumed encounters with the deceased, might possibly be explained by terror management theory, which suggests that some of these brain-constructed images provide comfort in the face of death by reassuring the experient that they will be welcomed into the next phase of existence (pp. 68–73). However, based on the two primary psychological components of the spontaneous transcendental perceived OBE as described above, the dissociation from the physical body by means of this absorption event seems more likely focused on accentuating the danger of death and facilitating the need for the experient to desire and fight for survival rather than comforting them in preparation for death (King, 2023b). However, there does seem to be a comforting element to some encounters with those personages that seems to support the concept of relatedness associated with self-determination theory in encouraging the experient to return to life (King, 2022).

So far, the spontaneous transcendental perceived OBE has been postulated as an absorption event with very specific psychological components that accentuate danger and boost the desire to live and survive, but what practical effect does this actually have in a life-threatening incident or a near-death condition? How does it facilitate survival as an adaptive function of the human organism when such an event usually occurs during an unconscious state? Although the transcendental perceived OBE can result in swift action to survive upon return to somatic awareness, is it also associated with any beneficial physiological effects while still unconscious?

### **Beneficial Effects of the Transcendental Perceived OBE**

When the symbolism of the death motif accentuates closeness to death, this focuses the experient’s attention on the danger and heightens death anxiety, which can increase a desire to live and survive. However, it is important to point out that this death anxiety of the ego is occurring during peritraumatic dissociation (dissociation that occurs in association with traumatic events) from bodily processes, suggesting the likelihood of diminishing any negative effects on the physical body. This is because dissociation can separate the ego from the pain and anxiety of the physical body in order to calm the self. The common inclusion of peace would also help in this matter by minimizing any possible negative effects. This

dissociation when coupled with peaceful sensations and analgesia results in an overall more relaxing physiological state unaffected by the mental burdens of pain or excess stress that might normally have a negative impact on the physical body, and instead may help to better facilitate a somatic homeostasis that is beneficial in increasing the odds for physical survival. As NDE researcher and cardiologist Michael Sabom (1998) aptly stated, “The serenity of the near-death experience may ‘tranquilize’ the heart, normalize the heart rhythm, and facilitate successful resuscitation” (p. 62; see also p. 77).

However, because of this wonderful state of analgesia and peace coupled with other heightened emotional feelings, the efforts of the perceived OBE personages to boost the will of an experient to return to physical life is in some cases not potent enough to sway their decision, although this is only sometimes the case (Fenwick and Fenwick, 1995, pp. 97–112; King, 2022; Ring, 1980, pp. 67–81). The experient in such cases can develop a strong desire to continue on in the afterlife that cannot be overcome by persuasion or encouragement. It might even seem that these two features of the NDE — such a wonderful state of being and a persuasion to return to physical life — are in some ways countering one another. This may very well be the case due to the complexity of various physiological and psychological mechanisms all coming into play at the same time. For example, the desire to stay in the afterlife in some cases might occur as a circumstantial effect of the peace and analgesia that is needed to calm the physical body and increase the odds for survival.

Before prematurely jumping to the assumption that the common sensations of peace and euphoria are in some cases reducing the will to live, this requires a closer examination in regards to what might really be occurring at an unconscious level. Particularly, the peace and euphoria do not minimize the desire to continue to exist, and seem in some cases to heighten such a longing even if it is in the presumed afterlife. In fact, despite a conscious struggle between two choices that sometimes may ensue, they both are really different aspects of continued existence, and so might indicate to the unconscious a desire to physically live as a necessary attribute of continuing to exist. This is inferred by edge theory of death anxiety, which postulates the pre-existing presence of uncertainties during threat of physical death in which the experient is faced with the possible termination of individual existence (Kastenbaum, 2000, pp. 152–155). A new perspective in the moment such as interpreting the environment as a desired afterlife would not necessarily override this, especially if this absorption event is a simulation unconsciously created by the brain and so known as such to the unconscious.

The exact interaction between human consciousness and unconsciousness in regards to thoughts, decisions, and other behavior are still being explored and debated. However, it is now considered quite plausible that an interaction between conscious and unconscious processing affects almost every human behavior, and such a conscious thought of anticipating a desired continual future existence

would as an input to the mind be mediated by unconscious processes (see Baumeister and Bargh, 2014; Baumeister et al., 2011; Masicampo and Baumeister, 2013). It is therefore feasible that this conscious desire for perpetual existence might have an indirect internal effect on psychological outcomes regarding the will to live as interpreted by the unconscious.

Overall, regardless of whether the spontaneous transcendental perceived OBE is pleasant or distressing, whether the experient wants to continue to exist in the physical world or the presumed afterlife, these enhancements of desire for continuation of the conscious self to obtain a preferred certain state are all related to a longing for continual existence. However, it has been pointed out elsewhere that there may be an additional long-term psychological benefit if the experient autonomously agrees to return to physical life and so this might nevertheless be the preferred outcome (King, 2022). Nevertheless, when there is a specific decision or will to physically live as is the final outcome of most NDEs — or if a persisting desire for continual existence in the presumed afterlife during some NDEs is interpreted by the unconscious as a will to live — this would be positively associated with individual resilience (Bornet et al., 2021; De Santis et al., 2013; Emler et al., 2010; Kim, 2017), which might be instrumental to the body's struggle to survive as well as healing or recovery associated with a threat to life.

