Avicenna Journal of Neuro Psycho Physiology

doi: 10.32592/ajnpp.2023.10.1.100

2023 February; 10(1): 1-7

https://ajnpp.umsha.ac.ir



Original Article

Non-Ordinary Spiritual Experiences- some Phenomena without a Satisfactory Explanation

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Received: 17 Jan 2023 Accepted: 14 May 2023 ePublished: 20 Jun 2023



Abstract

Some non-ordinary spiritual experiences cannot be explained on a purely materialistic basis since the materialistic model could only partially explain them. The four main groups of such phenomena are: (I) Mediumship: why do some texts have accurate, verifiable information in controlled and blind studies that exclude fraud or coincidence? (II) Memories of past lives: how could some reports have precise verifiable matches, sometimes even with birthmarks from the previous persona? (III) Near-death experiences: how could a few people remember actual events that occurred in the resuscitation period when brain activity was absent? (IV) End-of-life experiences: how come people with dementia due to irreversible brain damage can experience paradoxical lucidity phenomenon? There are aspects in these phenomena that point to the survival of consciousness after death, coming from rigorous research published in peer-reviewed journals. Therefore, science needs a paradigm shift to accommodate the idea of consciousness as an element independent of the brain.

Keywords: End-of-life phenomena, Spiritual experiences, Mediumship, Memories of past lives, Near-death experiences

Background

In the late 19th century, sessions with turning tables or communication boards were entertainment in European high society. Beyond this amusement perspective, reputed researchers from Europe and the United States have studied the so-called non-ordinary spiritual experiences (NOSE). Since that time, some specific research societies have used scientific methodology to study empirical findings that would seem impossible [1].

Against all odds, researchers in this field confronted the continued opposition from academic thought. They went on with these studies and published their results in scientific journals throughout the 20th century. As a result, for the last 150 years, disconcerting NOSEs have been reported occasionally but regularly in peer-reviewed and high-indexed journals [2]. The findings of these studies with robust methodology cannot be readily explained by fraud, hallucination, chance, or other ordinary faults.

Current experimental evidence from sophisticated research makes NOSEs undeniable. Cumulative scientific literature supports their reality to a degree comparable to that of standard psychology [3]. Moreover, NOSEs occur very frequently not only

in a population of believers but also among people with a materialistic bias against this idea, such as scientists and engineers [4].

Scientific advancement is stimulated by events that defy the present assumptions and push the limits of what is deemed physically possible. The current scientific materialistic schemata have left some phenomena without a proper explanation. Recently, in a remarkable document, some academics and researchers drew attention to the need for a new scientific paradigm that includes non-material elements in the concept of reality [5].

According to the authors, such phenomena are so common that they cannot be viewed as exceptions to natural laws. Instead, they are indications that the current materialistic framework cannot explain everything. The Academy for the Advancement of Postmaterialist Sciences was founded on August 2017. The institution puts an emphasis on commitment to fostering openness to alternative theories, applying a consistent scientific methodology, as well as advancing professional and public communication [6].

Some NOSEs point to the possibility of continued consciousness after the death of the body [7]. This

controversial and bold idea goes against the materialistic canons in which the brain produces the mind. Nonetheless, the only possible explanation for some phenomena depends on the concept that the mind somehow survives death. The four main groups of these phenomena are listed below.

The following data are part of a manuscript submitted to the Bigelow Institute for Consciousness Studies essay contest on "evidence beyond reasonable doubt for the survival of consciousness after permanent physical death" (https://www.bigelowinstitute.org/index.php/essay-contest/). The authors gathered the best evidence available to discuss four phenomena: mediumship, memories of past lives, near-death experiences, and end-of-life phenomena.

Mediumship

In mediumship, an individual (the medium) claims to interact with a deceased person's mind. Two main groups of interaction can be identified: just communication (consciously transmitting the information running in his/her mind) or channeling (offering to be under the control of another mind, such as in psychography). This after-death interaction would be possible by a supposed sort of linkage with the mind of a person who has died.