Unfortunately, there is an absence of actual research on how the “will to live” might affect survival under these exact conditions. Nevertheless, Tataryn and Chochinov (2002) found that hospitalized patients in advanced stages of terminal cancer with a sustained low will to live had the shortest survival duration after admission. In addition, one longitudinal study discovered that the will to live among home-dwelling older people with a confirmed cardiovascular disease was a strong predictor for longer survival over time (Karppinen et al., 2012). There is also an earlier longitudinal study which found that the will to live predicts long-term survival among elderly women in the general population (Carmel et al., 2007).

Furthermore, Levy (2003) insisted that the will to live partially mediates “the relationship between self-perceptions of aging and survival” based on longitudinal research of older individuals conducted with some of her colleagues (see Levy et al., 2002). We also should consider the controversial research postulations that the will to live might enable some people to prolong death for short periods of time in order to participate in personally meaningful events (Harrison and Kroll, 1986; Kelly and Kelleher, 2018; Kunz and Summers, 1980; Labovitz, 1974; Phillips and King, 1988; Shimizu and Pelham, 2008).

Overall, the spontaneous transcendental perceived OBE can be understood as an absorption event resulting in a conflux of benefits all focused on the survival and wellbeing of the physical organism during conditions of threat or danger. With this in mind, it is now time to consider the nature of the spontaneous transcendental perceived OBE in more depth.



### **The Nature of the Spontaneous Transcendental Perceived OBE**

There is still an ongoing debate as to whether or not the spontaneous transcendental perceived OBE is a real excursion into the spiritual world, with proponents who believe that this is the case (Long, 2014; Long and Perry, 2010; Morse and Perry, 1990; van Lommel, 2010, 2013) and opponents who argue otherwise (Blackmore, 2017; Fischer and Mitchell–Yellin, 2016; Marsh, 2010; Mobbs and Watt, 2011; Woerlee, 2005). There is also the insistent belief by a huge majority of experiencers that they were in fact in a genuine transcendental environment (Long, 2014). Nevertheless, there is a growing amount of evidence that the spontaneous transcendental perceived OBE is more likely a purposeful simulated environment formulated by the brain as a form of absorption to facilitate survival in which the ego has the vivid impression of being self-aware in a different locale.

Recent research indicates that such experiences may be possible even when the experiencer may be presumed dead because there is sometimes an end-of-life electrical surge in the brain after the complete loss of any measurable blood pressure (Auyong et al., 2010; Chawla et al., 2009, 2017; Norton et al., 2016; Vicente et al., 2022; Xu et al., 2023). Furthermore, Sabom (1998) argued even prior to this supporting research that some people who are pronounced as clinically dead may not necessarily really be dead in an absolute sense (pp. 49–51). It is also important to understand that such experiences might only last seconds or less despite having appeared to the experiencer to have gone on for hours or days, thus allowing a sufficient amount of real time for all the supposed lengthy events reported to have occurred even during the limited brain activity before and after cardiac arrest (King, 2021b). In other words, any arguments for an interpretation of a real excursion into the afterlife based on temporal factors when comparing that transcendental perceived OBE to real time are unconvincing.

The experience of analgesia and peace that is common during spontaneous transcendental perceived OBEs can possibly be explained as the result of neurocognitive processes and/or the endogenous opioid system, as has already been postulated by many NDE researchers (Blackmore, 1993, pp. 94–112; 2017, pp. 246–251; Guevara and Sotelo, 1997; Nelson, 2011, p. 120; 2015; Nelson et al., 2006). In fact, both analgesia and euphoria have been linked to the endogenous opioid system (Henry, 1982; Shenoy and Lui, 2022; Veening and Barendregt, 2015). This might also be associated with the feelings of empathy, love, and warmth that are frequently reported.

However, there are a number of different factors that may be pertinent to the formulation and features of each individual simulated environment. These factors first and foremost would include the psyche of the experiencer along with their background, knowledge, beliefs, and thoughts coupled with the variation of their own life experiences and (conscious or unconscious) memories. For example, as already pointed out above, such experiences are sensitive to the religion and



culture of the experient, and the spirits and personages seen will usually match those associations. If this is a brain-induced simulated environment, this would be expected and so provides further support for this position.

The simulated environment hypothesis for the transcendental perceived OBE would also resolve a number of oddities that have been reported, but are not generally discussed in the literature. For example, sometimes the extrapersonal self feels that it is moving forward through a tunnel or some other area while still in a supine position that correlates with the position of the actual physical body at the time, and occasionally unable to move independently from that position in the transcendental environment. There is also a problem in which experients sometimes report that they cannot turn their head or turn around, which might suggest residual effect from a continual connection with the physical body in such cases. Furthermore, there are at other times incidents in which supposed perceived OBE personages transform into the medical staff or other people in the real earthly environment as the experient regains somatic consciousness, suggesting at least in those occasional cases that the perceived OBE personages were not in fact objectively what they seemed to be. Below is such an example:

Afterwards, I fuzzily saw several beings in white robes with blurred halos surrounding me. I had died and gone to heaven. "Are you angels?" I asked. Soft giggles. The blurring cleared and I saw smiling, relieved human faces. One of the docs says, "You gave us quite a scare. We almost lost you." (*JB NDE*, 2007; see also Gibson, 1994, pp. 145–146, 148–149; *Mitzi M NDE*, 2009)

In addition to this, although the experient has the impression of having ventured into some otherworldly places, they almost always return to the actual location of the physical body even if that body is miles away from where they first lost somatic consciousness — on many of those occasions even instantaneously without any sense of return travel (King, 2023a, p. 58). This suggests the possibility that the experient may have very well been in their physical body the whole time.

Such an explanation suggesting a simulated environment would resolve other problems as well. For example, this might explain some of the incidents in which experients see living people during transcendental perceived OBEs as if those people are in fact part of that experience as spatially present in the same way that presumed deceased relatives and the other types of entities usually are (Fenwick and Fenwick, 1995, pp. 182, 184; Greyson and Stevenson, 1980; Kelly, 2001; Morse, 1994). Carl Jung (1965) reports just such an encounter when he found himself supposedly in outer space after a heart attack.

From below, from the direction of Europe, an image floated up. It was my doctor, Dr. H. — or rather his likeness — framed by a golden chain or a golden laurel wreath. I knew at once: "Aha, this is my doctor, of course, the one who has been

treating me. But now he is coming in his primal form, as a *basileus* of Kos. In life he was an avatar of this *basileus*, the temporal embodiment of the primal form, which has existed from the beginning. Now he is appearing in that primal form.” Presumably I too was in my primal form, though this was something I did not observe but simply took for granted. As he stood before me, a mute exchange of thought took place between us. Dr. H. had been delegated by the earth to deliver a message to me, to tell me that there was a protest against going away. I had no right to leave the earth and must return. The moment I heard that, the vision ceased. (p. 292)

A simulated environment would also account for the occasional encounter with aliens (*Chris D NDE*, 2003; *Jacqui C NDE*, 2009; *Stephen T NDE*, 2007) or mythological and fictitious creatures, such as unicorns (*Diane C NDE*, 2007; *Sara V NDE*, 2023) and cherubs (*Donna G NDE*, 2012; *Joann P NDE*, 2010), and why some drowning survivors have reported growing gills and/or transforming into mermaids (*Bobbie K NDE*, 2016; *JM NDE*, 2002). It also provides a possible explanation as to why many such experiences include the impression of personages with missing, hidden, or obscured facial features, which is quite a common occurrence (Fenwick and Fenwick, 1995, pp. 203–204; King, 2023a, pp. 33–37, 66–67), possibly indicating a reliance upon the brain for the perception of such imagery. For face perception is a highly developed visual perception skill in the human organism, relying upon complex neural mechanisms and circuitry (Behrmann et al., 2016), so disruptions in brain function, even if only temporary, can result in impairments to cognitive processing of facial features.

The simulated environment theory would also explain why the discourse coming from the encountered personages is sometimes contrary to what is in fact the case. For example, whereas experiencers are at times supposedly given a choice whether to return to life or not, some of those who decide they want to remain in the presumed afterlife still return to somatic consciousness against their wishes (*Allen O NDE*, 2023; *Debra C NDE*, 2008; *Kelly S possible NDE*, 2011; *Steven R probable NDE*, 2008; Wiltse, 1889). Furthermore, sometimes those who are told they need to return because they have a purpose in living might still die a short time later. In one such apparent incident there was a patient who supposedly went to heaven and saw God, but was told he had to return because he had not finished living his life, only to then die two minutes later (Osis and Haraldsson, 1997, p. 156; for another example, see also Fenwick and Fenwick, 1995, pp. 72–73, 107–108).

There is also the problem with a number of different messages about religion and the afterlife coming from such perceived OBE personages that are inconsistent with one another. There are dissimilar explanations regarding preexistence, reincarnation, hell, and many other matters that are presented as supposedly coming directly from those presumed personages rather than just presented as subjective interpretations. Despite a form of groupthink that has emerged in some areas

of the NDE movement, there is strong evidence in many self-reports that these stark differences do in fact exist. These perceived OBE personages also sometimes provide unsubstantial, vague, and/or inaccurate predictions and prophecies about the experient's personal life and/or world events.

It should also be pointed out that many people have no memory of a spontaneous transcendental perceived OBE or other altered states of consciousness occurring at all during somatic unconsciousness associated with life-threatening incidents or near-death conditions even when there has been no usage of memory inhibiting drugs nor any evidence of brain hypoxia that could account for a possible loss of memory. So regardless of whether one wishes to believe that a spontaneous transcendental perceived OBE is a real excursion into the spiritual world or not, this dilemma of only some people having such an experience under such conditions remains.

It has been suggested that perhaps people forget about their experience, for there are some indications that this may occur on rare occasions (King, 2021a, p. 5; 2023a, p. 6). However, due to the common vividness with ego awareness while the transcendental perceived OBE is occurring, it does not seem likely that most people would forget about their OBE when it is not associated with circumstances of possible brain hypoxia and/or memory inhibiting drugs. In fact, unlike dreams, such experiences have been found to be just as memorable and potent as those of other important events in a person's life (Cassol et al., 2020; Thonnard et al., 2013). In those rare cases of only remembering such an experience at some much later point in life, this may in some instances be associated with amnesia or other factors that sometimes occur around trauma or serious injury, but this cannot offer an adequate explanation as to why the majority of people in near-death situations would not ever remember having had one if they indeed did.

In one study there were no reported perceived OBEs associated with the induced cardiac arrest of 52 patients during the surgical implantation of automatic implantable cardioverters/defibrillators, which according to the researchers may have been because those patients were first assured they would not be in any danger of dying (Greyson et al., 2006). Although it can certainly be argued that recall of such experiences should not be expected because of possible brain hypoxia and memory inhibiting drugs, spontaneous perceived OBEs are still sometimes reported under those types of conditions. In fact, a number of patients can also later recall memories of intraoperative dreaming during general anesthesia with reports ranging from 3.3% to 20.9% (Samuelsson et al., 2008; Sebel et al., 2004; Singla and Mangla, 2017). Parnia et al. (2001) found that only 11.1% of 63 survivors of cardiac arrest, which can be associated with brain hypoxia, reported memories — with most of those memories consisting of a transcendental experience (see also Sabom, 1982). In other words, for all 52 patients to have not reported any perceived OBEs indicates the possibility that perhaps the researchers may be correct in their suggestion.