The materialistic model offers some perspectives for interpreting mediumship. Either consciously or not, either maliciously or not, the medium could obtain information from mundane sources: cold reading (getting data from clues in behaviors of the assisted family member, such as body language), hot reading (getting data from previous searches on the deceased), or broad generalizations (guessing data that have a greater chance of success). Nevertheless, some facts would not be explainable through a materialistic model, as follows.

A. Well-controlled studies prevent obtaining information by ordinary means. A triple-blind study [8] was used to examine the correctness of the information received about a deceased individual, finding significant success rates. In this design,

some mediumnic writings are offered to a relative of the deceased, and just one comes from his/her alleged authorship. This proxy is asked to choose which content better corresponds to the deceased's personality and knowledge. This design, illustrated in Figure 1, can eliminate common mechanisms explaining the matching information on letters. The results of this study suggest that selected mediums can anomalously receive accurate information about deceased individuals. These results were further replicated and extended in another study by the same authors [9].

More recently, a comprehensive meta-analysis [10] on the accuracy of information received by mediums was conducted with studies over the past 20 years that have tested it. A total of 14 experimental studies with quantitative analysis of the mediumistic information accuracy were included. The statistically significant result supports the hypothesis that some mediums can obtain information about deceased people unconventional means. According the researchers, results are unlikely to be due to publication bias for the selected texts.

B. The neurophysiology of a mediumistic psychography trance is unique. A well-conducted study [11] registered neurophysiological imaging of mediums during psychography and in a control condition (writing a free essay). There was paradoxically lower activity in brain areas related to planning, reasoning, and language only during the trance. Furthermore, the analysis demonstrated that psychographed texts were more complex than the content produced in a vigil state of consciousness.

Other uncommon findings concerning psychophysiological changes during mediumship were listed in a review paper [12]: increased noradrenaline levels, increased heart rate, increased spectral power in various electroencephalographic bands, and a slight predominance of the sympathetic nervous system. These results point to some mental and physical parameters during the mediumistic trance that characterizes this condition.

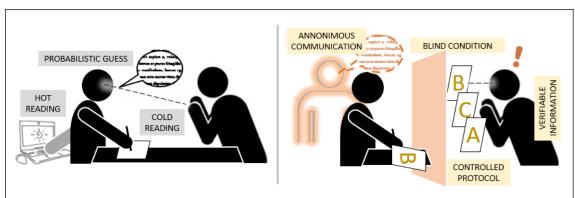


Figure 1. Mediumship-on the left: the materialistic perspective; on the right: what would only be explainable through non-materialistic concepts.

Memories of past lives

This phenomenon is mainly associated with a child who spontaneously tells memories as if he/she has been someone else during another existence. In addition to the memories, some also have birthmarks or congenital disabilities that match lesions suffered by his/her supposed previous persona. In other situations, the match is on psycho-behavioral features, such as anxieties, emotional longing, phobias, and philias. Cases of this type occur more frequently in Asia, where reincarnation is a cultural component, and to a lesser degree, in many Western countries. Such reports have been studied through rational, empirical approaches since the 1960s, attempting to discern the accuracy of the statements.

The materialistic model offers some perspectives for interpreting memories of past lives. The explanation may include fantasy, suggestibility, social isolation, dissociation, attention-seeking, daydreaming, or post-traumatic stress disorder [13]. Some other mundane unconscious ways of obtaining information are cryptomnesia (a hidden memory that arises and is confounded with an original idea) and paramnesia (a distorted remembrance that mixes a fact with fantasy). However, some facts would not be understandable through a materialistic model, as follows. Figure 2 illustrates the worldly perspective for memories of past lives and what would not be explainable through the standard paradigm.