Nevertheless, based on the above discussion and the research cited, although some people certainly may not remember such an experience — especially under certain conditions such as those associated with possible brain hypoxia, brain injury, and/or memory inhibiting drugs — it is unlikely that everybody experiences a spontaneous transcendental perceived OBE during life-threatening incidents or near-death circumstances. The theory that such a phenomenon is a selective brain-induced absorption event associated with threat or danger that only occurs based on individual physiological and/or psychological factors coupled with the unique circumstances in each case seems to offer a more conceivable solution to this dilemma.

### Final Thoughts

This paper has postulated that the spontaneous transcendental perceived OBE may be a purposeful absorption event in reaction to a conscious or unconscious interpretation of a presumed threat or danger to the survival and overall wellbeing of the physical organism. There are some specific benefits of that absorption response, including focusing attention on the danger of a threat to life, calming the physical heart in many cases to facilitate survival, and boosting the desire to live and exist, although these can play out in a variety of ways depending on the individual experient's psyche, physiological circumstances, threat conditions, and existing circumstances in the moment. These may also vary according to how the experient responds to each of the different aspects of this absorption event.

By theorizing that the transcendental perceived OBE is an absorption event that is beneficial for the survival and/or overall wellbeing of humans during times of threat or danger, this paper has offered a reasonable hypothesis for the transcendental OBE's occurrence. Although such an explanation does not necessitate a dismissal of the phenomenon as a genuine spatial detachment from the physical body, it does tend to favor the premise that it is instead a brain-induced simulated environment. There are, of course, arguments to counter this position in support of a realist position of having ventured into an afterlife, but it was not the purpose of this paper to thoroughly take up that debate and offer counter arguments on all points. It is merely my hope that by offering this threat response theory to explain the phenomenon, further research might explore this possibility.

### References

- Allen O NDE. (2023, May 18). NDERF. Retrieved from [https://nderf.org/Experiences/1allen\\_o\\_nde.html](https://nderf.org/Experiences/1allen_o_nde.html)
- Arvind B NDE. (2022, August 22). NDERF. Retrieved from [https://nderf.org/Experiences/1arvind\\_b\\_nde.html](https://nderf.org/Experiences/1arvind_b_nde.html)
- Atwater, P. M. H. (1994). *Beyond the light: What isn't being said about the near-death experience*. Carol Publishing Corporation.

- Auyong, D. B., Klein, S. M., Gan, T. J., Roche, A. M., Olson, D., and Habib, A. S. (2010). Processed electroencephalogram during donation after cardiac death. *Anesthesia and Analgesia*, 110(5), 1428–1432. doi:10.1213/ane.0b013e3181d27067
- Bailey, L. W. (2001). A “little death”: The near-death experience and Tibetan delogs. *Journal of Near-Death Studies*, 19(3), 139–159. doi:10.17514/JNDS-2001-19-3-p139-159
- Baumeister, R., and Bargh, J. (2014). Conscious and unconscious: Toward an integrative understanding of human life and action. In J. Sherman, B. Gawronski, and Y. Trope (Eds.), *Dual process theories of the social mind* (pp. 33–49). Guilford Press.
- Baumeister, R. F., Masicampo, E., and Vohs, K. D. (2011). Do conscious thoughts cause behavior? *Annual Review of Psychology*, 62(1), 331–361. doi:10.1146/annurev.psych.093008.131126
- Bayle, D. J., Henaff, M.-A., and Krolak-Salmon, P. (2009). Unconsciously perceived fear in peripheral vision alerts the limbic system: A MEG study. *PLOS ONE*, 4(12). doi:10.1371/journal.pone.0008207
- Bede. (2008). *The ecclesiastical history of the English people: The greater chronicle; Bede's letter to Egbert*. Oxford University Press. (Original work published 731 C.E.)
- Behrmann, M., Scherf, K. S., and Avidan, G. (2016). Neural mechanisms of face perception, their emergence over development, and their breakdown. *Wiley Interdisciplinary Reviews: Cognitive Science*, 7(4), 247–263. doi:10.1002/wcs.1388
- Benedict, M. T. (1996). Through the Light and Beyond. In L. W. Bailey and J. L. Yates (Eds.), *Near-Death Experience: A Reader* (pp. 39–52). Routledge.
- Bertini, C., and Ládavas, E. (2021). Fear-related signals are prioritised in visual, somatosensory and spatial systems. *Neuropsychologia*, 150. doi:10.1016/j.neuropsychologia.2020.107698
- Blackmore, S. J. (1993). *Dying to live: Near-death experiences*. Prometheus Books.
- Blackmore, S. J. (2017). *Seeing myself: The new science of out-of-body experiences*. Robinson.
- Bobbie K NDE. (2016, December 22). NDERF. Retrieved from [https://nderf.org/Experiences/1bobbie\\_k\\_nde.html](https://nderf.org/Experiences/1bobbie_k_nde.html)
- Bornet, M.-A., Bernard, M., Jaques, C., Rubli Truchard, E., Borasio, G. D., and Jox, R. J. (2021). Assessing the will to live: A scoping review. *Journal of Pain and Symptom Management*, 61(4), 845–857. doi:10.1016/j.jpainsymman.2020.09.012
- Bush, N. E., and Greyson, B. (2014). Distressing near-death experiences: The basics. *Missouri Medicine*, 111(6), 486–490. Retrieved from <https://ncbi.nlm.nih.gov/pubmed/25665233>
- Butler, L. D. (2006). Normative dissociation. *Psychiatric Clinics*, 29(1), 45–62. doi:10.1016/j.psc.2005.10.004
- Carmel, S., Baron-Epel, O., and Shemy, G. (2007). The will-to-live and survival at old age: Gender differences. *Social Science and Medicine*, 65(3), 518–523. doi:10.1016/j.socscimed.2007.03.034
- Cassol, H., Bonin, E. A. C., Bastin, C., Puttaert, N., Charland-Verville, V., Laureys, S., and Martial, C. (2020). Near-death experience memories include more episodic components than flashbulb memories. *Frontiers in Psychology*, 11., 1–11. doi:10.3389/fpsyg.2020.00888
- Cassol, H., Martial, C., Annen, J., Martens, G., Charland-Verville, V., Majerus, S., and Laureys, S. (2019). A systematic analysis of distressing near-death experience accounts. *Memory*, 27(8), 1122–1129. doi:10.1080/09658211.2019.1626438
- Charland-Verville, V., Jourdan, J.-P., Thonnard, M., Ledoux, D., Donneau, A.-F., Quertemont, E., and Laureys, S. (2014). Near-death experiences in non-life-threatening events and coma of different etiologies. *Frontiers in Human Neuroscience*, 8, 1–8. doi:10.3389/fnhum.2014.00203
- Chawla, L. S., Akst, S., Junker, C., Jacobs, B., and Seneff, M. G. (2009). Surges of electroencephalogram activity at the time of death: A case series. *Journal of Palliative Medicine*, 12(12), 1095–1100. doi:10.1089/jpm.2009.0159
- Chawla, L. S., Terek, M., Junker, C., Akst, S., Yoon, B., Brasha-Mitchell, E., and Seneff, M. G. (2017). Characterization of end-of-life electroencephalographic surges in critically ill patients. *Death Studies*, 41(6), 385–392. doi:10.1080/07481187.2017.1287138
- Chris D NDE. (2003, July 16). NDERF. Retrieved from [https://nderf.org/Experiences/1chris\\_d\\_nde.html](https://nderf.org/Experiences/1chris_d_nde.html)
- De Santis, J. P., Florom-Smith, A., Vermeesch, A., Barroso, S., and DeLeon, D. A. (2013). Motivation, management, and mastery: A theory of resilience in the context of HIV infection. *Journal of the American Psychiatric Nurses Association*, 19(1), 36–46. doi:10.1177/1078390312474096
- Debra C NDE. (2008, February 3). NDERF. Retrieved from [https://nderf.org/Experiences/1debra\\_c\\_nde.html](https://nderf.org/Experiences/1debra_c_nde.html)