A. Verifiable reports that accurately correspond to past personal stories. In some cases that received thorough investigation, an actual deceased person has been identified, and the facts of his/her life and death correctly corresponded to the child's statements. After meticulous analysis, a case is called "solved" when data from the child's report match the verifiable facts [14]. By the year 2000, Ian Stevenson [15] reported his findings after decades dedicated to studying the phenomenon of memories of previous lives. At that time, he pointed to about 90 detailed reports of precisely verified cases published. These intriguing descriptions were selected from a universe of more than 2,500 documented cases.

Some unlikely cases challenge the hypothesis of fraud by previously searched information. An example is a Turkish case [16] in which the investigator recorded notes of a child's statements. Subsequently, the investigator found that the data corresponded in precise detail to the life of another person. The problem is that this man lived 850 km away, and he died 50 years before the child was born. The child lived in a village with scarce resources and almost impossible access to information from distant places. Due to this and other characteristics of the presented case, the materialistic hypotheses are incredibly improbable.

B. Body marks or malformations coincident with wounds inflicted on the previous persona. A congenital body variation in a young child matched precisely with a permanent physical wound in the investigated deceased in some situations. Some researchers analyzed these unusual cases [17], seeking the dead person's data. A paper [18] presented three reports of skin anomalies and summaries of an additional five situations. Researchers found a remarkably close correspondence between the skin anomalies and the wounds on the deceased person. These selected cases support the likelihood of survival of consciousness after death and also the possibility of reincarnation [19].

C. Casual coincidence and information leakage by ordinary means are evaluated. Although the observations are not conclusive, the coincidence grade should be extraordinary to explain the aforementioned findings. For additional accuracy, researchers may use some objective tools to decide the likelihood of the results. A scale with good internal consistency has been developed [20] to assess the strength of the claims to remember previous lives. It considers features of the report that are more suggestive of being an improbable coincidence. For instance, the scale gives points for the distance between the children and the previous persona. The greater the distance, the greater the probability of an anomalous explanation, as measured considering the unfamiliarity between the parts involved, geographical spread, or socioeconomic difference. Besides all possible explanations for past-life memories, the reincarnation hypothesis seems to be the most reasonably parsimonious, relatively exhaustive, and evidencesupported hypothesis [21].

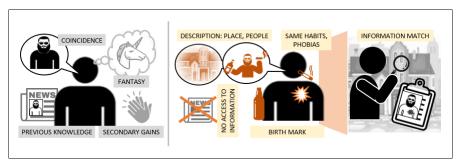


Figure 2. Memories of past lives- on the left: the materialistic perspective; on the right: what would only be explainable through non-materialistic concepts.

Near-death experiences

A near-death experience (NDE) is a mental event that sometimes occurs when the person is in a critical condition, such as close to death; most of the time, the example is cardiac arrest. Still, there are cases in other situations, such as during an ecstatic trance, deep anesthesia, or in people who narrowly escaped unscathed from a sudden risk of death. Thanks to medical advances, the number of people rescued from a dramatic clinical situation is increasing. Accordingly, the phenomenon has gained more interest since the number of reports has been growing. Today, NDEs may be declared by 10% to 20% of people who have come close to death [22].

The experience may involve the following features [23]: awareness of being dead; a sense of peace, happiness, and well-being; out-of-body-perception ("autoscopy"); perception of entering a tunnel and a sort of comforting light; an encounter with deceased relatives or spiritual beings; a panoramic life review (witnessing autobiographical events); and uncommon temporal perception.

The materialistic model offers some perspectives on the interpretation of NDEs. The explanation is rooted in imagination, fear of death, hallucination associated with hypoxia, hyperactivity in the brain's right temporal lobe, or even recollections of the birth experience. The peaceful sensation would be an endorphin-induced euphoria or disinhibition of the limbic system [24]. Nevertheless, some facts would not be explained through a conventional model, as follows. Figure 3 displays the materialistic perspective for NDEs and what would not be explainable through the standard paradigm.