- Diane C NDE. (2007, December 14). NDERF. Retrieved from [https://nderf.org/Experiences/1diane\\_c\\_nde.html](https://nderf.org/Experiences/1diane_c_nde.html)
- Donna G NDE. (2012, December 2). NDERF. Retrieved from [https://nderf.org/Experiences/1donna\\_g\\_nde.html](https://nderf.org/Experiences/1donna_g_nde.html)
- Emlet, C. A., Tozay, S., and Raveis, V. H. (2010). "I'm not going to die from the AIDS": Resilience in aging with HIV disease. *The Gerontologist*, 51(1), 101–111. doi:10.1093/geront/gnq060
- Fenwick, P., and Fenwick, E. (1995). *The truth in the light*. Berkley Books.
- Fischer, J. M., and Mitchell-Yellin, B. (2016). *Near-death experiences: Understanding visions of the afterlife*. Oxford University Press.
- Gabbard, G. O., and Twemlow, S. W. (1991). Do "near-death experiences" occur only near death? — revisited. *Journal of Near-Death Studies*, 10(1), 41–47. doi:10.1007/BF01073295
- Ghasemiannejad Jahromi, A., and Imaninasab, A. (2018). Distressing near-death experience: An Iranian Shia Muslim case. *Journal of Near-Death Studies*, 36(3), 161–171.
- Ghasemiannejad Jahromi, A., and Long, J. (2020). The phenomenology of Iranian near-death experiences. *Journal of Near-Death Studies*, 38(3), 180–200. doi:10.17514/JNDS-2020-38-3-p180-200.
- Gibson, A. S. (1994). *Journeys beyond life: True accounts of next-world experiences*. Horizon Publishers.
- Greyson, B. (1985). A typology of near-death experiences. *The American Journal of Psychiatry*, 142(8), 967–969. doi:10.1176/ajp.142.8.967
- Greyson, B. (1990). Near-death encounters with and without near-death experiences: Comparative NDE scale profiles. *Journal of Near-Death Studies*, 8(3), 151–161. doi:10.1007/BF01074000
- Greyson, B., and Bush, N. E. (1992). Distressing near-death experiences. *Psychiatry*, 55(1), 95–110. doi:10.1080/00332747.1992.11024583
- Greyson, B., Holden, J. M., and Mounsey, P. (2006). Failure to elicit near-death experiences in induced cardiac arrest. *Journal of Near-Death Studies*, 25(2), 85–98. doi:10.17514/JNDS-2006-25-2-p85-98
- Greyson, B., and Stevenson, I. (1980). The phenomenology of near-death experiences. *American Journal of Psychiatry*, 137(10), 1193–1196. doi:10.1176/ajp.137.10.1193
- Guevara, P., and Sotelo, J. (1997). Letter to the editor: Could endorphins participate in the limbic pathways responsible for NDEs after acute cerebral hypoxia. *Journal of Near-Death Studies*, 15(3), 225–226. doi:10.17514/JNDS-1997-15-3-p225-226
- Harrison, A. A., and Kroll, N. E. A. (1986). Variations in death rates in the proximity of Christmas: An opponent process interpretation. *OMEGA — Journal of Death and Dying*, 16(3), 181–192. doi:10.2190/kant-9luv-3ux5-mlnd
- Henry, J. L. (1982). Circulating opioids: Possible physiological roles in central nervous function. *Neuroscience and Biobehavioral Reviews*, 6(3), 229–245. doi:10.1016/0149-7634(82)90040-9
- Jacqui C NDE. (2009, February 15). NDERF. Retrieved from [https://nderf.org/Experiences/1jacqui\\_c\\_nde.html](https://nderf.org/Experiences/1jacqui_c_nde.html)
- JB NDE. (2007, November 10). NDERF. Retrieved from [https://nderf.org/Experiences/1jb\\_nde.html](https://nderf.org/Experiences/1jb_nde.html)
- JM NDE. (2002, March 21). NDERF. Retrieved from [https://nderf.org/Experiences/1jm\\_nde.html](https://nderf.org/Experiences/1jm_nde.html)
- Joann P NDE. (2010, February 25). NDERF. Retrieved from [https://nderf.org/Experiences/1joann\\_p\\_nde.html](https://nderf.org/Experiences/1joann_p_nde.html)
- Jung, C. (1965). *Memories, dreams, reflections* (A. Jaffre, Ed.). Vintage.
- Karppinen, H., Laakkonen, M. L., Strandberg, T. E., Tilvis, R. S., and Pitkälä, K. H. (2012). Will-to-live and survival in a 10-year follow-up among older people. *Age and Ageing*, 41(6), 789–794. doi:10.1093/ageing/afs082
- Kastenbaum, R. (2000). *The psychology of death* (third edition). Springer Publishing.
- Kelly, E. W. (2001). Near-death experiences with reports of meeting deceased people. *Death Studies*, 25(3), 229–249. doi:10.1080/07481180125967
- Kelly, G. E., and Kelleher, C. C. (2018). Happy birthday? An observational study. *Journal of Epidemiology and Community Health* (1979), 72(12), 1168–1172. Retrieved from <https://jstor.org/stable/26896340>
- Kelly S possible NDE. (2011, September 18). NDERF. Retrieved from [https://nderf.org/Experiences/1kelly\\_s\\_possible\\_nde.html](https://nderf.org/Experiences/1kelly_s_possible_nde.html)
- Kim, H. S. (2017). Concept development of resilience. *Journal of Korean Academy of Nursing*, 28(2), 403–413. doi:10.4040/jkan.1998.28.2.403
- King, R. A. (2021a). *Differences and commonalities among various types of perceived OBEs*. The NDE OBE Research Project. doi:10.13140/RG.2.2.23418.82882/1



- King, R. A. (2021b). The irrelevance of time in near-death experiences (NDEs). *Academia Letters*, 1–4. doi:10.20935/AL2427
- King, R. A. (2022). The near-death experience and self-determination theory. *OMEGA — Journal of Death and Dying* 0(0), 1–16. doi:10.1177/00302228221126561
- King, R. A. (2023a). *Differences and commonalities among various types of perceived OBEs (Phase II)*. The NDE OBE Research Project. doi:10.13140/RG.2.2.22749.90085
- King, R. A. (2023b). Recognizing the death motif in the near-death experience. *OMEGA — Journal of Death and Dying* 0(0), 1–26. doi:10.1177/00302228231203357
- Kunz, P. R., and Summers, J. (1980). A time to die: A study of the relationship of birthdays and time of death. *OMEGA — Journal of Death and Dying*, 10(4), 281–289. doi:10.2190/hm7w-6b3a-vmb1-dc96
- Labovitz, S. (1974). Control over death: The Canadian case. *OMEGA — Journal of Death and Dying*, 5(3), 217–221. doi:10.2190/febg-j9xn-t8xl-7e7r
- Lai, C. F., Kao, T. W., Wu, M. S., Chiang, S. S., Chang, C. H., Lu, C. S., Yang, C. S., Yang, C. C., Chang, H. W., Lin, S. L., Chang, C. J., Chen, P. Y., Wu, K. D., Tsai, T. J., and Chen, W. Y. (2007). Impact of near-death experiences on dialysis patients: A multicenter collaborative study. *American Journal of Kidney Diseases*, 50(1), 124–132. doi:10.1053/j.ajkd.2007.04.021
- LeDoux, J. E. (2008). Unconscious processing of fear-arousing events. In L. Weiskrantz and M. S. Davies (Eds.), *Frontiers of consciousness: Chichele lectures* (pp. 76–86). Oxford University Press. doi:10.1093/acprof:oso/9780199233151.003.0003
- Levy, B. R. (2003). Mind matters: Cognitive and physical effects of aging self-stereotypes. *The Journals of Gerontology: Series B*, 58(4), P203–P211. doi:10.1093/geronb/58.4.P203
- Levy, B. R., Slade, M. D., and Kasl, S. V. (2002). Longitudinal benefit of positive self-perceptions of aging on functional health. *Journal of Gerontology: Psychological Sciences*, 57(5), P409–P417. doi:10.1093/geronb/57.5.p409
- Lojowska, M., Mulckhuysse, M., Hermans, E. J., and Roelofs, K. (2019). Unconscious processing of coarse visual information during anticipatory threat. *Consciousness and Cognition*, 70, 50–56. doi:10.1016/j.concog.2019.01.018
- Long, J. (2014). Near-death experiences. Evidence for their reality. *Missouri Medicine*, 111(5), 372–380. Retrieved from <https://ncbi.nlm.nih.gov/pmc/articles/PMC6172100/>
- Long, J., and Perry, P. (2010). *Evidence of the afterlife*. Harper Collins.
- Marsh, M. N. (2010). *Out-of-body and near-death experiences: Brain-state phenomena or glimpses of immortality?* Oxford University Press.
- Martial, C., Cassol, H., Antonopoulos, G., Charlier, T., Heros, J., Donneau, A.-F., Charland-Verville, V., and Laureys, S. (2017). Temporality of features in near-death experience narratives. *Frontiers in Human Neuroscience*, 11(311), 1–9. doi:10.3389/fnhum.2017.00311
- Masicampo, E. J., and Baumeister, R. (2013). Conscious thought does not guide moment-to-moment actions — it serves social and cultural functions [Mini Review]. *Frontiers in Psychology*, 4, 1–5. doi:10.3389/fpsyg.2013.00478
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370–396.
- Maslow, A. H. (1954). *Motivation and personality*. Harper and Row.
- McClenon, J. (1991). Near-death folklore in medieval China and Japan: A comparative analysis. *Asian folklore studies*, 50(2), 319–342. doi:10.2307/1178389
- Mitzi M NDE. (2009, March 14). NDERF. Retrieved from [https://nderf.org/Experiences/1mitzi\\_m\\_nde.html](https://nderf.org/Experiences/1mitzi_m_nde.html)
- Mobbs, D., and Watt, C. (2011). There is nothing paranormal about near-death experiences: how neuroscience can explain seeing bright lights, meeting the dead, or being convinced you are one of them. *Trends in Cognitive Sciences*, 15(10), 447–449. doi:10.1016/j.tics.2011.07.010
- Moody, R. A., Jr. (1976). *Life after life*. Bantam.
- Morse, M. L. (1994). Near death experiences and death-related visions in children: Implications for the clinician. *Current Problems in Pediatrics*, 24(2), 55–83.
- Morse, M. L., and Perry, P. (1990). *Closer to the light: Learning from children's near-death experiences*. Villard Books.
- Murphy, T. (2001). Near-death experiences in Thailand. *Journal of Near-Death Studies*, 19(3), 161–178. doi:10.1023/A%3A1026413705216
- Nelson, K. (2011). *The spiritual doorway in the brain: A neurologist's search for the God experience*. Dutton.