A. A few cases of accurate perceptions of events that occurred during unconsciousness. As cerebral functioning ceases, consciousness and memory formation would not be expected to happen, and no patient should retain any information. However, some people report vivid remembrances of facts during

resuscitation that investigators can check whether they correspond to reality [25]. For example, a case study [26] of a physician who experienced an NDE was detailed and extensively verified. The data support the hypothesis of sensory-perceptual capacities that are not possible if consciousness were solely associated with brain activity.

The reports of patients recalling detailed descriptions that have been verified by the staff simply cannot be explained by any proposed neurophysiological mechanism [27]. A brain without electrical function has no primary conditions for an attentive consciousness. At best, there may be a transient electrical signal that lasts for 30 seconds and erratic activity for the first 60 seconds, according to a prospective study in rats [28].

B. The reported views and sensations differ from drug-induced hallucinations and hypoxia. The NDE experiences commonly have these features: heightened awareness, preserved thought, lucid consciousness, well-structured memories, clear reasoning, vivid sensory imagery, and sharp memory [22]. After an NDE, the memory is rich and intense, the opposite of the disturbance expected during brain dysfunction in a life-threatening event. Moreover, an emotional transformation (loss of fear intuitiveness, death, expanded compassion) often occurs in many experiencers, which does not appear in those who survived resuscitation without an NDE experience [29].

C. NDE memories are quite different from imagined remembrances. A study [30] showed that NDE memories contain significantly more self-referential and emotional information and better clarity than recollections created for imagined events. Several prospective empirical studies have strongly supported these patterns of enhanced and clear consciousness with unaltered self-identity [31]. Besides, there are a few corroborated cases of blind individuals who experienced accurate visual perceptions of objects and events [32].

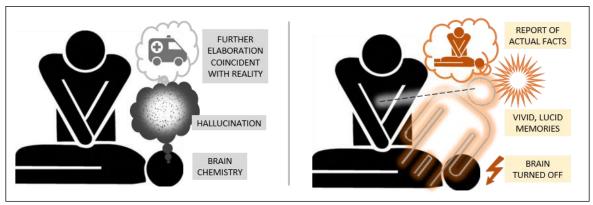


Figure 3. Near-death experiences- on the left, the materialistic perspective; on the right, what would only be explainable through non-materialistic concepts.

End-of-life phenomena

End-of-life experiences occur in the last few days of life, and they are not uncommon. These events are profoundly comforting both to the dying and to any family members who witness the phenomena. Sometimes, clinical staff professionals describe phenomena, such as clocks stopping synchronously at the time of death, shapes leaving the body, a light surrounding the body, and strange animal behavior [33]. Nevertheless, we will not stick to these descriptions since they are scarce and difficult to corroborate. Instead, we focus on the following two phenomena.

Paradoxical lucidity is a deathbed phenomenon occurring in a few patients with irreversible dementia, often due to a severe neurological disorder. These patients present an unpredictable and remarkable recovery of cognition and communication [34]. It usually occurs shortly before death, although some reports mention the occurrence in other conditions unrelated to dying, such as in patients with tumors, brain abscesses, strokes, meningitis, and feverish autistic children. Another anomalous experience-reported close to death is the spontaneous vision of deceased people, sometimes involving interactive communication. The tricky part: sometimes, the visited person does not know that the "visitor" has passed away.

The materialistic model offers some perspectives for interpreting end-of-life phenomena. Deceased people's vision may be attributed to hallucinations associated with emotional expectations. As for paradoxical lucidity, no coherent neurophysiological mechanism could justify the recovery of mind

functions in a damaged brain. Many attempts to explain the phenomenon through neurophysiological paths resulted in argumentation with very questionable sustainability. However, some facts would not be explained through a conventional model, as follows. Figure 4 depicts the materialistic perspective on end-of-life experiences and what would not be explainable through the standard paradigm for end-of-life phenomena.