- Nelson, K. (2015). Near-death experiences — Neuroscience perspectives on near-death experiences. *Missouri Medicine*, 112(2), 92–98. Retrieved from <https://ncbi.nlm.nih.gov/pubmed/25958650>
- Nelson, K. R., Mattingly, M., Lee, S. A., and Schmitt, F. A. (2006). Does the arousal system contribute to near death experience? *Neurology*, 66(7), 1003–1009. doi:10.1212/01.wnl.0000204296.15607.37
- Norton, L., Gibson, R. M., Gofton, T., Benson, C., Dhanani, S., Shemie, S. D., Hornby, L., Ward, R., and Young, G. B. (2016). Electroencephalographic recordings during withdrawal of life-sustaining therapy until 30 minutes after declaration of death. *Canadian Journal of Neurological Sciences*, 44(2), 139–145. doi:10.1017/cjn.2016.309
- Öhman, A., Carlsson, K., Lundqvist, D., and Ingvar, M. (2007). On the unconscious subcortical origin of human fear. *Physiology and Behavior*, 92(1-2), 180–185. doi:10.1016/j.physbeh.2007.05.057
- Osis, K., and Haraldsson, E. (1997). *At the hour of death*. Avon Books.
- Owens, J. E., Cook, E. W., and Stevenson, I. (1990). Features of “near-death experience” in relation to whether or not patients were near death. *Lancet*, 336(8724), 1175–1177. doi:10.1016/0140-6736(90)92780-1
- Parnia, S., Waller, D. G., Yeates, R., and Fenwick, P. (2001). A qualitative and quantitative study of the incidence, features and aetiology of near death experiences in cardiac arrest survivors. *Resuscitation*, 48(2), 149–156. doi:10.1016/s0300-9572(00)00328-2
- Pasricha, S., and Stevenson, I. (1986). Near-death experiences in India. A preliminary report. *Journal of Nervous and Mental Disease*, 174(3), 165–170. doi:10.1097/00005053-198603000-00007
- Pasricha, S. K. (2008). Near-death experiences in India: Prevalence and new features. *Journal of Near-Death Studies*, 26(4), 267–282. doi:10.17514/jnds-2008-26-4-p267-282
- Phillips, D. P., and King, E. W. (1988). Death takes a holiday: Mortality surrounding major social occasions. *The Lancet*, 332(8613), 728–732. doi:10.1016/S0140-6736(88)90198-5
- Purkayastha, M., and Mukherjee, K. K. (2012). Three cases of near death experience: Is it physiology, physics or philosophy? *Annals of Neurosciences*, 19(3), 104–106. doi:10.5214/ans.0972.7531.190303
- Ring, K. (1980). *Life at death: A scientific investigation of the near-death experience*. Coward, McCann and Geoghegan.
- Royse, D., and Badger, K. (2020). Burn survivors’ near-death experiences: A qualitative examination. *OMEGA — Journal of Death and Dying*, 80(3), 440–457. doi:10.1177/0030222818755286
- Sabom, M. B. (1982). *Recollections of death: A medical investigation*. Harper and Row.
- Sabom, M. B. (1998). *Light and death: One doctor’s fascinating account of near-death experiences*. Zondervan.
- Samuelsson, P., Brudin, L., and Sandin, R. H. (2008). Intraoperative dreams reported after general anaesthesia are not early interpretations of delayed awareness. *Acta Anaesthesiologica Scandinavica*, 52(6), 805–809. doi:10.1111/j.1399-6576.2008.01634.x
- Sara V NDE. (2023, May 27). NDERF. Retrieved from [https://nderf.org/Experiences/Isara\\_v\\_nde\\_9582.html](https://nderf.org/Experiences/Isara_v_nde_9582.html)
- Sebel, P. S., Bowdle, T. A., Ghoneim, M. M., Rampil, I. J., Padilla, R. E., Gan, T. J., and Domino, K. B. (2004). The incidence of awareness during anesthesia: A multicenter United States study. *Anesthesia and Analgesia*, 99(3), 833–839. doi:10.1213/01.ane.0000130261.90896.6c
- Shenoy, S. S., and Lui, F. (2022). Biochemistry, endogenous opioids. In *StatPearls* [Internet]. StatPearls Publishing. Retrieved from <https://ncbi.nlm.nih.gov/books/NBK532899/>
- Shimizu, M., and Pelham, B. W. (2008). Postponing a date with the Grim Reaper: Ceremonial events and mortality. *Basic and Applied Social Psychology*, 30(1), 36–45. doi:10.1080/01973530701866482
- Shushan, G. (2018). *Near-death experience in indigenous religions*. Oxford University Press.
- Shushan, G. (2022). *The next world: Extraordinary experiences of the afterlife*. White Crow Books.
- Singla, D., and Mangla, M. (2017). Incidence of awareness with recall under general anesthesia in rural India: An observational study. *Anesthesia, Essays and Researches*, 11(2), 489–494. doi:10.4103%-2Faer.AER\_44\_17
- Stephen T NDE. (2007, November 10). NDERF. Retrieved from [https://nderf.org/Experiences/1stephen\\_t\\_nde.html](https://nderf.org/Experiences/1stephen_t_nde.html)
- Steven R probable NDE. (2008, January 2). NDERF. Retrieved from [https://nderf.org/Experiences/1steven\\_r\\_probable\\_nde.html](https://nderf.org/Experiences/1steven_r_probable_nde.html)
- Stevenson, I., Cook, E. W., and McClean–Rice, N. (1990). Are persons reporting “near-death experiences” really near death? A study of medical records. *OMEGA — Journal of Death and Dying*, 20(1), 45–54. doi:10.2190%2FD8Q9-HHKX-5JWC-FD3V
- Tataryn, D., and Chochinov, H. M. (2002). Predicting the trajectory of will to live in terminally ill patients. *Psychosomatics*, 43(5), 370–377. doi:10.1176/appi.psy.43.5.370

- Thonnard, M., Charland-Verville, V., Bredart, S., Dehon, H., Ledoux, D., Laureys, S., and Vanhaudenhuyse, A. (2013). Characteristics of near-death experiences memories as compared to real and imagined events memories. *PLoS One*, 8(3). doi:10.1371/journal.pone.0057620
- van Lommel, P. (2010). *Consciousness beyond life: The science of the near-death experience*. HarperCollins.
- van Lommel, P. (2013). Non-local consciousness: A concept based on scientific research on near-death experiences during cardiac arrest. *Journal of Consciousness Studies*, 20(1–2), 7–48.
- van Lommel, P., van Wees, R., Meyers, V., and Elfferich, I. (2001). Near-death experience in survivors of cardiac arrest: A prospective study in the Netherlands. *Lancet*, 358(9298), 2039–2045. doi:10.1016/S0140-6736(01)07100-8
- Veening, J. G., and Barendregt, H. P. (2015). The effects of beta-endorphin: State change modification. *Fluids Barriers CNS*, 12(3). doi:10.1186/2045-8118-12-3
- Vicente, R., Rizzuto, M., Sarica, C., Yamamoto, K., Sadr, M., Khajuria, T., Fatehi, M., Moien-Afshari, F., Haw, C. S., and Llinas, R. R. (2022). Enhanced interplay of neuronal coherence and coupling in the dying human brain. *Frontiers in Aging Neuroscience*, 14. doi:10.3389/fnagi.2022.813531
- Wiltse, A. (1889). A case of typhoid fever with subnormal temperature and pulse: Psychological phenomena. *St Louis Medical and Surgical Journal*, 57, 355–364.
- Wisman, A., and Shrira, I. (2015). The smell of death: Evidence that putrescine elicits threat management mechanisms. *Frontiers in Psychology*, 6. doi:10.3389/fpsyg.2015.01274
- Woerlee, G. M. (2005). *Mortal minds: The biology of near death experiences*. Prometheus Books.
- Xu, G., Mihaylova, T., Li, D., Tian, F., Farrehi, P. M., Parent, J. M., Mashour, G. A., Wang, M. M., and Borjigin, J. (2023). Surge of neurophysiological coupling and connectivity of gamma oscillations in the dying human brain. *Proceedings of the National Academy of Sciences*, 120(19). doi:10.1073/pnas.2216268120