A. Paradoxical lucidity indicates that memory and cognition can function independently of neurologic processes. No biological pathway could produce coherent communication and selfhood episodes in demented patients with irreversible neurodegenerative sequelae. Paradoxical lucidity reports suggest the possibility of preserved consciousness in the context of structural brain damage [35]. To explore this phenomenon, a survey [36] was conducted with 124 caregivers who had witnessed paradoxical lucidity. More than 80% of the reports cited a complete return of memory, orientation, and responsive verbalization during the lucid episode. Most patients died within hours to days after this occurrence.

B. The vision of a person who is not known to be dead at that time is implausible. In some specific cases, the experiencer sees a recently deceased person of whose death neither he/she nor anyone around him/her had any knowledge [37]. Sometimes, the figure seen had died a little time before, although that death was unknown to the experiencer. In other cases, the person seen had passed a few moments before the vision. This last type has greater evidential value since the possibility of information leakage is reduced to almost none.

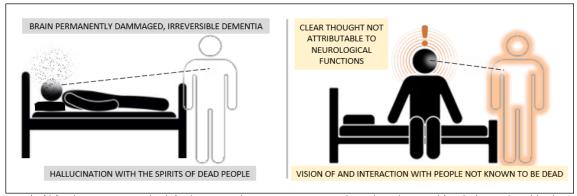


Figure 4. End-of-life phenomena- on the left: the materialistic perspective; on the right: what would only be explainable through non-materialistic concepts.

Discussion

Even if not directly linked to the clinical scope, health professionals should know how patients interpret these spiritual experiences. It is not about validating or not the reality of these experiences but about being open to patients' sacred experiences. Practitioners need not subvert their practice due to

these experiences but keep an open mind with a genuine interest in and respect for these beliefs and values. It is essential to provide a safe space for patients to express and explore what makes sense to them. This approach can improve the patient-professional relationship due to the empathy and sensitivity that appreciate what is meaningful to the

person. Some experiences arouse interest for this paper since they are related to physical or mental health parameters. The clinical relevance of its better appreciation by health professionals is described below.

- Mediumship: the first-hand experience is much more common than one might think, occurring worldwide in different cultural and religious contexts [38]. Communication received through mediumship can comfort some people who have lost loved ones. Such experiences can be rewarding and positive events for bereaved people, who can develop a greater sense of agency and more adaptive coping [39].
- Memories of alleged past lives: past life regression therapy can be an alternative for treating severe cases of phobias, philias, unusual behavior, or relationship difficulties [40]. Furthermore, psychotherapy should respect the patient's subjective realities, even if the therapist does not share the same beliefs [41].
- Near-death experiences: the patient's beliefs can affect the likelihood of suffering from fear of death, and the idea of immortality can make this fear more tolerable [42]. Even those who did not go through the experience but learned about it can significantly change their appreciation of life, spirituality, and understanding of death [43].
- End-of-life experiences: Many patients report that these phenomena are an important part of their dying process, comforting the dying and preparing them spiritually for death [44]. Therefore, health professionals must be educated to understand this meaning and respect such occurrences.

Conclusions

Some NOSEs cannot be explained on a purely materialistic basis since the materialistic model could only partially explain them. There are aspects in them that point to the survival of consciousness after death, coming from rigorous research published in peerreviewed journals. Therefore, science needs a paradigm shift to accommodate the idea of consciousness as an element independent of the brain. Some patients may experience anomalous mental phenomena with a spiritual component in their manifestation. Some experiences raise interest for this paper since they are related to physical or mental health parameters. Even without being directly linked to the clinical scope, health professionals should know how patients interpret these experiences. This approach can improve the patient-professional relationship due to the empathy and sensitivity that appreciate what is meaningful to the person.

Compliance with ethical guidelines

Not applicable. This manuscript does not use original data

collected from humans or animals.

Acknowledgments

Not applicable.

Authors' contributions

RdM: Conceptualization; MS: Original Draft Writing; MS & RdM: Review & Editing. All authors read and approved the final manuscript.

Funding/Support

Not applicable. No support in the form of grants is related to this publication.

Conflicts of Interest

Not applicable.

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